

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:50 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 220228_ajc-design-and-place-sepp-submission.docx

Submitted on Mon, 28/02/2022 - 16:49

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Lawrence

Last name

Greenman

I would like my submission to remain confidential

No

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lawrence.greenman@architectsajc.com

Suburb/Town & Postcode

Chippendale/Sydney 2008

Please provide your view on the project

I am just providing comments

Submission file

[220228_ajc-design-and-place-sepp-submission.docx](#)

Submission

Please see the attached documents with comments.

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 5:05 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 220228_ajc-design-review-panel-submission.docx

Submitted on Mon, 28/02/2022 - 17:03

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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Suburb/Town & Postcode

Chippendale/Sydney 2008

Please provide your view on the project

I am just providing comments

Submission file

[220228_ajc-design-review-panel-submission.docx](#)

Submission

Please see the attached documents with comments.

I agree to the above statement

Yes

28th February 2022

To Whom it May Concern,
Please see our feedback on the **DRAFT Apartment Design Guide: Creating great apartments: Draft for discussion 2021.**

Thank you for the opportunity to review the draft document.

AJ+C have a significant portfolio of apartment buildings which we have designed. We have undertaken several in-house meetings to review the draft content. Please see our feedback below.

1. **Non-Discretionary Development Standards** – (Part 2.4 Apartment Configuration) – AJ+C endorses the inclusion of a ‘non-discretionary development standard’ section within the ADG covering those minimum standards current included in SEPP 65 to provide better clarity.
2. **Minimum Ceiling Height in Kitchens** – (Table 2.4.2) – AJ+C endorses the inclusion of kitchens with non-habitable rooms requiring a minimum 2.4m floor-to-ceiling height. Services are typically installed above kitchens requiring a lower ceiling or ceiling bulkhead, which didn’t comply with the current ADG minimum 2.7m floor-to-ceiling height, but are usually accepted in development approvals despite minimum ceiling being a non-discretionary development standard in SEPP 65.
3. **Daylight and Natural Ventilation of Common Circulation Spaces** – (Part 2.1 Common Circulation – Page 41) – there is ambiguity in the design guidance “*where glazing is connected to a slot or indent in the facade, the slot should have a **width-to-length ratio** of 1:3 or wider and be open to the sky*” – the current ADG and other parts of the draft ADG refer to ‘width-to-depth’, depth of apartments, etc. related to natural ventilation. And, most apartment buildings approved over the past 6 years would not have achieved natural light and ventilation of common circulation spaces from façade slots of 1:3 width-to-depth ratio; 1:6 is more readily achievable while maintaining efficient layouts; and there would be only a marginal increase in resident amenity and environmental performance if 1:3 width-to-depth ratio were implemented.
4. **Communal Spaces Solar Access** – (Part 2.2 Communal Spaces – Page 44) – there is ambiguity in the design criteria “*At any time between 9 am and 3 pm in midwinter (21 June), ensure at least half the communal open space area receives 2 hours solar access.*” which is a mix of instantaneous time periods (at any time) and a 2hr time periods, and so it’s not clear what solar access should be achieved. The wording in the current ADG Design Criteria 3D-1.2 is much clearer. AJ+C also recommend the retention of ‘principal usable part’ in the design criteria.

DIRECTORS & NOMINATED
ARCHITECTS (NSW)

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5. **Solar Access Outside of Sydney Metropolitan Area** – (Part 2.6 Sunlight, Daylight, Shade and Thermal Comfort – Page 60) – there is ambiguity in the list of other metropolitan areas – eg. there is no ‘Gosford LGA’, and it’s unclear whether Lake Macquarie LGA would be included in Newcastle and Gosford LGAs.
6. **Shading Control** – (Part 2.6 Sunlight, Daylight, Shade and Thermal Comfort – Page 62) – the design guidance appears to contain no numerical control related to shading, noting only “*Reduce direct summer sun on a glazed apartment façade...*”. It refers to façade calculations but contains no guidance on when façade calculations are required and references Appendix 3.2 in relation to “*good solar shading*”, but with no guidance on what is good solar shading. As a result, the potential impacts of the shading control design guidance and Appendix 3.2 can’t be quantified and AJ+C recommend they not be included in the ADG prior to opportunity for proper public consultation.
7. **Natural Ventilation** – (Part 2.7 Natural Ventilation – Pages 64-67) – AJ+C endorse maintaining the current ADG 60% minimum requirement for natural cross-ventilation in the first 9 storeys of a building.

AJ+C’s testing of the natural ventilation design guidance indicates that many apartment types that meet the current ADG design guidance would no longer qualify as naturally cross-ventilated – eg. a corner cross-ventilated 1 bedroom apartment would require a minimum 2% EOA window area in a bedroom on the second aspect, or ~1.2sqm EOA. A Figure A4.2 Awning 6 type window would need to be 1.9m wide to provide this area and would need to be located at least 5m from openings in the primary aspect, requiring a minimum 5m deep bedroom to comply. Figure 2.7.2 demonstrates that an apartment would require at least 2 bedrooms to comply for corner cross ventilation.

The verification method in Appendix 4 for alternate design responses applies to each unique apartment type, including apartment types separated by > 6 storeys height difference, and requires CFD modelling expertise that a typical registered architect can not provide, and will lead to significant additional cost and delay in verifying cross-ventilation for the majority of apartment building projects.

8. **Design Criteria and Guidance Numbering** – AJ+C recommending that design criteria and guidance be numbered as per the current ADG to allow clarity in referring to these in DA design report, design panel meeting minutes, etc.

AJ+C are heavily invested in designing apartment buildings that provide great amenity to all users. We value any considered, clearly defined content that will add to the amenity of projects and that is intended to improve the lives of all users.

If you have any questions concerning the above, please do not hesitate to contact the following AJ+C members:

Mr Rob Doak, Studio Lead – Projects, 0425 297 357 or Rob.Doak@architectsajc.com
Mr Jim Koopman, Director, 0408 291 183 or Jim.Koopman@architectsajc.com
Mr Lawrence Greenman, Design and Quality Studio Lead, 0449 950 084 or Lawrence.Greenman@architectsajc.com

28th February 2022

To Whom it May Concern,
Please see our feedback on the **DRAFT LOCAL GOVERNMENT DESIGN REVIEW PANEL
MANUAL**

Thank you for the opportunity to review the draft document.

1.1 When does design review by a local panel take place?

Most projects will require 2 or 3 design review panel sessions. Small and simple projects that demonstrate good design quality may require only one session. For large and complex projects, or where significant design concerns are raised, more than 3 sessions may be necessary.

Care needs to be taken to ensure the design review process is concise, targeted and not open ended (e.g. 3 or more) unduly impacting industry design cost.

Design reviews take place pre development application and after submission of the development application. The Guide should be clear about the level of detail and the purpose of advisory in each phase.

In both phases quality site and contextual analysis are critical. This should include Design for Country analysis. Non compliances are identified and reference a fully compliant design to establish benefits.

RECOMMENDATIONS

Pre DA

Level of detail: Concept/schematic design.
Architectural detail not essential.
Sustainability strategy to be identified.

Purpose of advisory: Advice is to applicant about whether the overall approach is good. Advice on the basis or thresholds for justification of non compliance

DA

Level of detail: Development application with architectural detail and sustainability commitments identified.

Purpose of advisory: Advice is to assist council officers in their report that will be recommending approval or refusal. If the proposal is not supported, it may be

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	<p>appropriate to advise how the design could be improved if the DA was amended or a new DA prepared. Ideally the 'recommendations' can both express the inadequacies of the scheme as well as a directions for improvement.</p>
1.3 NSW protocols for good design review	<p>Protocols to ensure consistent and objective advice from panels are strongly encouraged and in our experience not always in place or followed.</p> <p>Advisory that contradicts previous design reviews, or reflects the individual taste of panel members are not productive and undermine the process.</p>
1.4 What to avoid	<p>The design team is not well-prepared and presents incomplete information, or fails to respond to advice from the panel.</p>
3.2 Preparing for a design review panel session	<p>Setting session dates 12 months in advance will do little to enable panel members to be consistent across design reviews for any particular project.</p>
Consistency of panel members	<p>AJ+C suggest that each panel have a permanently appointed chair (and alternate chair) to control consistency.</p>
Briefing panel members	<p>The Draft guide states "<i>Panel members should allow 2-4 hours to review the briefing pack for each project and prepare for the session</i>". It is not clear if this refers to 2-4 hours per project or per session.</p> <p>AJ+C provide panel members to various panels — Remuneration per panel is typically \$2,000 to \$2,300 per panel meeting (though some pay an hourly rate for major projects). Panel meetings have 4-6 items on the agenda and require a full day commitment (8 hour). Panel members will also spend 4 – 6 hours writing and reviewing reports. If, in addition, panel members should allow 2-4 hours to review the briefing pack for each project (8- 24 hours) and prepare for the session this will require Council to pay significantly higher panel fees for what would be a minimum 20 hour commitment per review session.</p>

1. **Non-Discretionary Development Standards – (Part 2.4 Apartment Configuration) –**

If you have any questions concerning the above, please do not hesitate to contact the following AJ+C members:

Mr Rob Doak, Studio Lead – Projects, 0425 297 357 or Rob.Doak@architectsajc.com

Mr Jim Koopman, Director , 0408 291 183 or Jim.Koopman@architectsajc.com

Mr Lawrence Greenman, Design and Quality Studio Lead, 0449 950 084 or
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Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:22 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021

Submitted on Mon, 28/02/2022 - 16:21

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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Lewis

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McAulay

I would like my submission to remain confidential

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Suburb/Town & Postcode

2065

Please provide your view on the project

I object to it

Submission

We submit the following objections to the Draft Design & Place SEPP and subsequent documents.

Apartment Design Guide

Green Infrastructure: The increase in the minimum deep soil and tree canopy criteria as well as the greater reliance on the Development Control Plans will have significant impact on yield which will in turn create less apartments. It is considered that more emphasis should be put on the quality of this space and not the overall quantum. Less yield means less homes for NSW which in turn drives prices up. Additionally, increased maintenance means increased strata levies for occupiers. Essentially, these costs will need to be passed on to purchasers to ensure development is feasible meaning higher purchase prices and higher ongoing costs.

Storage and Bicycle Parking Provisions: Storage provisions and Bicycle Parking Provisions have been increased. Whilst it is a minimal increase and we do not object to the notion of additional storage and bicycle parking it does require area which is in conflict with the increase in deep soil zones and smaller building envelopes. Increasing the building footprint and reducing the envelope means less yield and less dwellings for NSW.

Urban Design Guide

Neighbourhood Density: How does this interact with Development Control Plans? The Urban Design Guide prescribes 30 dwellings per Hectare in areas around activity and neighbourhood centres. Many of the Development Control Plans prescribe much lower

densities. What takes precedent here particularly in regional areas.

Tree Canopy Targets: The minimum tree canopy targets seem excessive. 20% of Site less than 300m². Further, when does this come into consideration? It applies to detached dwellings, attached dwellings, multi-dwelling housing etc. As such, if I do a residential subdivision, this control does not apply. A CDC or DA application is then done for each house, this does not apply. This control will only apply to integrated housing DA's over 24 dwellings?

Public Open Space Provision: 15% of sites over 5ha must be public open space. This is a large portion of parkland for Council's to maintain. How do we provide quality public open space should Council not want to manage these spaces? Particularly pocket parks, Council are reluctant to manage these spaces as it does not reflect time and cost efficiency because of the required maintenance. We recommend that focus should be put on the quality of these spaces and not the quantum.

Cost Benefit Analysis

Should be independently peer reviewed. As with any good procurement process a valuation should be independently peer reviewed and the numbers interrogated. For example, the Cost Benefit Analysis brings forward benefits of increased yield. We note that the Urban Design Guide brings up an increase in density (which may contradict with the relevant Development Control Plans), however, the Apartment Design Guide decreases the building envelope and would essentially reduce yield. This is just one of the matters raised that needs to be interrogated.

Sustainability in Residential Buildings

We do not object to additional sustainability measures on residential buildings. We would like the Sandbox Tool to be finalised and adequately tested prior to the introduction of this policy. Proponent's will need to quantify the impacts of these additional sustainability measures..

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:42 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: dpseppsubmission_revised.docx

Submitted on Mon, 28/02/2022 - 16:40

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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Suburb/Town & Postcode

Sydney 2000

Please provide your view on the project

I am just providing comments

Submission file

[dpseppsubmission_revised.docx](#)

Submission

See file attached.

I agree to the above statement

Yes

12 April 2022

NSW Department of Planning, Industry and Environment

By electronic submission

Exhibition of the Design and Place SEPP 2021

Re: Definition of 'Urban Designer' in the Design and Place Draft Regulation Amendment

Architecture
Urban Design
Planning
Interior Architecture

To whom it may concern,

This submission addresses the specific issue in the Draft Design and Place SEPP (DPSEPP) of who can act as an 'urban designer' for the purpose of design verification statements. In brief the core recommendation this submission is as follows:

Recommendation: The definition of an 'urban designer' in the "Design & Place – Draft Regulation Amendment" (Regulation Amendment) be amended prior to finalisation to state the following:

“

- a) a person with a university qualification in Urban Design, Landscape Architecture or Architecture from an Australian University plus 5 years' experience in urban design at a scale of 1 hectare or greater; or
- b) a person with at least 8 years' experience in urban design at a scale of 1 hectare or greater.

”

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The reasoning for this is further set out below through the following sections:

- 1. Overview of impacts of the proposed definition on the Architectus urban design team
- 2. How 'urban designer' is defined in the exhibited material
- 3. Pathways for urban designers to become an 'architect', 'landscape architect' or 'qualified town planner'
- 4. The relationship of planning to urban design
- 5. Potential definitions of an 'urban designer'
- 6. Conclusion/recommendation

1. Overview of impacts of the proposed definition on the Architectus urban design team

The Architectus urban design team is one of the largest dedicated urban design teams in NSW, with typically 10-15 full-time urban designers in New South Wales, distinct from planners and architects. Typical qualifications of urban designers in the Architectus team include a Bachelor of Architecture, Masters of Architecture, Bachelor of Landscape Architecture, Masters of Urban Design. The chief concern of this letter is that many staff who have spent their entire career in urban design with these backgrounds would not meet the definition of 'urban designer' in the Regulation Amendment without substantial further qualification that is tangential to their urban design career.

2. How 'urban designer' is defined in the exhibited material

The SEPP Overview document lists the requirement for design verification statements as “5 years experience in precinct or master planning” which is not a concern. Text in the draft Regulation Amendment however requires in addition to this experience, the requirement of being "a qualified town planner", "a landscape architect", or "an architect".

Chief concerns with the exhibited material are that:

- a 'qualified town planner' is not defined in the Draft Regulation Amendment (while 'landscape architect' and 'architect' are); and

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Nominated Architect
CEO
Ray Brown
NSWARB 6359

- as the SEPP overview document lists a broader definition than the Draft Regulation, many affected persons may have not noticed the issues raised in this letter.

3. Pathways for urban designers to become an ‘architect’, ‘landscape architect’ or ‘qualified town planner’

While pathways to become a ‘qualified town planner’, ‘landscape architect’ or ‘architect’ (as required in the Regulation Amendment) are available to some staff, the pathway to achieve this will be problematic for:

- Those who have studied urban design, including a Masters of Urbanism (Urban Design) as offered by the University of Sydney, Master of Urban Design as offered by UTS and Masters of Urban Development and Design as offered by the University of New South Wales. These members would not have a clear path to become any of a ‘landscape architect’, ‘architect’ or ‘qualified town planner’ and would require substantial further study and a focus on non-precinct scale work to achieve this.
- Those who have studied architecture and chosen not to become registered architects. This is common in urban design as registration as an architect focusses on being able to administer a small works contract through construction, which is not a skill used by urban designers.
- Those who have developed extensive experience in urban design in practice despite not coming from these backgrounds (e.g. from a backgrounds in interior architecture, industrial design or computational design).

To meet the industry, the definition of the Regulation Amendment should be amended to recognise and provide appropriate pathways for those in the above categories.

4. The relationship of planning to urban design

A further issue raised by the definitions is the relationship between planning and urban design. The Regulation Amendment allows an urban designer to be ‘a qualified town planner with at least 5 years’ experience in precinct or master planning’. As town planners do not always have a design background it is a concern that there the word ‘design’ is this definition. While some town planners have design experience and would be well placed to develop design verification statements, others may be qualified under this definition (e.g. through precinct scale social planning or economic planning) however not have the best skillset to be the author of a design verification statement.

5. Potential definitions of an ‘urban designer’

A table below has been developed to discuss benefits and issues with different definitions of an ‘urban designer’. We favour the second for the reasons discussed below.

Definition	Benefits	Issues
As currently exhibited	– No change to DPSEPP	<ul style="list-style-type: none"> – No simple pathway for those undertaking ‘Urban Design’ undergraduate degrees – Substantial uncertainty as to urban designers qualifying through being a ‘person with at least 8

		years experience in landscape design'	– Design statements can be undertaken by non-designers (planners)
Built-environment design degree (Architecture Landscape Architecture, Urban Design) plus five-years experience in urban design at a precinct scale. Or eight years experience with none of these degrees.	– Most similar to how urban designers are considered in industry – Provides the simplest and clearest pathway for existing urban designers	– Demonstration of experience has some lack of clarity (though less than exhibited Draft Regulation) and may be tested in court	
NSW Government to develop industry body for Urban Design (such as the Urban Design Group of the UK)	– Professionalises industry – Removes uncertainty	– Cost	
Five years of experience in a design-based role undertaking large masterplans, plus membership including affiliate membership of industry bodies (AIA, AILA, PIA)	– Affiliate membership of institutions provides some oversight of working in related field	– Affiliate membership is a low bar – Demonstration of experience is unclear and may be tested in court	

6. Conclusion and recommendation

The Design and Place SEPP's objectives and most of its provisions are broadly supported by Architectus, however this definition of 'urban designer' is of specific concern. As the definition is not as concerning in the SEPP Overview document, many urban designers affected by this definition may not be aware of this change and may not have made a submission.

As described the definitions requirement to be an 'architect', 'landscape architect' or 'qualified planner' requires substantial further qualification that is tangential to the career of urban designers. A range of approaches to this issue are described above and on this basis the following is recommended:

Recommendation: The definition of an 'urban designer' in the "Design & Place – Draft Regulation Amendment" (Regulation Amendment) be amended prior to finalisation to state the following:

“

- a) a person with a university qualification in Urban Design, Landscape Architecture or Architecture from an Australian University plus 5 years' experience in urban design at a scale of 1 hectare or greater; or
- b) a person with at least 8 years' experience in urban design at a scale of 1 hectare or greater.

”

Yours sincerely,



Greg Burgon
MUD BLA
Principal, Urban Designer



Michael Harrison
MCityPlng MArch(UPenn) FPIA FAIA
Strategic Advisor



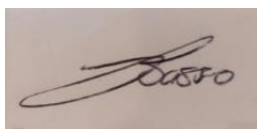
Oscar Stanish
BArch MPIA
Senior Associate, Urban Designer



Michele McSharry
BScArch BArch
Senior Associate, Urban Designer



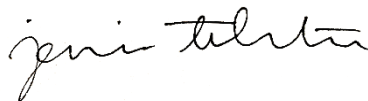
Christiane Whiteley
MUD MArch BA(Arch)
Associate, Urban Designer



Jemma Basso
March, BDesArch
Associate, Urban Designer



Nick Cappetta
BDes(Arch)
Senior Urban Designer



Jenina Tolentino
MUD BArch BDes/BArts
Senior Urban Designer



Ashley Jenkins
BDesArch MArch
Senior Urban Designer



Edell Jiaze Lu
March BArch MPLan
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BDesArch
Belinda Smole
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BArchDes MArch GradCert(URP)
Urban Designer

Letter drafted by Oscar Stanish, Senior Associate

Submitted on Wed, 23/02/2022 - 17:11

Submitted by: Anonymous

Submitted values are:

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Suburb/Town & Postcode

Bangor, NSW

Please provide your view on the project

I am just providing comments

Submission

Regarding lift waiting times. Based on my experience in the lift industry for 35 years I would say that 60 seconds waiting time is too long for a residential building standard and that 45 seconds is more appropriate.

60 seconds would be OK for lift departure interval rather than waiting time and I note that the measurements of lift waiting time and lift departure interval are referred by some designers as the same, however they not, they are different. The benchmark of 60 seconds lift departure interval (not waiting time) is supported by industry texts written by G.Barney and G.Strakosch.

I agree to the above statement

Yes

Submitted on Thu, 24/02/2022 - 14:51

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Glenn

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Wheatley

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Suburb/Town & Postcode

Sydney 2000

Please provide your view on the project

I object to it

Submission file

[284514-ac07 v2-dpsepp-noise-and-natural-ventilation.pdf](#)

Submission

Submission relates to noise and natural ventilation guidelines in the draft ADG. Refer to attached.

I agree to the above statement

Yes

To	NSW Department of Planning, Industry and Environment	Date 24 February 2022
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		Reference number 283514
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From	Glenn Wheatley <Glenn.Wheatley@arup.com> Graeme Wood <Graeme-S.Wood@arup.com>	File reference AC07v2
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Subject	Design and Place SEPP – Noise and natural ventilation provisions	
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Introduction

We write concerning the draft *State Environment Planning Policy (Design and Place) 2021* [1] ('DPSEPP') and *Draft Apartment Design Guide* [2] ('DADG'), specifically regarding the objectives and guidelines for noise and natural ventilation. The current proposal in the draft DPSEPP has significant ramifications for the design and construction of apartment buildings which do not appear to have been considered based on the draft content or Q&A feedback.

The matter of noise and natural ventilation was a key issue identified in the *Explanation of Intended Effect* [3] and has been the subject of consultation with DPIE for approximately the last three years. It was also identified as a critical policy issue for the Night Time Economy [4]. Greater attention to this policy issue has largely been the result of City of Sydney's draft natural ventilation policy [5], which was informed by their view that *State Planning Policy No.65* ('SEPP 65') [6] and the *Apartment Design Guide* ('ADG') [7] required concurrent compliance of natural ventilation and acoustic criteria. This is despite neither SEPP65 or the ADG explicitly stating this requirement, and the Building Code of Australia [8], State Environmental Planning Policy (Infrastructure) 2007 [9] ('ISEPP'), *Development Near Rail Corridors and Busy Roads – Interim Guideline* [10] ('DNRCBRIG'), Australian Standard 2021 [11] all accepting the use of mechanical ventilation when buildings need to be sealed to mitigate noise. It is also standard practice for major NSW infrastructure projects to incorporate mechanical ventilation at noise-affected properties, which can include residential apartments.

The DADG Appendix 4.1 essentially adopts the draft City of Sydney policy [5] despite concerns from the industry that the policy represents a major change, and has significant impact on, residential apartment design and construction. Attempting to achieve concurrent compliance for acoustics and natural ventilation would likely require acoustically attenuated ventilation paths, that go beyond standard practice, requiring complex modelling, assessment, and design of bespoke, and often unproven designs with maintenance difficulties, all to achieve a minimum ventilation provision for health, which is well below that required for occupant thermal comfort. Compliance with the guideline also introduces other risks to development.

Given the potential implications, it is imperative that the feasibility of assessing and complying with the proposed requirements are well-understood for a range of site contexts, not limited to sites impacted by road and rail noise, e.g. aircraft and entertainment noise. Upon querying how the feasibility of the proposal has been evaluated during DPSEPP Q&A sessions, the response indicated simply that DPIE were adopting a ‘best practice’ approach developed by other LGAs. It should be noted that no apparent studies have been carried out by the City of Sydney regarding the feasibility of their draft guideline. When enquiring with the City of Sydney on this matter, Arup has been advised that it had simply prioritised natural ventilation and it was for the industry to innovate.

The draft proposal also has potential implications on the protection and development of vibrant night-time economy areas which are the subject of various LGA investigations and draft policy, and also relevant to Special Entertainment Precincts which DPIE are currently developing guidance. Addressing this land use interface issue is included in the draft Urban Design Guide (UDG), which outlines the need to consider ‘*enhanced noise insulation*’. A requirement to satisfy DADG Appendix 4.1 would limit how residential buildings could mitigate external noise and may otherwise constrain development of residential apartments and/or limit entertainment uses.

The holistic impact on residential amenity, design, construction, and operation should therefore be evaluated to weigh the benefits of the draft proposal and consider potential alternatives.

The following discusses:

- Our understanding and interpretation of the current draft SEPP and ADG
- General design implications
- Recommendations for policy review

DPSEPP and DADG requirements

Natural ventilation

In fundamental terms, natural ventilation is generated by the wind-induced pressure differential between openings in the external façade. Sub-categorising apartments is considered unnecessary and confusing for the reader. The provisions in Section 2.7 of the DADG and the more detailed information in Appendix 4.1 are complex to interpret and apply, while also simplistic in terms of technical detail. These factors are expected to lead to significant confusion in practice.

Division 3, Clause 31(1)(g) of the DPSEPP states that **natural ventilation** is a requirement, standard or control where the local consent authority cannot apply a requirement in their Development Control Plan (DCP) that is inconsistent with the DADG. The DADG objectives and criteria are therefore taken as requirements rather than guidelines, as a consent authority could not develop an alternative approach. It is therefore imperative that the DPSEPP and DADG are feasible and appropriate for **all** development contexts.

Clause 9 of the DPSEPP states that the DPSEPP applies to the extent of the inconsistency with other policies. Therefore, while the ISEPP [9] and DNRCBRIG [10], as referred to by the DADG permit alternative mechanical ventilation, it would not be permissible.

Per Section 2.7 of the DADG, the **objective** for natural ventilation is to ‘provide natural ventilation to all habitable rooms and maximise apartments with natural cross-ventilation to optimise indoor air quality and thermal comfort and reduce reliance on mechanical ventilation’ [2, p. 64].

The DADG distinguishes between ‘natural ventilation’ and ‘natural cross-ventilation’, but does not provide performance criteria for either in terms of airflow or air-change rates, except in Appendix 4.1. If these metrics are requirements, it would be recommended to incorporate these into Section 2.7. The absence of such metrics creates uncertainty regarding the desired outcomes. This leads to a lack of clarity regarding how the various design guidance achieves the DADG objective. This becomes particularly relevant when evaluating the alternative pathway for natural ventilation in Appendix 4.1, for which the following is stated:

An alternative natural ventilation pathway can be applied which allows a smaller area of opening to be acoustically attenuated, with the balance of the 5 per cent EOA to be provided via unattenuated openings. See Appendix 4.1: Natural ventilation. [2, p. 67].

The flow rates adopted are consistent with mechanical ventilation standard for outdoor air outlined in the National Construction Code (NCC) [8, 12], which are for ‘adequate air quality’ only, not for optimal air quality or thermal comfort in accordance with the DADG objective. The airflow rate is minimal and would not be readily perceptible to occupants. The airflow is to be achieved for 85 or 90% of all hours during the year, with the lower percentage applying to cross-through and cross-over apartments. The DADG states:

For this calculation, the definitions of cross-through and cross-over apartments are consistent with the definitions set out in the ADG glossary. Applying the definitions is limited to apartments where the total area of openings proposed for natural ventilation is evenly distributed across at least 2 opposite facades with differences in orientation of $180^\circ \pm 35^\circ$. (p.A19)

It is unclear why the probability of time is not constant for varying apartment types, particularly when the flowrates are primarily for resident’s health rather than thermal comfort. The second sentence in the paragraph above appears to further limit the application of the natural ventilation requirements and limits the definitions in the Glossary of the DADG for cross-over and cross-through apartments are open to interpretation. Definitions should be standardised throughout the document.

It is noted that while mechanical systems are not permitted to support the background ventilation system, ceiling fans are otherwise promoted to improve air-circulation.

While only providing low-level background ventilation, any assessment requires evaluation of the subject building in context of its immediate environment, along with considerable detailed analysis for each unique apartment design, including a combination of:

- multi-zone air flow modelling using dynamic thermal simulation software,
- wind tunnel testing, and
- computational fluid dynamic (CFD) testing factoring the aerodynamic performance characteristics of any attenuated ventilation paths including, louvres, grilles, control dampers, insect screens, and similar components.

All the above techniques have technical limitations, with only CFD capturing both the inertial and pressure driven aspects of the natural ventilation fundamental physics. All however require a considerable level of expertise, by both the designer and those assessing applications and is not a typical undertaking. While the intent of the ADG should be to raise the design standard of the general building stock, the proposed guidelines are overly onerous and complex, and expected to be unmanageable by most consultants, engineers, developers and authorities across NSW.

Noise

Section 2.8 of the DADG relates to acoustic privacy, noise, and pollution. The section does not outline specific noise criteria to be achieved other than referring to the *State Environmental Planning Policy (Infrastructure) 2007* ('ISEPP') [9] and *Development near Rail Corridors and Busy Roads – Interim Guideline* [10]:

For all habitable rooms, including where an alternative solution for natural ventilation is necessary, refer to the noise level criteria with windows closed in Development near Rail Corridors and Busy Roads – Interim Guideline [2, p. 70].

Noise from other sources such as aircraft, industry and entertainment use are not specifically addressed in the DADG, and the ISEPP applies only to roads with an Annual Average Daily Traffic (AADT) over 20,000. The noise mitigation strategies depicted in Figures 2.8.3 and 2.8.4 are focused on rail and road traffic noise. As a result, it is unclear if natural background ventilation (Appendix 4.1) applies for other noise affected sites such as entertainment precincts.

Using the ISEPP criteria for residential bedrooms as an example, Table 1 discusses some issues with interpretation and application of the DPSEPP/DADG natural ventilation policy.

Table 1: ISEPP internal noise criteria for residential bedrooms impacted by rail corridors and busy roads

Room	Condition	Noise level criteria		Application under DPSEPP/DADG
		L _{Aeq} , 15hr Day 7am – 10pm	L _{Aeq} 9hr Night 10pm – 7am	
Bedrooms	Windows closed	40	35	If an opening is required for natural background ventilation, it will result in additional noise. To account for this additional noise intrusion, the acoustic performance of the building façade will need to increase from current practice.
	Windows open	50	45	The extent to which windows are open is not outlined in the DNRCBR, however it is typically assessed based on 5% of the floor area per the NCC. However, it is unclear if it would need to be assessed per the DADG definitions of Effective Open Area (EOA), whereby allowances for flyscreens would result in an increase to 10%, making this noise level harder to comply with. No background ventilation for the windows closed scenario is required if these criteria are achieved.

Notwithstanding concerns regarding concurrent compliance of noise and natural ventilation, there are several areas requiring review to clarify the DADG noise objectives and how it may interact with ventilation objectives.

Design implications

While solutions will vary dependent on the external noise environment, the internal noise criteria, and apartment design, many apartment buildings will require consideration of alternative natural ventilation solutions, with potentially high sound attenuation. Although the DADG recommends prioritising building orientation and apartment layout to minimise the need for alternative ventilation solutions, this can unduly impact other amenity objectives. The strategies depicted in the DADG regarding protection from external noise sources do not consider sources such as aircraft, industry, and entertainment, which may impact sites from multiple directions.

Policy therefore needs to account for reasonable worst-case scenarios. Acoustically treated natural ventilation designs, as depicted in Figure 1 below, have been proposed on several apartment developments in the City of Sydney LGA to address road traffic noise intrusion. The solution comprises a large, attenuated duct, approximately 1.5 m long and 1.25 m high, insect screens and weather protection, located in a bedroom and/or living space at the façade.

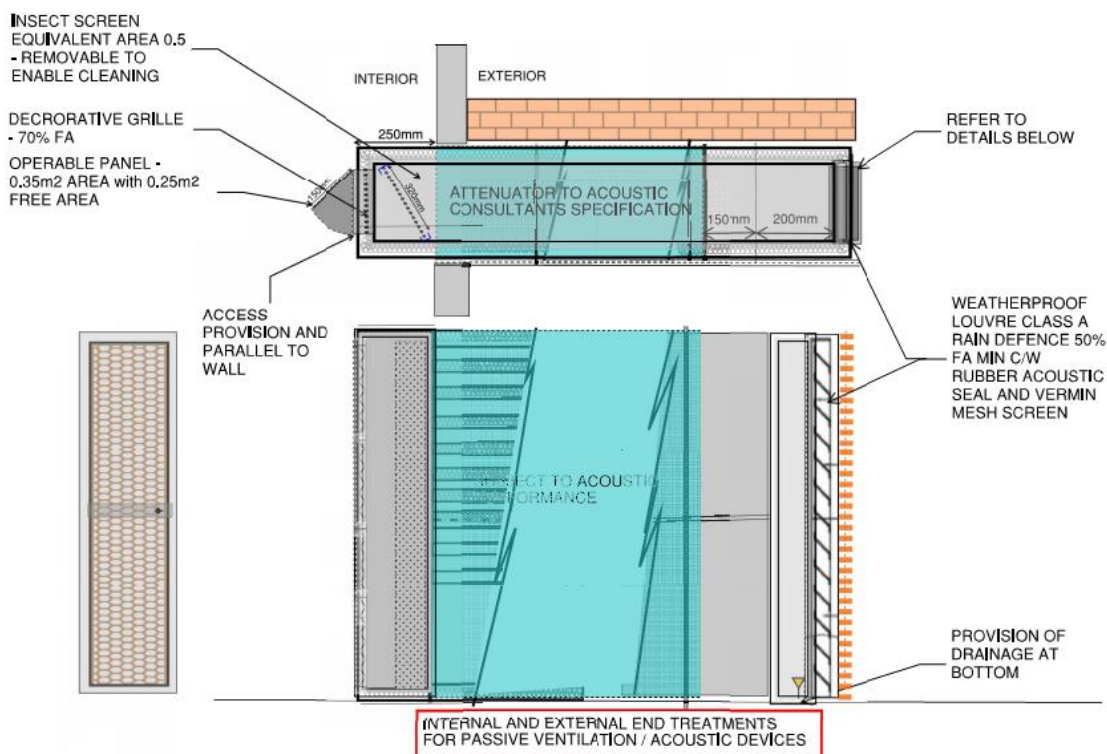


Figure 1: Proposed noise/natural ventilation solution (project undisclosed)

While the airflow requirements are low, relatively large openings are often required to suitably perform under relatively still external wind conditions (worst case 85-90% over year) and overcome the increased pressure loss through the obstructed openings and airflow paths. Maintenance and cleaning of such large elements to ensure ongoing performance is problematic for the resident who may be unaware that the mesh screens and ductwork require cleaning.

Aircraft noise criteria in AS2021 can require more significant acoustic requirements than road traffic. Furthermore, the entertainment noise criteria proposed by the City of Sydney and City of Parramatta in recent draft Development Control Plans sets more stringent noise criteria, inclusive of targets for low frequency noise intrusion, and excludes any open window requirements.

Providing alternative natural ventilation solutions at noise affected sites can have a considerable impact on apartment design, including, but not limited to:

- additional spatial requirements, reducing net floor space,
- added complexity for cleaning and maintenance,
- added complexity for user operation. There are no standards or requirements regarding ease of operation. Suitable ventilation performance may be contingent on specific external openings and ventilation paths though the apartment being open to achieve the ventilation rates, which is also a function of the current wind speed and more importantly direction.
- Need for controls or ability to close the ventilation system under high wind speeds. Variable dampers would be needed to maintain usage, else closure would inadvertently reduce the time when the background ventilation is provided. Dampers increase the risk of aeroacoustic noise when not well sealed.
- Unlikely to allow filtering of external air quality due to airflow restriction.
- Potential need for automated control systems to minimise impacts under high wind and pollution events.
- Large openings will impact building thermal performance and may otherwise need to be sealed during high and low temperatures.
- Overall design complexity and certification due to the need for often bespoke and untested design solutions.

Recommendations for policy review

Based on our review of the Draft DPSEPP and DADG it is considered that further evaluation is required of the proposed design objectives and design guidance for natural ventilation for noise affected sites given the significant change, additional complexity, and risk it presents for apartment developments.

The purpose of providing natural background ventilation should be confirmed, given that the airflow rates outlined in Appendix 4.1 do not address the DADG objectives regarding optimal amenity and thermal comfort and may otherwise have a negative impact on overall apartment design and occupant amenity.

Given the potential implications, it is imperative that the feasibility of complying with the requirements be well-understood for a range of site contexts, not limited to sites impacted by road and rail noise. Furthermore, the holistic impact on amenity, design, construction, operation, and maintenance should be evaluated to weigh the benefits and consider potential alternatives.

While it may be desirable to prioritise passive design solutions it is not uncommon for policy to allow acoustically treated ventilation to be mechanically supported. For example, guidance on good

acoustic design is provided within the UK National Planning Policy Framework, requires the World Health Organisation acoustic guidelines [13] to be achieved with provision of continuous background ventilation via either mechanical means or in conjunction with other trickle vents [14]. While mechanically supported, the ventilation is required to be outside air (consistent with the NCC), and could potentially be filtered. Consistent with the DADG, the UK Framework requires large ventilation openings such as via operable windows and doors for purge ventilation, but does not require concurrent compliance with the acoustic criteria [14].

Any mechanical system could be included in the energy efficiency assessment such as BASIX. Airflow rates could more readily be enhanced above the levels for ‘adequate air quality’ and thermal comfort. It would be recommended to outline noise criteria for any background ventilation system, or at a minimum include guidance.

References

- [1] NSW Government, “State Environmental Planning Policy (Design and Place) 2021 - Public Consultation Draft,” NSW Government, 2021.
- [2] NSW Department of Planning, Industry and Environment, “Draft Apartment Design Guide v49,” NSW Government, Sydney, 2021.
- [3] NSW Department of Planning, Industry and Environment, “Explanation intended effect for a Design and Place SEPP,” NSW Government, Sydney, February 2021.
- [4] Arup, “Evening and Night Time Economy - Acoustic strategies - AC01(v3),” Arup, Sydney, 2 July 2019.
- [5] City of Sydney Council, “Alternative natural ventilation of apartments - Performance pathway guideline,” 25 August 2018. [Online]. Available: https://www.cityofsydney.nsw.gov.au/data/assets/pdf_file/0015/307005/Natural-ventilation-guide-note_310818.pdf. [Accessed 14 September 2018].
- [6] NSW Government, “State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development,” 2017.
- [7] NSW Department of Planning and Environment, “Apartment Design Guide - Tools for improving the design of residential apartment development,” NSW Department of Planning and Environment, Sydney, 2015.
- [8] Australian Building Codes Board, National Construction Code 2016 Building Code of Australia, Canberra: Australian Building Codes Board, 2016.
- [9] NSW Government, “State Environmental Planning Policy (Infrastructure) 2007,” NSW Government, 31 May 2019. [Online]. Available: <https://www.legislation.nsw.gov.au/#/view/EPI/2007/641>. [Accessed 29 June 2019].
- [10] NSW Department of Planning, “Development Near Rail Corridors and Busy Roads - Interim Guideline,” NSW Department of Planning, Sydney, 2008.
- [11] Standards Australia, “AS2021 Acoustics - Aircraft noise intrusion - Building siting and construction,” Standards Australia, 2015.
- [12] Standards Australia, “AS/NZS 1668.2:2012 The use of ventilation and airconditioning in buildings: Mechanical ventilation in buildings Amdt 1,” Standards Australia, 2012.

- [13] World Health Organisation, “Guidelines for Community Noise,” Geneva, 1999.
- [14] ANC, IOA CIEH UK, “Professional Practice Guidance on Planning & Noise: New Residential Development - Supplementary Document 2 - Good acoustic design,” Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH), London, 2017.
- [15] A. Chilton, P. Novo, N. McBride, A. Lewis-Nunes, I. Johnston and J. Rene, “Natural ventilation and acoustic comfort,” in *Acoustics 2012*, Nantes, 2012.

Design and Place State Environment Planning Policy - Aurecon Comments

Last
Update: 2/03/2022
Rev: 0.01

Item	Relevant Document	Document Reference Section	Page #	Comment Type	Comment
001	All documents	General	4	General Comment	Most documentation is written for multiple audiences, yet the specifics for each audience is confused. Clarification over the interactions and connections between the intended audience and user is crucial to success of the implementation.
002	Apartment Design Guide	Minister's Forward	4	General Comment	Typing error third line should read "lock" not "lo ". There are missing letters occasionally throughout the remainder of the document.
003	Apartment Design Guide	1.2		Suggested Addition	Built form and siting mentions cross ventilation and daylight access but does not provide guidance on optimum orientation for passive design such as consideration of solar loads, shading from adjacent structures and trees, prevailing winds, desirable views, daylight and glare. More guidance around how this can be achieved on a site would add substance to this section. Note: these are covered in subsequent sections of the document and therefore a reference under siting may be adequate to connect these sections.
004	Cost Benefit Analysis	Background	3	General Comment	The analysis is related to the Apartment Design Guide and based on the findings from detailed designs, feasibilities and costings prepared for five apartment sites. There is a need for greater transparency of the case study locations and apartment types. These case studies need to be beyond the Greater Sydney area as the proposed DP SEPP will apply to all of NSW. Greater sample size required.
005	Cost Benefit Analysis	Options considered for this analysis	11	General Comment	More clarity around options and design change implications. I.e.. Flexibility in design standards needs to be fleshed out more I.e. what impact would the design criteria have on costings?
006	Cost Benefit Analysis	Cost and benefit results	14	General Comment	The report currently presents the results pertaining only to Option 2, readers cannot draw any conclusions without comparing to the base case and the other options.
007	Cost Benefit Analysis	Table 3.1	12	General Comment	There is a need for greater transparency in the benefit and cost calculation methodologies. The summary CBA document is currently publicly available. The full report has not been publicly released to date and is needed for readers to have greater confidence in the quantification of the costs and benefits.
	Cost Benefit Analysis	Table 3.1	12	General Comment	Aurecon is one of the industry leaders in quantifying costs and benefits of place. We are particularly interested in understanding the quantification methodology, so welcome more detail.
008	EPA Regulation 2021	Title Page		Suggested Modification	Reference to "Minister for Planning and Public Spaces" should be amended as Ministerial titles have changed as of 21 December 2021.

Design and Place State Environment Planning Policy - Aurecon Comments

Last
Update: 2/03/2022
Rev: 0.01

Item	Relevant Document	Document Reference Section	Page #	Comment Type	Comment
009	Residential Sustainability BASIX	General	4	Suggested Modification	Suggest gas appliances should be discouraged as electrification and removal of gas from homes is considered best practice for sustainability and health and safety.
010	Residential Sustainability BASIX	General		General Comment	It is generally unclear how the BASIX approach interacts and aligns with NCC Section J and Green Star Homes; given the prominence of these tools nationally it is important to understand these interactions
011	Residential Sustainability BASIX	General	2	General Comment	Financial trigger of greater than \$50,000 for renovation appears low; and unclear what triggers BASIX and/or Section J components
012	Residential Sustainability BASIX	Introducing a new requirement for embodied carbon emissions	2	General Comment	New requirement for embodied carbon emissions does not appear to be supported by education / information on how to select a lower embodied carbon solution
013	Residential Sustainability BASIX	FAQ - 3	3	General Comment	What is the business case behind exceptions of homes in the North Coast climate zones, and small apartment buildings?
014	Residential Sustainability BASIX	FAQ - 3	3	Risk / Opportunity	It is unclear if the cost-benefit analysis referenced adequately considers all supporting evidence specifically health improvements that would be achieved through higher standards
015	Residential Sustainability BASIX	FAQ - 5	4	Suggested Modification	The emissions factor associated with NSW grid electricity improvements should align with tools such as NABERS
016	Residential Sustainability BASIX		5	Suggested Modification	New developments and renovations should be incentivised to move away from gas into all electric modes.
017	Residential Sustainability BASIX	FAQ-8	6	Suggested Modification	Inclusion of healthy to "more comfortable homes" to directly connect health and comfort improvements.
018	Residential Sustainability BASIX	Cost -benefit analysis	8	Suggested Addition	The exclusion of health and wellbeing of occupants is a significant omission from the CBA; suggested inclusion of these elements as they are closely linked with the sustainability initiatives
019	Residential Sustainability BASIX	Materials Index-2	10	General Comment	Industry need further education on the process of embodied carbon calculation; how will the materials index work and how will this align with other tools such as Green Star, life cycle assessment, environmental product declarations and the like
020	Residential Sustainability BASIX	Materials Index-3	10	Risk / Opportunity	The EPIc database is an economic input-output based database that provides a high-level single emissions factor to represent a range of products e.g. single emissions factor for concrete despite the emissions factor to be highly dependent on location, supplier and mix.

Design and Place State Environment Planning Policy - Aurecon Comments

Last
Update: 2/03/2022
Rev: 0.01

Item	Relevant Document	Document Reference Section	Page #	Comment Type	Comment
021	Residential Sustainability BASIX	Merit Assessment Pathway	11	General Comment	Additional professionals such as certified Passive House Designer, GSAP, NABERS, NatHERS Assessors or those able to demonstrate a minimum period of practice in this area (energy efficiency, sustainability etc) should be included in the merit assessment pathway
022	Residential Sustainability BASIX	Merit Assessment Pathway	12	General Comment	Modelling software and associated with compliance should be as rigorous as other tools including NABERS and Green Star including publication of these assumptions in order to reduce/stop gaming of the modelling process

28 February 2022



Abbie Galvin
NSW Government Architect
Department of Planning and Environment
Submitted by e-portal

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Design and Place State Environmental Planning Policy

Dear Ms Galvin,

Ausgrid is pleased to provide this submission to the Department of Planning and Environment's (DPE) consultation on the draft Design and Place State Environmental Planning Policy (SEPP).

Ausgrid operates a shared electricity network that powers the homes and businesses of more than 4 million Australians living and working in an area that covers over 22,000 square kilometres from the Sydney CBD to the Upper Hunter. We are focused on providing electricity infrastructure that is flexible and resilient so we can continue to deliver safe, reliable and secure services for our customers and communities.

We support the intent of the NSW Government's Net Zero Plan. The proposed SEPP represents an important step forward in achieving net zero targets at least cost, supporting an affordable transition for our customers and communities.

We are working to build our understanding of the risks to our network and communities from climate change through joint network stakeholder engagement and Ausgrid's first climate impact assessment.¹ The preliminary results of our impact assessment show that our exposure to the risk of events e.g. extreme heat, bushfires, storms and heat waves is growing, and that there is a need to adopt collaborative strategies to address this risk.

Design and Place SEPP facilitates investment in resilient and sustainable communities

Ausgrid supports the proposed policy reforms, which provide a comprehensive framework for planning processes and delivering more sustainable and resilient places in NSW.

The SEPP provides clear direction to project proponents, including Ausgrid, about the need to develop projects that deliver sustainable and resilient communities. As a business engaged in providing essential infrastructure from Sydney to the Upper Hunter, we are a critical partner in driving improved amenity, with the lives of our assets often spanning generations.

Environmental Planning and Assessment Amendment (Design and Place) Regulation 2021 can be strengthened to facilitate the uptake of Electric Vehicles (EV)

We welcome the intent of the proposed amendments. We consider that the amendments could be improved by adjusting the minimum proportion of EV charging parking spots for new developments and adopting a flexible approach to EV charging. As customers transition to EVs the demand for charging equipment will significantly increase noting the NSW Government's EV policy is targeting EV sales of 52 per cent by 2030-31.² We support an increase in the proportion of EV charging

¹ Network Resilience, 2022, Collaboration Paper on Network Resilience; <https://cdn.ausgrid.com.au/-/media/Documents/Customer-engagement/Network-resilience/Network-resilience-collaboration-paper.pdf?rev=1e1f297109b348a0827fdd76accef1a3&hash=628398035B40E1762E6954BB474D8914>.

² Department of Environment, 2021, p.30, <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/nsw-electric-vehicle-strategy-210225.pdf>.

enabled parking spots to 25 per cent for new developments. We recommend that a flexible approach to load and EV charging is appropriate given the rapidly evolving nature of customer expectations and service offerings. Accordingly, we do not support the introduction of a minimum kWh requirement within specified times.

We support minimum requirements for switchboards in developments. However, for high rise buildings there may be a need for additional, separate switchboards to manage EV charging safely.

The Urban Design Guide (UDG) can be strengthened for resilience by requiring collaboration on canopy targets and consideration of community batteries

The UDG should be strengthened by establishing a requirement to engage with DNSPs on the suitability of vegetation species planted near powerlines. Inappropriate planting creates unnecessary risks to people, property and safety and reduces the resilience of network assets.

We consider that the UDG could be strengthened by including community batteries on the list of integrated smart technologies and solutions. Community batteries support councils, greenfield and brownfield developers in considering the use of local, scalable community storage to reduce emissions, improve reliability and affordability. We would welcome an opportunity to discuss with DPE how to reduce barriers to these and other smart solutions.

A higher Building Sustainability Index (BASIX) will facilitate the energy transition through electrification

The new BASIX standards will support the implementation of low cost and low emission investments at the household level through partial or full electrification of residences. This will build on an opportunity to use the transition to increase grid utilisation and reduce cost, e.g. through EV ready homes. We note that EVs use 25 to 35 per cent of the primary energy of an Internal Combustion Engine (ICE) equivalent and provide an average annual fuel saving of \$708 per car.³

The proposed update of greenhouse gas (GHG) emissions factor for the electricity grid is appropriate, noting the declining carbon emissions associated with energy sourced from the grid. However, we note that the underlying GHG factor for grid sourced electricity may be lower than applied in the cost-benefit analysis undertaken by ACIL Allen. For example, the GHG factor for electric hot water on an 'off-peak' controlled load type tariff could be considered close to zero where this load coincides with the peak solar period. Similarly flexible loads like electric hot water and EVs have the potential to increase load during the day and enable further decarbonisation of the electricity system.

Ausgrid thanks the DPE for the opportunity to provide this submission. Should you wish to discuss any of the issues raised in the submission further, please contact Naomi Wynn, Regulatory Policy Manager at naomi.wynn@ausgrid.com.au.

Regards,



Alex McPherson
Head of Regulation

³ Rewiring Australia, 2021, Castles & Cars, savings in the suburbs through electrifying everything – discussion paper, p. 12, https://global-uploads.webflow.com/612b0b172765f9c62c1c20c9/615a513770739cc6477e67f4_Castles%20and%20Cars%20Rewiring%20Australia%20Discussion%20Paper.pdf.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 6:30 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: submission-for-consideration-on-the-design-and-place-sepp.pdf

Submitted on Fri, 25/02/2022 - 18:01

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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First name

Clyde

Last name

Anderson

I would like my submission to remain confidential

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North Sydney 2059

Please provide your view on the project

I support it

Submission file

[submission-for-consideration-on-the-design-and-place-sepp.pdf](#)

Submission

According to the Hstar Portal statistics for NSW for 12 months to October 2021 for all Class 1 buildings, 90% of homes scored less than 7 Stars.

Many of these designs just complied with the BASIX Thermal Comfort heating or cooling load limits.

There will be a very-steep learning curve for industry to improve thermal performance.

We need to remove the likelihood of "dodgy" assessments, which may use any loophole introduced by the MAP.

This does not include the 2022 changes to NatHERS: climate files, star bands, heating & cooling limits and thermal bridging which are expected to result in a reduction in the star rating for Class 1 detached timber-framed houses from 0.2 to 0.4 stars and for steel-framed detached houses from 0.7 to 1.2 stars without a thermal barrier, and 0.5 to 0.9 stars with an R0.2 thermal barrier.

The CBA does not support the "arbitrary" selection of Class 2 unit buildings of 5 floors or less for lower thermal performance stringency.

Embodied emissions needs to include the location of the factory, transport to the distribution warehouse and transport to the

construction site. Manufacturers of similar products can have vastly different carbon footprint. The EPiC database is not product specific enough.

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 6:33 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: afpa-nsw---submission-on-draft-nsw-design-and-place-sepp_.pdf

Submitted on Mon, 28/02/2022 - 18:28

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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Submission file

[afpa-nsw---submission-on-draft-nsw-design-and-place-sepp_...pdf](#)

Submission

Please find attached a submission from the Australian Forest Products Association NSW.

I agree to the above statement

Yes



Australian Forest Products Association NSW (AFPA NSW)

Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

28 February 2022

SUBMISSION



Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

The Australian Forest Products Association New South Wales (AFPA NSW) welcomes the opportunity to provide a submission on the draft NSW Design and Place SEPP paper.

About AFPA NSW

AFPA NSW is the peak state industry body representing the state's forest, wood and paper product industries. It actively engages governments, the general public and other stakeholders on matters relating to the sustainable development and use of forests and associated manufacturing and marketing of wood and paper products in the state.

Forest industries are a key sector in NSW, employing 21,000 people across the value chain and adding \$7 billion of economic activity annually. Forest industries underpin the economic success of many communities, providing significant employment opportunities and assisting to diversify and strengthen regional NSW. While many direct jobs are located in rural and regional areas there are large numbers of downstream value adding jobs in other regional and outer urban centres.

Our members include the sawmills that manufacture much of the timber used for house frames across the state and nationally, as well as the softwood plantation forest growers from where the sawmills source their renewable timber.

Overview

This submission will focus on the *Sustainability in Residential Buildings (BASIX Overview)* document, specifically the section dealing with a Materials Index.

AFPA NSW supports in-principle the inclusion of a Materials Index within BASIX, although an effective reporting and documentation framework for materials needs to be further developed, calculations and definitions need clarity, and any limitations for developers addressed.

AFPA NSW is concerned that, as currently proposed, the Index will greatly over-report NSW's embodied carbon figures for building products.

Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document states:

“Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.”

AFPA NSW does not support this proposed aspect of the design of the Index, as it would disadvantage our domestic manufacturing compared to imported building products which will continue to use existing ISO standards and Environmental Product Declarations (EPDs).

In December 2021, the Building Products Industry Council (BPIC) wrote to the NSW Minister for Planning and Public Spaces, Rob Stokes, detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government. EWPAA is an active member of BPIC.

Principally our concerns relate to the NSW Government's proposed use of Input-Output (I-O) or Hybrid Analysis (HA) LCA methodology, such as contained in the EPiC database produced by the University of Melbourne.

Concerns about the use of I-O or HA methodologies

AFPA NSW is concerned the use of the I-O or HA methodologies will lead to unintended and perverse outcomes in the construction sector.

I-O or HA economic based data in the EPiC database are not appropriate for comparative assessment of building products or constructed dwellings and their use will give inconsistent and much higher values compared to the current and internationally recognised 'process-based' LCA methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

The use of the I-O or HA (via EPiC) methodology is intended for single country national impact economic focussed assessments - it is not intended for individual product or project based environmental impact assessments.

The use of I-O or HA approaches (via EPiC) rather than process based EPD information for building products within schemes like BASIX will have significant unintended outcomes, such as:

- Preferentially advantaging imported building products that utilise process based LCA methodology credentials based on EPDs and ISO standards over local Australian products which will have significantly higher I-O or HA LCA (via EPiC) outcomes.
- If adopted widely, the HA LCA approach (via EPiC) data will greatly over-report NSW's embodied carbon figures for building products compared to other Australian and overseas jurisdictions, for example:
 - For softwood timber the EPiC HA value of Greenhouse Gas Emissions is 549 kgCO₂e/m³ compared to 181 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation (3 times higher).

- For plasterboard the EPiC HA value of embodied energy is 0.44 kgCO₂e/kg compared to 0.096 kgCO₂e/kg using the internationally agreed EPD-backed process method of calculation (4.6 times higher).
- Will undermine all the work and enormous investment that building product suppliers have made in complying with international carbon measurement standards and development of EPDs.

I-O or HA approaches (via EPiC), significantly increase embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer.

This perversely creates a strong disincentive for manufacturers to improve their environmental performance, as no matter what they might achieve, the externalities employed in the EPiC methodology will always disadvantage them.

These I-O or HA methodologies are complex and black box arrangements using hidden and proprietary algorithms, and not independently verified, so it is extremely difficult if not impossible for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes.

Conclusion

AFPA NSW recommends the NSW Government and the BASIX administrator do not pursue the proposed I-O or HA approaches (via EPiC) but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

If you have any queries on this submission, please contact AFPA NSW CEO Victor Violante at victor.violante@ausfpa.com.au



**AFPA
NSW**

AFPA NSW is the peak state industry body representing the resources, processing and pulp and paper industries covering the forest products value chain.

AFPA NSW represents all elements of the supply chain from the sustainable harvesting of plantations and multiple use natural forest resources including forest establishment, harvesting and haulage, processing of timber resources and manufacture of pulp and paper.



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0458 601057

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:19 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 20220228_agig-submission-on-the-draft-state-environmental-planning-policy-(design-and-place-2021.pdf)

Submitted on Mon, 28/02/2022 - 16:18

Submitted by: Anonymous

Submitted values are:

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Last name

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Adelaide

Submission file

[20220228_agig-submission-on-the-draft-state-environmental-planning-policy-\(design-and-place-2021.pdf\)](#)

Submission

Please find attached AGIG's submission..

I agree to the above statement

Yes

28 February 2022

NSW Department of Planning and Environment

Online submission: <https://www.planningportal.nsw.gov.au/design-SEPP-2021>

To whom it may concern,

The draft State Environmental Planning Policy (Design and Place) 2021

Australian Gas Infrastructure Group (AGIG) welcomes the opportunity to provide feedback on the draft Design and Place State Environmental Planning Policy 2021 (draft DP SEPP) and associated documents. We commend the New South Wales (NSW) Government in taking a leading role in sustainability with a pledge to reach net zero emissions by 2050, which we support.

While we recognise the aim of the policy is to minimise the consumption of non-renewable energy and reduce greenhouse gas emissions, it is also important that the policy recognises and remains open to all opportunities to achieve net zero emissions. Specifically the framework should recognise the opportunities for renewable gases (like hydrogen) to be used and the regulatory frameworks being put in place by the NSW Government to increase the use of renewable hydrogen, including in households.

We are concerned with a number of provisions that minimise and exclude gas use for cooking, heating and hot water in favour of electric alternatives. For example:

- Draft SEPP Clause 21(a) Design consideration—resource efficiency and emissions reduction: The consent authority must consider whether the development for urban design development involving subdivision—minimises, and excludes as far as practicable, the use of on-site gas for cooking, heating and hot water; and
- Draft Apartment Design Guide: Preferences for all-electric buildings and only recognising 'all electric' or 'all electric ready' as net zero ready.

Stopping gas use for new developments removes choices for customers on their preferred energy supply. Though surveys with our gas customers, we heard that customers like using gas in their homes; it is often a preferred fuel for cooking and heating, and customers particularly value the reliability of a gas connection. A customer survey data from Energy Consumers Australia shows very few households and businesses are actively thinking about replacing their gas appliances with electric alternatives; likely because of the benefits that gas brings.¹

Preventing gas use in the near term significantly reduces the opportunity and potential role of renewable gases like hydrogen and biomethane to decarbonise gas use in the long term in meeting emissions reductions targets. Substituting natural gas with renewable gas means that end-users can continue to receive the same benefits they receive from natural gas today – affordability, safety, reliability, security of supply and equity, but with the zero emissions benefit of renewable gas.

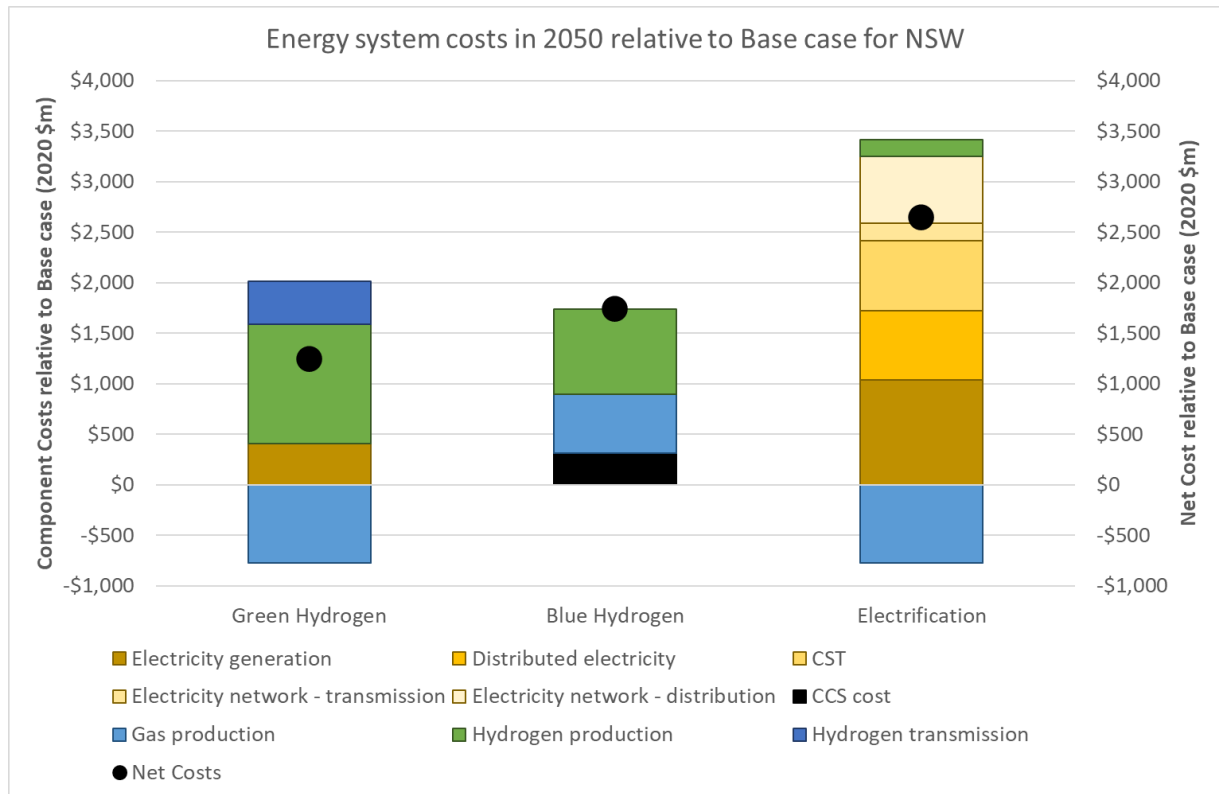
Further, analysis by Frontier Economics determined that an "Electrification" scenario, whereby almost all end-use natural gas consumption is replaced by electricity supply, is the costliest approach to reach net zero emissions from the stationary energy sector by 2050.² Figure 1 illustrates that

¹ See: Energy Consumer Australia, Sentiment Survey – June 2021

² See: <https://www.energynetworks.com.au/resources/reports/2020-reports-and-publications/the-benefits-of-gas-infrastructure-to-decarbonise-australia-frontier-economics/>

a decarbonisation strategy that utilises existing gas infrastructure and hydrogen in NSW will be significantly cheaper than the full Electrification scenario. The draft DP SEPP should not adopt approaches where there is substantial evidence the particular approach will be costlier than alternatives in achieving net-zero emissions in the long-term.

Figure 1: Net cost of decarbonising gas in NSW by scenario



The benefits of renewable gas are well recognised and the NSW Government and industry are acting to build a hydrogen economy in NSW. For example, through the NSW Hydrogen Strategy, the NSW Government has set ambitious 2030 stretch targets such as 10 per cent blending (by volume) in networks and producing 110,000 tonnes of green hydrogen per annum.³ Through the Renewable Fuel Scheme energy retailers will have a legal obligation to procure increasing proportions renewable hydrogen produced in NSW to offset their natural gas sales. This regulatory framework (developed by the Department of Planning and Environment) and should be recognised in the draft DP SEPP.

Further, we note that industry, including AGIG are taking a leading role in the delivery of renewable hydrogen technologies and the development of Australia's hydrogen industry more broadly. Each of AGIG's renewable gas projects (described below) help prove a viable pathway forward for blending hydrogen into existing gas networks with the goal of achieving 100 per cent renewable gas networks. These projects help to test and establish safety, technical and energy market regulatory frameworks for hydrogen, unlock the potential of other complementary markets and lead to the commercial readiness of hydrogen.

For example, since May 2021, AGIG's Hydrogen Park South Australia has been safely blending 5 per cent renewable hydrogen into the existing gas distribution network, supplying to more than 700 existing homes and businesses in metropolitan Adelaide. Building on HyP SA, we are planning to deliver up to a 10 per cent renewable gas blend to more than 20,000 homes and business in Albury

³ See: https://www.energy.nsw.gov.au/sites/default/files/2021-10/govp1334-dpie-nsw-hydrogen-strategy-fa2_accessible_final.pdf

NSW (and a further 20,000 in Wodonga, Victoria) from early 2024 through our Hydrogen Park Murray Valley proposal described below. This is an important project is a key step towards decarbonising Australia's gas networks.

Given that renewable gases present a viable pathway to decarbonise gas use while retaining customer choice, we recommend that the policy and associated documents adopt a technology neutral approach in meeting NSW's net zero ambitions.

About AGIG

AGIG is the largest gas distribution business in Australia, serving more than 2 million customers through our networks in Victoria, Queensland, South Australia, and several regional networks in NSW and the Northern Territory. Our Australian Gas Networks, part of AGIG services about 60,000 customers in NSW through the gas distribution networks in Albury, Wagga Wagga and various towns in the south of the State.

At AGIG, we are committed to sustainable gas delivery today, and tomorrow. Our Low Carbon Strategy, targets 10 per cent renewable gas in networks by no later than 2030, delivering 100 per cent renewable gas developments from 2025, with full decarbonisation of our networks by 2040 as a stretch target and by no later than 2050.

We are now delivering on our strategy by deploying low carbon gas projects. Our projects include:

- Hydrogen Park South Australia – As outlined above, a 1.25MW electrolyser to demonstrate the production of renewable hydrogen for blending with natural gas (up to 5 per cent) and supply to more than 700 existing homes in metropolitan Adelaide. HyP SA is now operational.
- Hydrogen Park Gladstone – A 175kW electrolyser to demonstrate the production of renewable hydrogen for blending with natural gas (up to 10 per cent) and supply to the entire network of Gladstone, including industry. First production is expected in 2022.
- Hydrogen Park Murray Valley (HyP Murray Valley) proposal, as outlined above – A 10MW electrolyser to produce renewable hydrogen for blending with natural gas (up to 10 per cent) and supply the twin cities of Albury NSW and Wodonga VIC, with the potential to supply industry and transport sectors.

Once again, I would like to thank you for the opportunity to provide feedback on the draft DP SEPP and related documents. Should you have any queries about the information provided in this submission please contact Drew Pearman, Head of Policy and Government Relations (drew.pearman@agig.com.au or 0417 544 731).

Yours sincerely,



Kristin Raman
Acting Executive General Manager People and Strategy

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 7:25 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: apa-submission-to-nsw-draft-sepp-feb-2022---final.pdf

Submitted on Mon, 28/02/2022 - 19:23

Submitted by: Anonymous

Submitted values are:

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Please provide your view on the project

I am just providing comments

Submission file

[apa-submission-to-nsw-draft-sepp-feb-2022---final.pdf](#)

Submission

Please find attached APA's submission to the Draft SEPP.

Please contact John Skinner on 0435 898 022 if you have any questions.

Thanks

John

I agree to the above statement

Yes



APA submission

NSW Government Draft State Environmental Planning Policy (SEPP) consultation

February 2022



Kiersten Fishburn
Secretary
NSW Department of Planning, Industry and Environment

Lodged online

28 February 2022

RE: APA Submission to the draft NSW State Environmental Planning Policy

Dear Ms Fishburn,

Thank you for the opportunity to comment on the draft (Design and Place) State Environmental Planning Policy (Draft SEPP). We appreciate the NSW Government consulting with stakeholders on these important issues.

APA is an ASX listed owner, operator, and developer of energy infrastructure assets across Australia. Through a diverse portfolio of assets, we provide energy to customers in every state and territory on mainland Australia. As well as an extensive network of natural gas pipelines, we own or have interests in gas storage and generation facilities, electricity transmission networks, and over \$750 million in renewable generation.

We support the global transition to a lower carbon future and are actively supporting the energy transition taking place across Australia. In 2021 we announced our own ambition of net zero operations emissions by 2050.

Gas infrastructure is relied on by millions of NSW households and businesses every day and will play an essential role in helping Australia meet its net zero targets. It is important that NSW recognises this role and the potential alternative uses that gas infrastructure will play into the future.

If you wish to discuss our submission in further detail, please contact John Skinner on 02 9693 0009 or john.skinner2@apa.com.au.

Regards,



Peter Bolding
General Manager
Economic Regulation & Policy

1 Executive Summary

Key points

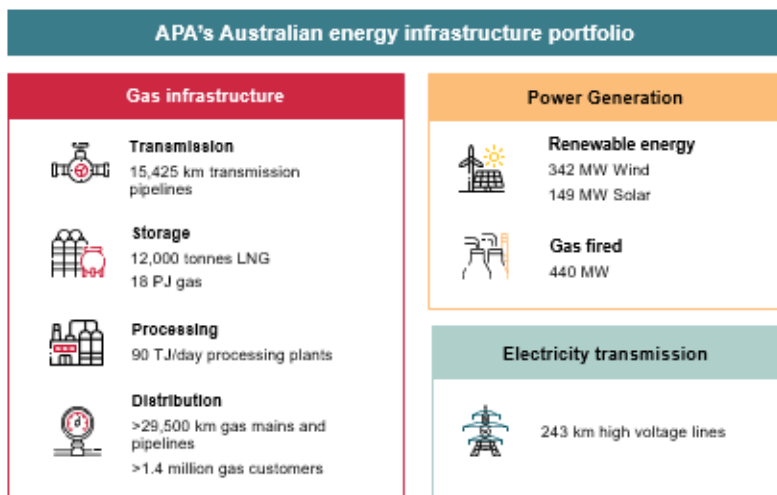
- APA supports the transition to net zero emissions. In 2021 we announced our own ambition of net zero operations emissions by 2050.
- Gas infrastructure plays a critical role in helping maintain system security and will help unlock low-cost renewable generation capacity.
- To ensure that the transition to a low carbon economy occurs at least cost to consumers, we recommend that the NSW Government adopts a technology neutral approach to emissions reduction.
- Due to the NSW reliance on coal generation, any electrification of gas demand, as is being proposed under the Draft SEPP, risks increasing overall carbon emissions. A rapid uptake of electric vehicles or grid connected batteries could exacerbate this issue if they are charging from the NEM.

APA is a leading ASX listed energy infrastructure business. Consistent with our purpose to strengthen communities through responsible energy, our diverse portfolio of energy infrastructure delivers energy to customers in every state and territory on mainland Australia.

Our 15,000 kilometres of natural gas pipelines connect sources of supply and markets across mainland Australia. We operate and maintain networks connecting 1.4 million Australian homes and businesses to the benefits of natural gas. And we own or have interests in gas storage facilities, gas-fired power stations.

Our investments include over \$750 million in renewable generation, making APA the 8th largest renewables investor in Australia. Our high voltage electricity transmission connects Victoria with South Australia and New South Wales with Queensland.

APA is supporting the transition to a lower carbon future. Our ambition is to achieve net zero operations emissions by 2050. Through our Pathfinder Program, we are investigating how hydrogen and other technologies such as batteries and microgrids, can support a lower carbon future. Our first Pathfinder project is seeking to enable the conversion of around 43-kilometres



of the Parmelia Gas Pipeline in Western Australian into Australia's first 100 per cent hydrogen-ready transmission pipeline and one of only a few existing gas transmission pipelines in the world, 100 per cent hydrogen-ready.

Gas infrastructure has an essential role to play in helping Australia meet its net zero ambitions targets. As the penetration of variable renewable energy sources, such as wind and solar, increase, gas powered generation will play a critical role in meeting electricity demand and maintaining the security of the system.

Determining the optimal pathway to a lower carbon future requires a consideration of many complex and interrelated issues. To ensure that the transition to a low carbon economy occurs at least cost to consumers, we recommend that the NSW Government adopts a technology neutral approach to emissions reduction. 'Picking winners' risks exposing NSW customers to inefficient outcomes and higher costs in the long run.

Our submission below provides views on some of the important issues relating to the development of the NSW SEPP.

2 Submission

2.1 Managing uncertainty during the energy market transition

The National Electricity Market is going through a period of rapid technological change. As a result, there is a great deal of uncertainty about the future energy mix in a net zero emissions world.

While there are a range of factors likely to place downward pressure on natural gas demand, including government decarbonisation policies, gas will continue to play a critical role in supporting the electricity system during the transition. Predominantly, this is because gas powered generation can quickly ramp up or down when solar and wind are not producing energy. There are also millions of NSW households and businesses that rely on gas infrastructure every day and will continue to do so for decades to come.

The Australian Energy Regulator (AER) recognised the uncertain future of natural gas in its *Regulating gas pipelines under uncertainty – Information Paper*.¹ The AER's Information Paper identified the challenges associated with operating gas pipelines under demand uncertainty and investigated a number of options to manage the pricing risks associated with falling demand.

The AER also recognised that natural gas demand is likely to persist for some time and may actually increase in the short run.² Any moves to limit the use of the gas network should be complemented by policies which protect consumers, now and into the future. First and foremost, we must continue to invest in, and maintain, our gas infrastructure. This will ensure that consumers continue to receive a safe and reliable gas supply as the energy market transitions. We must also consider options, such as some form of accelerated depreciation, to ensure that the risks associated with declining demand are equitably shared between current and future gas customers.

2.2 The gas network provides energy resilience for customers

Given that gas pipelines are underground, it is a very rare occurrence for network faults to disrupt customer supply. The fact that gas can be compressed and 'stored' in gas pipelines means that even during maintenance activities customers are rarely disrupted.

Gas transmission pipelines and distribution networks are not subject to formal reliability standards. One of the key reasons for this is that gas reliability is very good. The 2012 distribution performance report published by the AER, for example, showed that the average Victorian gas customer had an outage once every 36 years.³ This contrasts

¹ AER, *Regulating gas pipelines under uncertainty – Information Paper*, November 2021

² AER, *Regulating gas pipelines under uncertainty – Information Paper*, November 2021, ppvii,50

³ AER, *Victorian Gas Distribution Performance Report 2012*, p. 13

with electricity networks where customers often experience outages due to storms taking down power lines or outages to conduct maintenance.

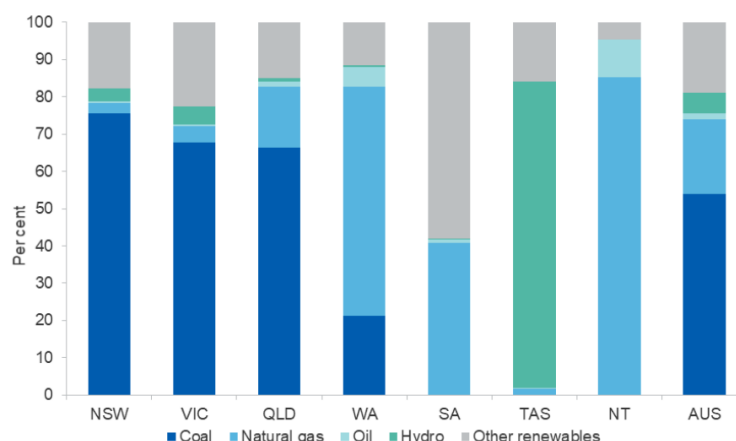
The resilience of gas infrastructure and its complementary nature to electricity suggest that every possible avenue should be pursued to retain its use in the NSW SEPP. Repurposed natural gas pipelines that deliver renewable gases will provide customers with an efficient and resilient energy supply for many generations to come.

2.3 Electrifying new development risks increasing emissions

The existing electricity generation mix in the NEM, including in NSW, has a higher carbon profile than emissions associated with the combustion of natural gas. The reason for this is that coal generation still produces more than 50 per cent of electricity across the NEM.⁴

In NSW, the contribution of coal is even higher. While it will decline over time, in 2019-20 coal still produced around 75 per cent of the electricity generated in NSW (see Figure 2).⁵

Figure 2: Electricity Generation Fuel Mix 2020⁶



As a consequence of this reliance on coal generation, any electrification of gas demand in NSW, as is being proposed under the Draft SEPP, risks increasing overall carbon emissions. A rapid uptake of electric vehicles or grid connected batteries could exacerbate this issue if they are charging from the NEM.

Under the revised BASIX requirements, new housing developments in NSW will increasingly have renewable generation, such as solar PV, installed as a matter of course. This means that zero emissions energy will increasingly be used during the day when the solar PV is producing energy.

⁴ Australian Energy Update, 2021, p.27

⁵ Australian Energy Statistics 2021, Table O

⁶ Australian Energy Update 2021, p32

However, unless storage (i.e., batteries) is mandated in the new framework, new housing developments will source their electricity from the grid when solar PV is not producing energy and when the sun goes down. In the short to medium term, this will increase demand for carbon intensive coal generation, which provides dispatchable generation during the evening peak in NSW.

Until lower carbon electricity or storage can support evening peak demand, natural gas will deliver lower emission energy than electricity during this period.

2.4 Repurposing existing gas infrastructure

Australia has some of the world's best natural resources, such as wind and sunshine, for producing renewable energy. This is one of the key reasons why hydrogen has been identified as one of Australia's key comparative advantages and one of the logical options to help decarbonise the Australian economy.⁷

Complementing our natural advantage in renewable energy is the fact that Australia has one of the most extensive interconnected gas infrastructure networks in the world, with an expert workforce supporting it. It therefore makes strong sense for Australia to explore the opportunities to repurpose this existing infrastructure to support the transition to a low carbon economy.

Gas infrastructure is generally designed with 50 to 80 year asset lives and much of Australia's natural gas infrastructure has many decades left of service. Gas networks and pipelines can also have their design life extended with modern integrity measures such as pigging and recoating.

While Australia has only recently begun the journey of decarbonising its gas infrastructure, other countries around the world, particularly in Europe, are further ahead. An increasing number of projects around the world are demonstrating the potential for re-use of gas infrastructure to transport renewable gases. For example:

- at the distribution level, the H21 project in the UK will shortly trial 100% hydrogen on a section of the gas network in the south bank area of Middlesbrough. A section of the existing gas network will be disconnected from the existing gas network for the trial period. The trial will explore the gas operations and maintenance activities that networks will be required to undertake in a hydrogen world.⁸
- at the transmission level, the Gasunie hydrogen pipeline in the Netherlands has been transporting hydrogen along a modified natural gas pipeline since 2018. In June 2021 Gasunie announced a significant expansion of the Dutch

⁷ Australian Government, *First Low Emissions Technology Statement – 2020*, p17.

⁸ Northern Gas Networks H21 project: <https://h21.green/about/>

hydrogen transmission network, with 85% of the new network reusing existing natural gas pipelines (see case study below).

Section 21 of the Draft SEPP will likely to result in the electrification of many new housing and apartment developments, effectively removing the option of connecting to the gas network.

Mandating electrification today is likely to close off the opportunity to repurpose the gas network in the years ahead for hydrogen or other renewable gases. History has shown that once the opportunity to lay gas mains is foregone at the time of initial development, it is highly unlikely to be economically nor socially viable to retro-fit later.

Case study: Gasunie repurposing transmission pipelines in the Netherlands

In November 2018, Gasunie, the Netherlands' gas transmission operator, started transporting hydrogen along a 12km long stretch of repurposed natural gas pipeline. The pipeline will transport more than 4,000 tons of hydrogen per year for industrial purposes, saving over 10,000 tons of carbon emissions each year.⁹

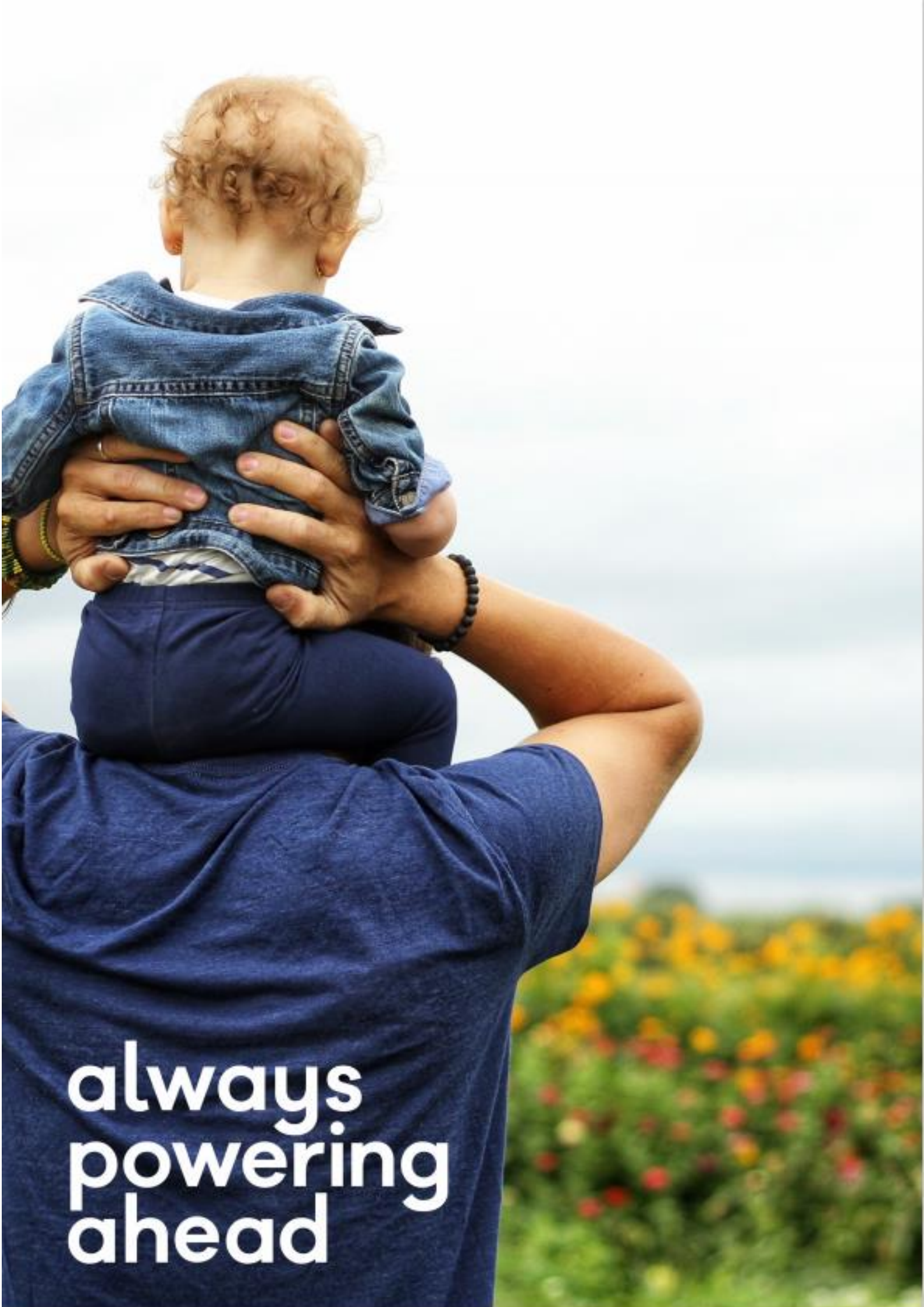
On 30 June 2021 the Netherlands Ministry of Economic Affairs and Climate Policy announced that it will commission Gasunie to develop the national infrastructure for the transport of hydrogen.¹⁰ The project, with an estimated investment of €1.5 billion, is scheduled for completion in 2027. Most importantly, the new national hydrogen network will consist of 85% reused natural gas pipelines, resulting in costs four times lower than if entirely new pipelines were laid.

Figure 8: Gasunie's hydrogen transmission pipeline



⁹ <https://www.gasunie.nl/en/news/gasunie-hydrogen-pipeline-from-dow-to-yara-brought-into-operation>, accessed 11 August 2021

¹⁰ <https://www.gasunie.nl/en/news/dutch-german-cooperation-secures-european-future-of-hydrogen>, accessed 11 August 2021



always
powering
ahead

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:44 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 220228-apga-submission---nsw-state-environmental-planning-policy-(design-and-place-2021-consultation.pdf

Submitted on Mon, 28/02/2022 - 16:43

Submitted by: Anonymous

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Please provide your view on the project

I support it

Submission file

[220228-apga-submission---nsw-state-environmental-planning-policy-\(design-and-place-2021-consultation.pdf](#)

Submission

APGA appreciates the opportunity to engage with the NSW DPE through this consultation.

I agree to the above statement

Yes



28 February 2021

Submission: State Environmental Planning Policy (Design and Place) 2021

The Australian Pipelines and Gas Association (APGA) represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure with a focus on high-pressure gas transmission. APGA's members build, own and operate the gas transmission and processing infrastructure connecting natural and renewable gas production around the country to demand centres in cities and elsewhere. Offering a wide range of services to gas users, retailers and producers, APGA members ensure the safe and reliable delivery of 28 per cent of the end-use energy consumed in Australia and are at the forefront of Australia's renewable gas industry, helping achieve net-zero as quickly and affordably as possible.

APGA welcomes the opportunity to contribute to the New South Wales Governments' consultation on State Environmental Planning Policy (Design and Place) 2021 (**SEPP, the Consultation**). APGA recommends the SEPP takes a technology neutral approach to emissions reduction provisions and is concerned that the SEPP undermines the states opportunity to achieve least cost net zero emissions by excluding renewable gases such as hydrogen and biomethane from the options available to decarbonise the built environment.

APGA supports a net zero emission future for Australia by 2050¹. Renewable gases represent a real, technically viable approach to lowest-cost energy decarbonisation in Australia. As set out in Gas Vision 2050², APGA sees renewable gases such as hydrogen and biomethane playing a critical role in decarbonising gas use for both wholesale and retail customers. APGA is the largest industry contributor to the Future Fuels CRC³, which has over 80 research projects dedicated to leveraging the value of Australia's gas infrastructure to deliver decarbonised energy to homes, businesses, and industry in NSW and across the nation.

There is a significant body of evidence forming around the viability of renewable gases to play a role in the decarbonisation of the built environment in Australia. The NSW Hydrogen Strategy is developed in support of this possibility. The approaches taken within the SEPP and adjacent built environment legislation will actively prevent NSW households from being

¹ APGA Climate Statement
<https://www.apga.org.au/apga-climate-statement>

² Gas Vision 2050, APGA
https://www.apga.org.au/sites/default/files/uploaded-content/website-content/gasinnovation_04.pdf

³ Future Fuels CRC Website
<https://www.futurefuelscrc.com/>

able to choose their pathway to decarbonisation, regardless of whether renewable electricity or renewable gases are the best options for their circumstances. This outcome can be avoided however with a few minor changes to how the SEPP, BASIX and Apartment Design Guide are drafted.

APGA Concerns with the SEPP

APGA takes particular exception to provision 21.a) of the SEPP which specifies the following:

21 Design consideration—resource efficiency and emissions reduction

The consent authority must consider whether the development—

- (a) for urban design development involving subdivision—minimises, and excludes as far as practicable, the use of on-site gas for cooking, heating and hot water, and

Such a provision would exclude the potential to utilise renewable gases such as hydrogen and biomethane to decarbonise existing energy use. Such a provision reduces the range of options available to NSW households and businesses to minimise the consumption of non-renewable energy and reduce greenhouse gas emissions. This is despite the stated aim of provision 3.g) and provision 21.c) iii.

3 Aims of Policy

- (1) The aims of this Policy are as follows—
 - (a) to provide a consistent set of principles and considerations to guide the design of the built environment,
 - (b) to ensure high quality and innovative design of the built environment,
 - (c) to create places that support the health and well-being of the community,
 - (d) to integrate good design processes into planning and development,
 - (e) to recognise the economic, environmental, cultural and social benefits of high quality design,
 - (f) to ensure sustainable development and conserve the environment,
 - (g) to minimise the consumption of non-renewable energy and reduce greenhouse gas emissions,
 - (h) to achieve better built form and aesthetics of buildings, streetscapes and public spaces,
 - (i) to recognise the importance of Country to Aboriginal people and to incorporate local Aboriginal knowledge, culture and tradition into development.

21 Design consideration—resource efficiency and emissions reduction

The consent authority must consider whether the development—

- (c) minimises greenhouse gas emissions, as part of the goal of achieving net zero emissions by 2050, including by incorporating the following—

 - (iii) the use of renewable energy, and

Impeding the use of gaseous energy in the built environment, and hence the use of renewable gases in the built environment, is in direct opposition of provision 3.g) and 21.c) iii. of the SEPP.

Impeding the use of renewable gas use in this way also acts against the recently released NSW Hydrogen Strategy which seeks to incentivise gas use decarbonisation through the introduction of a renewable gas target. This progressive, nation leading initiative risks being undermined through provision 21.a) of the SEPP which prevents the uptake of gaseous forms of renewable energy. This does not have to be the case. With an understanding of the decarbonisation potential of renewable gases, minor modifications of provision 21.a) can ensure that the SEPPs negative impact on renewable gas uptake can be avoided.

Draft Apartment Design Guide

APGA notes that the Draft Apartment Design Guideline (ADG) includes similar statements which will impede gas use decarbonisation through renewable gas uptake. The All-electric building design guidance within the Draft ADG can be seen to be biased towards electrification despite renewable gas decarbonisation options being available into the future. Picking technology winners fails to pass the no-regrets regulation test, locking NSW residents into decarbonisation pathways which may not turn out to be least cost.

All-electric building

Preference electricity as the power source for all energy requirements associated with normal operations.

Consider induction cooktops to reduce overheating of apartments, cooling loads and air pollutants.

Locate heat pumps in a central location to reduce urban heat-island effects.

Similar to the SEPP, simple modifications could be made to the Apartment Design Guide to ensure renewable gases are enabled into the future. Preferencing renewable energy in the above sections, rather than electricity, would help enable a broader range of renewable energy options for energy customers.

A technology neutral SEPP would create more value for society

In seeking to achieve the aims of the SEPP as started in provision 3, APGA wishes to propose that the SEPP take a technology neutral approach to considering energy costs and emissions intensity. APGA notes that it will be much more cost-effective for a household to contract 100% renewable gas than replace early life gas appliances in order to achieve emission reductions. A future in which renewable gases are a lower cost net zero energy option relative to electrification is foreseeable in many circumstances considering:

- 100% contracting of available renewable gases blended into existing networks requires no appliance changes while blending maintains appropriate limits for current appliances;

- The impact of wholesale renewable gas cost on retail energy bills is not expected to exceed the impact of wholesale electricity cost⁴; and
- Gas infrastructure costs less than electricity infrastructure today and into the future⁵.

Some Australian households are already receiving blended renewable gas today. Other initiatives are working towards a not-too-distant reality of households and businesses being able to contract renewable gas in much the same way as households can contract renewable electricity today. To this point, APGA notes the following ongoing changes impacting the future of gas supply:

- Customers can purchase decarbonised gas today through offset regimes such as those provided by Origin Energy⁶ and AGL⁷;
- The combined DISER, AEMC and AEMO consultations on extending gas market regulation to include hydrogen and other renewable gases brings widespread renewable gas uptake one step closer to customers⁸;
- Recent state-based strategies and analysis of renewable gas use including the NSW Hydrogen Strategy⁹ and Victorian Gas Substitution Roadmap¹⁰;
- Some Adelaide residents are already using renewable gases through a pilot project developed by AGIG¹¹, with more to come across coming months^{12,13} and years¹⁴;
- The further development of a renewable gas industry in Australia is expected to make large-scale retail purchase of renewable gases a reality in years to come;

⁴ State of the Energy Market 2021: Retail energy markets, Australian Energy Regulator 2021
Figure 6.8 and Figure 6.9

<https://www.aer.gov.au/system/files/State%20of%20the%20energy%20market%202021%20-%20Chapter%206%20-%20Retail%20energy%20markets.pdf>

⁵ Pipelines vs Powerlines: a summary, Australian Pipelines and Gas Association 2022

https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/pipelines_vs_powerlines_-_a_summary.pdf

⁶ Green Gas, Origin Energy

<https://www.originenergy.com.au/electricity-gas/green/>

⁷ Carbon Neutral Energy, AGL

<https://www.agl.com.au/residential/carbon-neutral>

⁸ Extending the national gas regulatory framework to hydrogen blends and renewable gases, DISER

<https://www.energy.gov.au/government-priorities/energy-ministers/priorities/gas/gas-regulatory-framework-hydrogen-renewable-gases>

⁹ NSW Hydrogen Strategy

https://www.energy.nsw.gov.au/sites/default/files/2021-10/GOVP1334_DPIE_NSW_Hydrogen_strategy_FA3%5B2%5D_0.pdf

¹⁰ Victorian Gas Substitution Roadmap, Victorian Government DELWP

[Help Us Build Victoria's Gas Substitution Roadmap | Engage Victoria](https://www.vic.gov.au/help-us-build-victoria-s-gas-substitution-roadmap-engage-victoria)

¹¹ Hydrogen Park South Australia, AGIG

<https://www.agig.com.au/hydrogen-park-south-australia>

¹² Western Sydney Green Gas Project, Jemena

<https://jemena.com.au/about/innovation/power-to-gas-trial>

¹³ Malabar Biomethane Project, Jemena

<https://jemena.com.au/about/innovation/malabar-biomethane-project>

¹⁴ ARENA Hydrogen Announcement

<https://arena.gov.au/news/over-100-million-to-build-australias-first-large-scale-hydrogen-plants/>

- Decarbonisation of gas infrastructure is likely to be achievable at half the additional cost of electrification based on research conducted by the gas industry¹⁵.

These initiatives are contributing to the growing base of evidence indicating that renewable gas uptake may represent a least cost approach towards gas use decarbonisation in Australia as seen in Figure 1 below¹⁶.

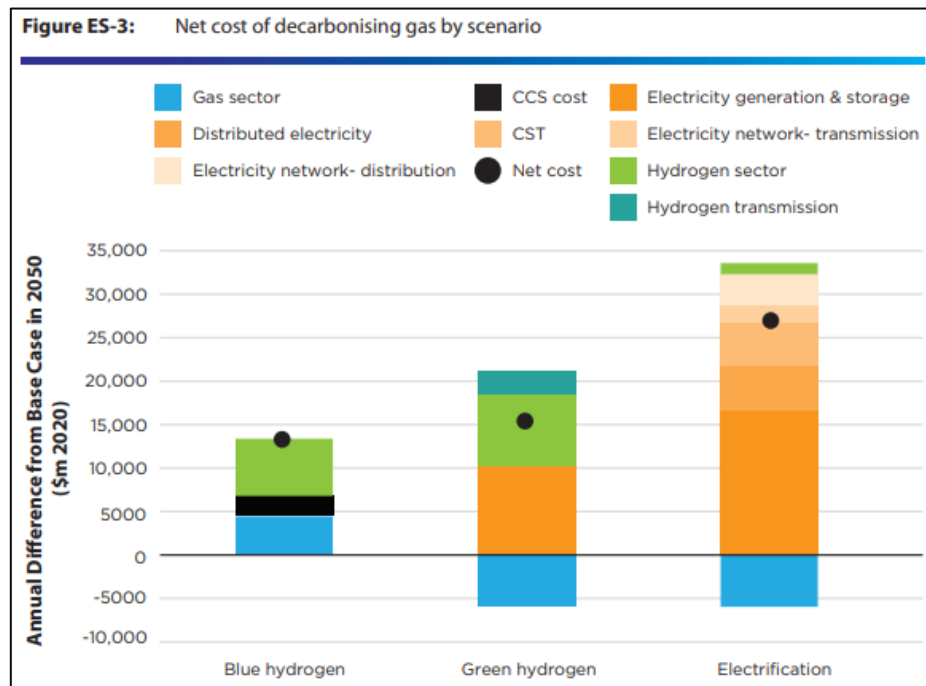


Figure 1: Net cost of decarbonising gas by scenario as seen in Gas Vision 2050¹⁵

Zero emission gas and electricity can both be contracted by households today. Contracting zero emission energy represents a real, tangible opportunity for new and existing households to reduce their energy emissions, often at lower cost than appliance replacement. Emissions conscious developers who choose to achieve the aims of the SEPP by providing access to renewable gas should not be impeded by the SEPP based their choice of how to achieve the aim of the SEPP.

Some forms of zero emission electricity and gas rely on carbon offsets, while some forms deliver energy from renewable sources. It is important to recognise that both approaches to emissions reduction are recognised as viable emissions reduction solutions by the federal government and contracting of produced renewable gas is already occurring at a wholesale level. Allowing NSW households and businesses to utilise renewable gases puts a wider range of decarbonisation options on the table, providing energy customers with broader choice in how they achieve net zero emissions within the built environment.

¹⁵ Gas Vision 2050, APGA

https://www.apga.org.au/sites/default/files/uploaded-content/website-content/gasinnovation_04.pdf

¹⁶ The Benefits of gas infrastructure to decarbonise Australia, Frontier Economics 2020

https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/frontier-2020-decarbonise-australia_0.pdf

BASIX

APGA further notes that proposed changes to BASIX will result in a negative cost outcome for NSW households¹⁷. APGA expects that this is due to following in the footsteps of the National Construction Code 2022 (NCC2022) which was determined to have a negative NPV through its own Consultation Regulatory Impact Statement analysis. APGA refers the NSW Government to its submissions to the [Draft NCC 2022 consultation](#) and [NCC 2022 CRIS consultation](#) process in which it identified that:

- The NCC 2022 incentivises higher emission households over lower emission households through the application of undisclosed variables within its whole-of-home energy efficiency calculations; and
- *Costs [of the NCC 2022] are estimated to outweigh its benefits by a significant margin* – ACIL Allen.

As a result of following NCC 2022 modelling, BASIX too risks incentivising higher emission homes over lower emission homes while increasing overall energy costs for households.

The existing electricity mix in NSW has a higher carbon intensity than natural gas due to its heavy reliance on non-renewable generation. New housing developments will have access to renewable generation, but without sufficient storage (i.e. batteries) being mandated, new housing developments will source their electricity from the grid during the evening peaks. Electrification initiatives will increase demand for carbon intensive electricity generation during periods of low renewable generation. Until lower carbon electricity can adequately support evening peak demand, natural gas will continue to deliver lower emission energy than electricity during the periods when it is used the most.

APGA Recommendations

APGA recommends the simple removal of provision 21.a) within the SEPP. In the event that the provision cannot be removed altogether, APGA propose that provision 21.a) be rewritten to focus on an emissions related outcome, rather than the blacklisting of appliances with the ability to use carbon free energy. Aside from the fact that gas use is lower emission than electricity use today, gas is on a decarbonisation pathway just like electricity. A SEPP which allows for affordable decarbonisation of energy demand through renewable gases supports a least cost pathway to energy decarbonisation in NSW while being aligned with broader State energy policy¹⁸.

The uptake of renewable gases should be supported by planning policy, not impeded, just like renewable electricity has been supported in order to get NSW where it is today.

¹⁷ National Construction Code 2022 Consultation Regulatory Impact Statement, ACIL Allen 2021 https://acilallen.com.au/uploads/projects/377/ACILAllen_RISProposedNCC2022_2021.pdf

¹⁸ NSW Hydrogen Strategy, NSW Department of Planning, Industry and Environment 2021 https://www.energy.nsw.gov.au/sites/default/files/2021-10/govp1334-dpie-nsw-hydrogen-strategy-fa2_accessible_final.pdf

Further, APGA recommends that NSW reconsider founding the future of the BASIX program on the NCC 2022 which is known to incentivise higher emission homes and cost energy customers more in doing so.

To discuss any of the above feedback further, please contact me on +61 422 057 856 or jmccollum@apga.org.au.

Yours Sincerely,

A handwritten signature in grey ink, appearing to be 'JM' or 'JMcCollum', written in a cursive style.

JORDAN MCCOLLUM
National Policy Manager
Australian Pipelines and Gas Association

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 3:02 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: sepp-2021-submission---asi_mdawson_february_28.2022.pdf

Submitted on Mon, 28/02/2022 - 15:01

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

David

Last name

Varcoe

I would like my submission to remain confidential

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Suburb/Town & Postcode

Pymble 2073

Please provide your view on the project

I object to it

Submission file

[sepp-2021-submission---asi_mdawson_february_28.2022.pdf](#)

Submission

ASI is in general terms supportive of a Materials Index which is mentioned in the Sustainability in Residential Buildings (BASIX Overview) document, but we object to the stated intention to use 'Default factors for embodied emissions of materials will be based on the well-recognised EPiC database'.

I agree to the above statement

Yes



AUSTRALIAN STEEL INSTITUTE

Submission to the

Design and Place SEPP 2021 Consultation

Prepared by:

Australian Steel Institute

Contacts:

Michael Dawson

Phone – 0456 628 813

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David Varcoe

Phone – 0419 136 720

Email – davidv@steel.org.au

February 2022

The Australian Steel Institute would like to make the following submission to *the Design and Place SEPP 2021* consultation.

We wish to provide our industries feedback and input specifically on the *Sustainability in Residential Buildings (BASIX Overview)* document, and primarily the section dealing with a Materials Index.

As an industry, we support the inclusion of a Materials Index within BASIX. However, it is critical this index is designed and implemented to ensure an equitable and detailed science-based approach is used, which does not allow unintended consequences or the selection of materials for projects without the most accurate comparisons of embodied carbon.

The *Sustainability in Residential Buildings (BASIX Overview)* document on page 10 states:

“Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.”

We have strong concerns about the EPiC database being used as an embodied carbon measurement tool by the NSW Government.

Our concerns are primarily in relation to the NSW Government’s contemplation of the use of Hybrid Analysis (HA) embodied carbon analysis methodologies, such as contained in the EPiC database produced by the University of Melbourne. This methodology is not appropriate for individual embodied carbon studies of buildings due to its use of average figures and generalized inputs for materials. This will cause major issues and unintended consequences for the building industry through inadequate materials embodied carbon measurement.

Our industries major concerns are as follows:

- Results from the EPiC database give inconsistent and much higher embodied carbon values compared to globally accepted and internationally recognised 'process-based' methodology that is based on agreed ISO standards, and is reported through independently verified and registered Environmental Product Declarations (EPDs). The EPD approach follows best practice global standards for embodied carbon assessment, such as ISO14025, and is accepted and used by a wide range of local and international building products manufacturers.
- Our understanding is use of HA (EPiC) methodology is intended for national impact economic focused assessments and uses average data inputs - it is not intended for individual product or project based environmental impact assessments.
- The use of EPiC approach rather than process based EPD information for building products will have disastrous unintended consequences, such as:
 - **Different manufacturers use different manufacturing processes to produce the same or similar building products**, and therefore use of HA Epic methodology will wildly skew embodied carbon numbers across sectors, unreasonably advantaging some manufactured products over others, and a fair and equitable comparison of materials will not be possible using this approach;
 - **There is a high risk imported products would be unfairly advantaged over Australian products using this model** as they would likely be assessing their embodied carbon using more accurate LCA process based methodologies;
 - **Will lack formal verification mechanisms to query results and enable the comparison of outcomes** with results being published by mainstream LCA databases such as AusLCI, GaBi, and ecoinvest;
 - **Invalidating the significant amount of work and the multi-millions of dollars of investment** by building product manufacturers and suppliers in order to comply with international carbon measurement standards and to develop internationally recognized EPDs;
 - **EPDs are used by manufacturers widely for measurement and reporting, such as Green Star and IS Rating schemes**, and therefore this current proposed approach will create confusion and unnecessary added workload burdens;
 - **Appropriately qualified third party verification** will not be possible as the EPiC database uses generic data which will not reflect the true performance of a steel mills products with regards to embodied carbon.

We highly recommend the use of Life Cycle based software tools which incorporate whole of life considerations of the building in order to identify potential carbon reduction opportunities to ensure full cost:benefits are included in such important decisions; and both embodied and operational carbon across the longer term need to be incorporated in the decision process.

Further to this, we strongly recommend the BASIX Materials Index uses a process based approach which incorporates the critical area of the circular economy, which would include such important measurement as:

- Product durability and life span
- Recycled content
- Product recyclability
- Potential for re-use and re-manufacture
- Resource efficiency and manufacturing waste rates (ie water, materials).

Finally, another important consideration is the process which is to be used from here, and we would recommend:

1. Process based LCA data must be built into the BASIX Materials Index;
2. Following this, a period of further stakeholder assessment, testing, review followed by any amendments as required;
3. An extended trial period prior to enforcement.

We urge the NSW Government and BASIX administration to invalidate the option of using Hybrid Analysis (HA) and embodied carbon measurement methodologies such as EPiC, which use a dangerously generalized approach, and which will have disastrous implications for Australian industry. The most appropriate methodology, which is globally recognized, is the processed based and independently verified Environmental Product Declarations (EPDs), which will reflect the most accurate and true performance on manufacturers and suppliers.



AUSTRALIAN STEEL INSTITUTE

The Australian Steel Institute

The Australian Steel Institute is Australia's peak body representing the entire steel supply value chain from the steel manufacturing mills through to end users in building and construction, heavy engineering and manufacturing. The Australian Steel industry is also the source of essential inputs for many other manufacturing sectors. Steel is a key enabler for most of the National Manufacturing Priorities that are identified in the Commonwealth Governments Modern Manufacturing Strategy, such as Resources Technology & Critical Minerals Processing, Food & Beverage, Recycling & Clean Energy, and Defence. As such, it underpins the sovereign capability to manufacture many products that are of long-term strategic and economic importance to our country.

The economic contribution of the Australian Steel Industry is very significant. Based on recently completed analysis conducted by BIS Oxford Economics it is estimated that for every \$1 million invested,

- 5 workers are employed in the steel and closely related industries,
- \$2.8 million output is contributed to the economy, and
- \$1.1 million of value is added to Australian GDP.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Sunday, 27 February 2022 9:01 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: bh-submission---design-place-sepp_february-2022.pdf

Submitted on Sun, 27/02/2022 - 20:58

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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First name

Rachel

Last name

Brown

I would like my submission to remain confidential

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GOSFORD

Please provide your view on the project

I object to it

Submission file

[bh-submission---design-place-sepp_february-2022.pdf](#)

Submission

Please see my submission letter attached.

Regards

Rachel K Brown

rachel@bannisterhunter.com.au

I agree to the above statement

Yes

Our Ref: RKB:Design & Place SEPP Submission

27 February 2022

NSW Department of Planning, Industry and Environment (DPIE)
Locked Bag 5022
PARRAMATTA NSW 2124

Dear Sir/Madam,

Re: SUBMISSION – Draft Design and Place SEPP 2021

Thank you for the opportunity to make a submission on the draft **State Environmental Planning Policy (Design and Place) 2021 (DP SEPP)**, which is currently on exhibition by DPIE.

Your opening statement when viewing the above document on exhibition is that “the new policy aims to simplify the way we plan for, and design, sustainable and resilient places in NSW”. Furthermore, you state that “the DP SEPP puts sustainability, resilience, and quality of places at the forefront of development”.

Whilst we can see your intentions are good, there are some glaring and obvious flaws in both the *draft DP SEPP* and in the *proposed amendments to the Environmental Planning and Assessment Regulation 2000*.

Specifically, we object to the proposed definition of **Urban Designer** in the proposed Regulation, and we object to the proposed definition of **Urban Design Development** in the draft DP SEPP, and the areas they are going apply to. The impacts of these combined draft documents will be detrimental to the people of NSW particularly in regional NSW where all too often, they are neglected in favour of the “big city” issues.

1. Definition of Urban Designer – Should include Registered Surveyor

Firstly, we must address the disastrous omission of Registered Surveyor in your definition of who may be an Urban Designer. In NSW, Registered Surveyors are eminently qualified land development professionals and are tightly regulated by the NSW Board of Surveying and Spatial Information (BOSSI) which is a NSW Statutory Authority.

To be eligible for Registration as a Land Surveyor, a person must have gained a Recognised Qualification from one of the recognised Universities around Australia and New Zealand. Only Universities that meet the requirements of BOSSI can remain in this approved list.

Then, to be considered an eligible candidate for registration, a Graduate Surveyor from one of those Universities, must sit and pass 5 rigorous exams, 2 of which include Town Planning and Engineering. The process to pass all 5 exams usually takes a minimum of 2 years post-graduate study whilst working full-time under the guidance of a Supervising Registered Surveyor.

For the Town Planning exam, the BOSSI Determination states “the project will involve preparing a proposal for a significantly large development in an urban, rural or industrial area which meets the provisions of the relevant planning instruments and other planning requirements.

Our Ref: RKB:Design & Place SEPP Submission

It is also worthwhile noting that as a guide, BOSSI suggests the following sized subdivisions are considered suitable for the Town Planning exam:

- Conventional residential subdivision 20 hectares or 50 lots
- Rural subdivision 50 hectares or 20 lots
- Industrial subdivision 20 hectares or 20 lots

The above guide from BOSSI clearly shows an expectation that BOSSI has, that Registered Land Surveyors are going to be practicing professionally as Urban Designers in such large size developments as the above.

Full details of what is required for the Town Planning and Engineering exams can be found in the BOSSI Determination https://www.bossi.nsw.gov.au/_data/assets/pdf_file/0020/226424/BOSSI_Determination_-_Board_Examinations_E2.pdf

Once registered as a land surveyor, a minimum amount of Continuing Professional Development (CPD) must be obtained in order to maintain the registration every year. The system of CPD is also strictly regulated by BOSSI.

Therefore, to suggest that a Registered Land Surveyor is not suitably qualified to carry out Urban Design work for developments over 1 hectare is absolutely and categorically wrong. Indeed, the Registered Surveyors at our firm of Bannister & Hunter, which established in 1924 is now over 90 years old, have been responsible for designing a large proportion of the urban and rural residential settlements around the Central Coast of NSW for that duration of operation.

We hereby strongly recommend that a Registered Land Surveyor be included in the definition of Urban Designer.

2. Definition of Urban Design Development – Remove Area Threshold

Secondly, there are some problems with the proposed definition of Urban Design Development and the proposed area of application.

The proposed DP SEPP applies to the whole of the State of NSW, whilst the policy will not apply to some zones or minor forms of development. However, when in the current proposed form, it could apply to a very simple subdivision of greater than 1 hectare in size in an RU5 Village zone.

It appears to be entirely counterintuitive to the opening statements where “the new policy aims to simplify the way we plan for, and design, sustainable and resilient places in NSW”. In fact, by imposing this 1-hectare threshold, the large amount of simple subdivision developments over 1 hectare in size which occur regularly in regional NSW are made to wade through yet more red tape, not less.

It is our opinion that removing the 1-hectare threshold and keeping the financial limits of over \$30 million dollars would be far fairer and more relevant to the types of developments that occur both in the city areas as well as regional areas. It is unnecessary to impose an area limit as well.

Our Ref: RKB:Design & Place SEPP Submission

In conclusion, now is a time when environmental sustainability, resilience and quality of place is more important than ever. Having urban design professionals who can combine their knowledge and experience of the topography of the land, environmental considerations, titling systems, and best practice design principles, is of paramount importance.

There is absolutely no doubt that Registered Land Surveyors must be included in the proposed State Environmental Planning Policy (Design and Place) 2021 (DP SEPP), and serious considerations should be given to removing the 1-hectare threshold of application for the DP SEPP.

Apart from being completely illogical, as demonstrated by the rigorous process for Registered Land Surveyors to gain and demonstrate their knowledge and experience in urban design and thence maintain ongoing professional development, the practical consequences for regional NSW which lacks the sheer number of urban designers if Registered Surveyors are removed from that equation would be devastating to the economies of those regions.

Lastly, removing unnecessary red tape is a simple and effective way to truly streamline the land development process. It would appear removing the 1-hectare threshold would assist greatly with this, especially for regional areas, whilst not compromising the intent of the DP SEPP.

We would welcome the opportunity to discuss these matters in more detail should the opportunity arise.

Should you have any queries on the above matters, please do not hesitate to contact the undersigned.

Yours faithfully
BANNISTER & HUNTER PTY LTD



RACHEL K BROWN
Registered Land Surveyor (B.Surv) & Town Planner (GDURP)

25 March 2022

Ms Abbie Galvin
NSW Government Architect
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Ms Galvin,

BaptistCare Submission in Response to Draft Design & Place State Environmental Planning Policy (DP SEPP) 2021

BaptistCare is a significant not-for-profit developer and operator of seniors housing, aged care, affordable housing, respite and group homes in NSW and Australia. With a tradition spanning 75 years, BaptistCare has a keen interest in the continued delivery and quality of new seniors and affordable housing in NSW, to meet the continued and growing need for independent living units (ILUs), residential care facilities (RCFs), group homes, respite care and social and affordable housing.

We are strongly supportive of the GANSW's continued work on creating well designed places. We recognise the critical role that good urban design has in ensuring the success and sustainable growth of our urban areas however BaptistCare is concerned that some of the proposed amendments could have long lasting and significant adverse effects on the delivery and supply of future seniors and affordable housing. This submission highlights our key concerns with the DP SEPP.

At this stage BaptistCare does not support the implementation of the DP SEPP in it's current form.

Applicability and Compatibility with the existing Planning Framework

Section 38 of the DP SEPP provides for savings and transitional provisions. We strongly support the need for transitional provisions as part of the DP SEPP in order to provide certainty for projects that have already been lodged, and masterplanned precincts where the masterplan has been activated. Part 1, Clause 6,1(a) of the DP SEPP sets out that the DP SEPP applies to Urban Design Development, including a 1ha threshold for land that is not within an industrial zone. We recommend that a capital value threshold should be introduced in addition to the 1ha site requirement in order to avoid small-scale developments that sit on larger parcels being unnecessarily captured by the provisions of the DP SEPP. This should also be amended in the Ministerial direction.

We query the appropriateness of applying much of the DP SEPP to seniors housing, aged care and NFP development. These developments are specifically tailored to market needs which are constantly evolving with the aging demographic in NSW. Seniors housing includes very specific models of development; being defined as either residential aged care (for assisted living) or for independent living. These models of development are often co-located to form aged care communities. They have very different requirements for accessibility, community amenities and servicing when compared with market-housing typologies. Given these very different requirements and considerations, it is our view that the application of the DP SEPP – in particular, the UDG, is inappropriate to this particular housing sector, and will only prove to add complexity to the planning process.

The Housing SEPP (2021) applies to the seniors living and affordable housing developments which BaptistCare provide, and intends to facilitate an increased supply of these developments. We raise concern that the additional application of the DP SEPP will increase planning complexity and thwart existing policy intentions to improve development supply for this sector.

Part 12 of the DP SEPP provides five overarching principles, each with two design considerations, and a number of sub-considerations. Cumulatively, this results in a total of 51 new points of assessment when proposals are being determined. However, the recently adopted Seniors Housing Guidelines (November 2021) provides a comprehensive and considered approach which is specific to the seniors housing sector. These guidelines already provide 6 guiding principles for development which have carefully considered the typical development models. Each of the 6 principles have their own detailed objectives and specific design guidance, summarised below:

- **Care for the planet** - Value, construction impacts and life-cycle
- **Site-specific environmental response** – Social infrastructure, local character , environmental conditions
- **Site specific urban response-** Typology and scale, entrances, setbacks, height, heritage, neighbour privacy, neighbourhood
- **Care, wellbeing and community** – Care, mobility, access, universal design
- **Design for physical ageing and dementia** – Design for physical ageing, design for dementia, governmental review
- **Good design** – Urban identity, sustainability, consideration of neighbouring properties, pride of place, physical & mental wellbeing, going above & beyond, consideration of all needs, whole environment, management, external appeal, design for residential aged care, design for independent living units

It is our view that the application of the DP SEPP in addition to the Seniors Housing Guidelines would represent duplication of policy, which in places conflicts with the existing policy framework for seniors housing. We therefore recommend that seniors housing developments are granted exemption from the UDG in particular. This is discussed further below.

We also recommend that Part 3, Clause 25 of the DP SEPP be amended to clarify that the DP SEPP itself does not require a site specific DCP and so does not trigger section 6(a)(c) of the DP SEPP.

Application Timeframes

We estimate that the DP SEPP in its current form will significantly expand project timeframes. For development applications we predict that 4-5 months would be added to the process, and for planning proposals we envision this could add an additional 7 months to the project timeline. Most of the additional time is a result of the process of attending multiple Design Review Panels (DRP) and refining the design to a higher degree of detail and resolution prior to lodgement. Such protracted timeframes will only prove to apply pressure on housing affordability and viability for seniors housing.

Increased Uncertainty

BaptistCare requests that GANSW further considers and investigates the level of certainty provided to not-for-profits in the new DP SEPP. We find the sheer number of additional points of assessment in the DP SEPP to be problematic. With the increase in the number of considerations (from 22 in SEPP 65, to 51 in the draft DP SEPP), the language and phrasing used throughout the DP SEPP is not conducive to

allowing proponents and consent authorities to benefit from the flexibility and merits-based assessment that the DP SEPP aims to provide.

This, alongside the increased role of DRP inputs, present difficulty for developers in predicting how planning assessment will progress for projects. We recommend that the removal of the weight afforded to the five principles, and a rationalised version of the considerations and sub-clauses would be sufficient in providing a simplified planning framework, without diluting the aims and objectives of the framework. It is our view that this will assist with decreasing overlap and conflict with the Housing SEPP (2021) and the Seniors Housing Guidelines (2021).

Housing Supply & Affordability

The DP SEPP will result in significant up-front cost to proponents. Additional cost will undoubtedly arise through increased and ongoing referrals to DRP, through the expanded list of deliverables and consultant expertise required for lodgement, and through the protracted determination timeframes that the DP SEPP will give rise to. If there are significant increases in time, cost, and uncertainty, there is a genuine risk that seniors housing and affordable housing development will miss out on investment. Without the investment in seniors housing, supply will suffer significantly for a sector that is already in need. The consequence for the housing supply equation, coupled with cost implications will result in diminished affordability and the inability to maintain or improve supply.

Apartment Design Guide (ADG)

Changes to the ADG in relation to flexible application are welcomed. However on page 8 of the ADG under the heading “How to use this guide” it states that “Residential Apartment development in NSW must be consistent with the ADG objectives” [our emphasis added]. This statement conflicts with the DP SEPP which intends to resolve issues around the rigid application of the existing ADG.

BaptistCare’s development experience across NSW is that the ADG is often applied rigidly to seniors and affordable housing developments by consent authorities with little consideration for the specific needs of ILU’s and RFC’s. In particular, we highlight that some of the metrics around building separation distances, and privacy are frequently at odds with market objectives for creating seniors housing communities. The proposed ADG does little to acknowledge the specific needs of the seniors housing sector, or the existing Seniors Housing Guidelines which already contain some key industry-specific criteria for development. We would welcome a clearer acknowledgement of the Seniors Housing Guidelines, and further consultation - specifically with the seniors housing industry- to ensure that the ADG is revised to better-acknowledge the seniors housing sector. We believe that this would clarify the relationship between existing and proposed controls and minimise ambiguity and delays to planning assessments.

The DP SEPP needs to be clearer in terms of flexibility – in particular the flexibility it is affording to the application of the ADG. The terms “criteria” “compliance” are used intermittently throughout the exhibited documents, and aren’t conducive of a flexible merits-based approach to applying the ADG. We recommend that for the guidelines to be treated as such, the language is amended to consistently refer to “guidance” and “consideration” in order to give real weight to the intent of clauses 24(3)(a) and 30(3)(a), and to allow for alternative solutions to be considered.

We acknowledge the intention from GANSW that flexible application of the ADG, and the design alternatives will not create precedents. However Future Land and Environment Court rulings on matters pertaining the application of the ADG are inevitable - these rulings form case law, and inherently set precedent for future development proposals regardless of the intent of the flexibility of application and

design alternatives. This creates increased ambiguity as to the weight the DP SEPP guidance documents will hold over case law.

Urban Design Guide (UDG)

We consider that the CIV threshold of \$30million for application of the UDG is too low. It is our view that this document duplicates or significantly conflicts with the recently adopted Seniors Housing Guidelines (November 2021) and the Housing SEPP(2021). We recommend that an exemption for seniors housing from the UDG would be appropriate in light of this.

As aforementioned, seniors housing developments - whilst residential in nature, are distinct from market residential typologies. Residents and occupiers have very specific needs and wants which are distinct from general residential occupants. Key areas for consideration are extensive community facilities, additional servicing, and designing for diminishing mobility and for dementia. These factors already place significant constraint on development delivery, such that seniors housing providers cannot feasibly compete with market residential providers. It is our view that the application of the UDG in addition to the existing policy framework, is unduly onerous for seniors housing developments. We believe it would further constrain development capabilities to the extent that supply could not be maintained or improved. The Design Verification Statement (DVS) - which must also be submitted with modification applications – expands DA documentation requirements, adding significant cost and complexity to the development processes.

The requirements for authorship of a DVS are worded to focus on a 5-year career duration and makes generic reference to broad areas of experience that a consultant must have. We consider that this broadness will limit the availability of consultants, without delivering any meaningful mark of quality. Quality assurance could equally be achieved by requiring active accreditation with the relevant professional Australian body (ie. AIA or PIA) which in themselves ensure standards of professional practice are achieved and maintained.

Notwithstanding this, the UDG requires further consideration and ongoing consultation with industry stakeholders. This document introduces a further 19 objectives, and requires stand-alone Design Verification Statements (DVS) which we consider to be onerous given that the UDG is intended to have a role as a 'guide'. We also note that the UDG has not been through extensive engagement with direct stakeholders like the revised ADG, and has therefore not been subject to extended industry input or refinement.

Design Review Panel Manual (DRP)

We welcome a guide to provide consistency between DRP processes across the state, in particular we welcome the inclusion of a strict 14-day timeframe for a meeting to be obtained and for panel advice to be issued, however we would like to see this requirement afforded more weight in the wider DP SEPP.

We believe the Manual along with the DP SEPP drafting places disproportionate weight on the role of DRPs. We recommend that the DP SEPP is revised to ensure DRP reviews and written feedback are carried out within strictly applied time limits, do not conflict with proponent's rights to lodge development applications, and are carried out in an independent manner.

We query how the DP SEPP will ensure the availability and timeliness of DRP meetings. If dates are to be set in advance, consent authorities need to be sufficiently resourced to allow flexibility to accommodate out-of-cycle meetings to avoid projects stalling. Similarly, we encourage the inclusion of a caveat to the



requirement for a design review report, which would allow an application to be directly submitted without design review if no meeting can be obtained within a two-week window.

Yours Sincerely,

A handwritten signature in blue ink, appearing to read "Steven Ball".

Steven Ball

Development Director – Property
BaptistCare

*Because
we care*

Submitted on Tue, 22/02/2022 - 16:23

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

David

Last name

Lord

I would like my submission to remain confidential

No

2 Info

Email

[HYPERLINK "mailto:david@bathstewart.com.au" david@bathstewart.com.au](mailto:david@bathstewart.com.au)

Suburb/Town & Postcode

Tamworth 2340

Please provide your view on the project

I am just providing comments

Submission file

[proposed-design-place-sepp.pdf](#)

Submission

See attachment

I agree to the above statement

Yes



Our Ref: Proposed Design & Place SEPP

21 February 2022

NSW Department of Planning, Industry and Development

4 Paramatta Square
12 Darcy Street
Paramatta NSW 2150

Dear Sir,

Re: **Proposed Design & Place SEPP 2021**

We refer to the proposed Design and Place SEPP 2021.

Upon a perusal of the draft document, the main item that raises extreme concerns to me as a Registered Surveyor and the development industry as a whole, is the definition applied to an 'urban designer.

'an **urban designer** means the following—

- (a) a qualified town planner with at least 5 years' experience in precinct or master planning,
- (b) a landscape architect with at least 5 years' experience in precinct or master planning,
- (c) an architect with at least 5 years' experience in precinct or master planning"

Given the omission of a Registered Surveyor from the abovementioned group I feel it may be prudent to provide a short insight into the studies I completed, experience required & knowledge acquired to become a Registered Surveyor in NSW.

- Firstly, obtain the necessary mark in the HSC exams & enrol in the University of NSW degree course. Complete the assigned curriculum, that included inter alia, subjects in town planning, engineering, geology, land law and land development. Upon successfully completing this 4 year course in as many years the entitled me to receive a Bachelor degree in Surveying.
- Secondly, to become a Registered Surveyor in NSW I had to then complete various projects, being antecedent to sitting a corresponding exam set by the then Board of Surveyors. Passing all these exams was and still is a mandatory requirement for eligibility in obtaining a Certificate of Competency.

In short, post graduation, I had to complete a minimum of 104 weeks practical experience, including 52 weeks of cadastral experience spread between city and rural environments.

Complete projects and be examined (refer to the second dot point above) in the fields of Instrumentation, Town Planning, Engineering, Rural surveying, Urban surveying, Strata surveying and associated legal frameworks.

All these recognised disciplines gained provide an overall knowledge base necessary to complete suitable subdivision designs that take into consideration planning legislation, site topography, civil constraints and environmental issues.

With regard to the Town Planning project completed to obtain the Certificate of Competency, the following requisites and deliverables remain basically the same from the time I completed the exam to that which currently exists today and is summarised below:-

- Conventional residential subdivision 20 hectares or 50 lots;
- Rural subdivision 50 hectares or 20 lots;
- Industrial subdivision 20 hectares or 20 lots;
- Provide copies of the titles for the relevant parcels of land;
- Complete a site visit, taking photographs and notes;
- Obtain copies of any relevant reference documentation, such as external consultant studies undertaken over the site;
- obtain copies of relevant topographic and planning constraints mapping;
- Obtain copies of the applicable Local Environmental Plan & Development Control Plans that apply to the proposed development;
- Identify the current State Environmental Planning policies that apply to the development site;
- Preparation of working drawings that demonstrate the process resulting in the adopted lot and road layout;
- Preparation of the final conceptual lot layout;
- Preparation of the relevant plans as required by the consent authority;
- Preparation of concept cut/fill, drainage, service and landscaping plans;
- Complete a development application form;
- Preparation of the Statement of Environmental Effects, addressing the requirements of the Environmental Planning and Assessment Act 1979;
- Preparation of a detailed cost analysis to establish the projects feasibility;
- Preparation of a report to the client detailing the economic feasibility;

In addition the above dot points a further understanding and competence in the following subject matters are also examined:-

- Legal framework and hierarchy of planning instruments;
- Development applications and approval processes;
- Consent authority standards;
- Principles of subdivision design;
- Environmental considerations;
- Appreciation of site features, opportunities and constraints;
- Design and document preparation;
- Cost estimate and economic feasibility;
- Preparation of a planning report;
- Working with specialist consultants e.g. ecologists, noise, geotechnical, heritage, electrical and telecommunication designers etc.
- Project management.

Given the pre and post graduate requirements to become a Registered Surveyor, I find this a contemptuous insult to the profession that a Registered Surveyor, is not a suitable person to be included as an urban designer under the definition of this draft SEPP.

This is particularly relevant when the majority of subdivisions in NSW, especially regional areas, that fall within the ambit of this proposed SEPP are undertaken by Registered Surveyors.

To further my conviction and to add additional context to credibility of this submission I am the director of a multi disciplinary survey practice established in 1982 & based in Tamworth. The company offers a wide range of surveying, planning, civil design, project management and land development services.

Since that time, Bath Stewart has completed numerous and varied developments for clients in both the private and public sectors.

Some of these estates being:-

Forest Hills Estate | Windmill Downs Estate | Windmill Valley | Lampada Estate | Northridge Estate | Heritage Estate | Mawson Estate | Flinders Estate | Pinnicale Estate | Riverview Estate | St Patricks Estate Armidale | Poplars Estate- Gunnedah | Groveleigh Gardens | Eagle Views | Rupari Heights | Hunter Lands Industrial Park

These were green field sites where in most cases works were undertaken to prepare conceptual lot layouts, servicing strategies, planning submissions, civil designs, surveying, project management and ultimately title registration to the newly created lots.

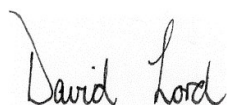
Furthermore we have works in progress that include a number of Planning Proposals, development applications and modifications which will ultimately create, subject to approval, over a thousand residential and rural residential allotments.

Whilst Town Planners, Architects and Landscape Architects have their place in the development arena, their field of expertise & skill set is definitely restricted and limited. A Registered Surveyor on the other hand, in my opinion and many others from the development industry, is far better qualified in the field of urban design and development.

I believe the proposed SEPP as presented will severely affect and restrict residential development, particularly in regional areas. In a time when all levels of Governments are endeavouring to promote development, particularly in regional areas, this SEPP in its current format flies in the face of this edict & rhetoric, with only adverse impacts foreseeable to streamlining urban land releases.

Should this SEPP become another level of legislation in an extremely litigious field I ask that the qualifications of a Registered Surveyor be considered and compared with those gained by Town Planners, Landscape Architects and Architects, particularly those credited to land development. If serious thought is devoted to the above comparisons then it should leave no doubt the list of qualified professionals be expanded to include Registered Land Surveyors.

Yours Faithfully



For: Bath Stewart
Registered Surveyor

Claire Krelle

From: Diana Snape
Sent: Monday, 28 March 2022 9:45 AM
To: Claire Krelle
Subject: FW: SEPP(Design and Place)
Attachments: SEPP (Design and Place) Submission.docx (1).pdf

Hi – this one is a bit late, but can you please make a folder in MS Teams to capture the late subs?
Thanks
DI

From: Brett Anderson <brett@bawd.com.au>
Sent: Sunday, 27 March 2022 4:24 PM
To: Diana Snape <Diana.Snape@planning.nsw.gov.au>
Subject: SEPP(Design and Place)

Hi Diana
Please find a letter on the impact on regional housing of the proposed SEPP.
I really like and understand aspects of it.
The reality for us though it will be very hard to implement in regional areas, particularly West of the Great Dividing Range.
I have notes on the SEPP and guidelines, but did not include them as the letter would have been too long.
I will also provide a copy to Regional NSW, Local Member, Mayor and ministers for Western NSW, Regional NSW & Planning and Homes.

Thank you,



Brett Anderson

Managing Director

BAWD Property Trust

M: 0407 459 169

T: (02) 6882 8608

W: www.bawd.com.au



25 March 2022

Diana Snape
Diana.Snape@planning.nsw.gov.au

RE: DRAFT SEPP (Design and Place) 2021 Impacts on Regional Housing

The draft SEPP, if implemented, will exacerbate the housing crisis in regional areas. It will need to be changed.

The most intractable political issue in our city, region, state and nation is housing supply.

The current planning system has created the situation where it is taking around 6 years to get new housing to the market from greenfield sites. Our nation is facing a housing supply crisis and potential shortfall of approximately 165,000 houses from 2025 to 2032 or 20,000 houses PA. (Property Council Australia Media Release 25 March 2022).

In our city we have conservatively estimated that we require an additional 1000 homes now. That's from an existing city population of approximately 40,000. Domain had 647 people register interest to buy a 4 bedroom house in our city several weeks ago. There are currently 37 homes for sale at the moment!

The time lag induced by the current planning system is disproportionately impacting the supply and demand curve for housing. This is further exacerbating the affordability crisis for both ownership and rent. The proposed draft SEPP will cause additional delays, possibly years, if implemented in its current form in regional areas. If land was to come onto the market quicker and there was to become an oversupply this would cause the market to adjust and lower the sales prices being asked for residential lots. The problem moves from Government to the property developers.

Generally;

- Regional areas have an abundance of land that is a fraction of the cost of land in Sydney. Dubbo's median house price is approximately a quarter of Sydney's. The issue is the zoning of the land and the cost and time in having land rezoned. Often regional LGAs undertake residential land development to subsidise income to help minimise the revenue they need to levy with rates, or fill a shortfall in their markets;



- Regional areas have none, or very little public transport;
- Regional areas, more than say 3 hours from Sydney have very few electric vehicles (EV). The range to recharge causes trip delays that currently outweigh the many and numerous benefits of EVs;
- Income per capita is lower in regional areas than Sydney;
- Regional cities often have much larger shopping populations than the people who live in the cities. For example Dubbo's service population is something like 150,000 people from Western NSW and surrounding areas. These people will drive their own vehicles to visit the city from distances up to 6 hours away;
- We are lucky to have large numbers of indigenous, or first nation people living in our regions. Sometimes there are protocol or cultural disputes between the traditional owners of the land and other indigenous organisations;
- Construction costs are substantially higher in regional areas than Sydney;
- There are no, or very few Urban Designers, Engineers experienced in Water Sensitive Urban Design (WSUD), Landscape Architects, energy and renewable energy consultants in the regional areas;
- Regional Councils are understaffed and stretched to the limits now. They will not have the ability to assess and process the additional complex work required by the SEPP in any form of a timely efficient manner;
- Policy that will work economically in Sydney, quite often will not work in regional areas. A prime recent example of this is the Biodiversity Conservation Act;
- Regional cities often have more jobs than people and housing;
- Our political leaders are looking more to regional areas to help the housing supply issue. The Federal Labour Party just announced they will provide an additional \$10,000 to first home buyers in regional areas if elected;
- Inflationary pressures and rising interest rates are going to further worsen the housing affordability crisis;
- Bad policy is often too complicated, complex and subjective.

What is proposed in the SEPP will further add to the complexity, cost and delays in the delivery of housing in regional areas. It will create situations where individuals within the consent authorities will be able to subjectively promote their own personal agenda. Often these are not in alignment with our political leaders.

ABN 94 208 929 708

BAWD Property Trust | Enterprise Park, 33 Hawthorn Street, Dubbo NSW 2830 | PO Box 774, Dubbo NSW Australia 2830 | T: +61 2 6882 8608 F: +61 2 6881 6549 E: brett@bawd.com.au



I implore you to please reconsider implementing it in the current form in regional areas like our city of Dubbo.

If you have any questions please do not hesitate to contact me.

Thank-you

BAWD Property Trust

Creating great prosperity for all stakeholders, to allow us all to live our dreams.

A handwritten signature in black ink that reads 'B Anderson'.

Brett Anderson

BE MIEAust CPEng FAICD

Managing Director

ABN 94 208 929 708

BAWD Property Trust | Enterprise Park, 33 Hawthorn Street, Dubbo NSW 2830 | PO Box 774, Dubbo NSW Australia 2830 | T: +61 2 6882 8608 F: +61 2 6881 6549 E: brett@bawd.com.au

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Sunday, 27 February 2022 10:05 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 220227-submission-to-dpie-sepp-design-and-place.pdf

Submitted on Sun, 27/02/2022 - 22:02

Submitted by: Anonymous

Submitted values are:

Submission Type

I am making a personal submission

Name

First name

Amanda

Last name

Faulkner

I would like my submission to remain confidential

No

Info

Email

survey@baxtergeo.com.au

Suburb/Town & Postcode

Tamworth 2340

Please provide your view on the project

I object to it

Submission file

[220227-submission-to-dpie-sepp-design-and-place.pdf](#)

Submission

Re: Draft State Environmental Planning Policy (Design and Place) 2021

Thank you for the opportunity to make a submission to the abovementioned draft policy.

I have reviewed the policy and as a qualified, practising Town Planner with 30 years' experience in development assessment, I would like to raise the following concerns with the policy:

- The policy is more suited to metropolitan development (the densely populated areas of Sydney, Newcastle, Wollongong, Gosford), not development in rural areas. In my experience in both metropolitan and rural Councils, state planning policies of the type proposed are not "one size fits all" and in this regard, I feel that there needs to be a metropolitan based policy and a rural based policy.
- Clause 16 Design consideration – culture, character and heritage

In rural areas, given the potential for subdivision or agricultural development to affect significant Aboriginal places, there needs to be more consideration given to the scope of development that will require submissions of Aboriginal stakeholders to be taken into account, not just State Significant development.

- Clause 17 Design consideration – public spaces and public life

Whilst this clause makes sense in metropolitan areas, in rural areas, public spaces should not be required to be designed by a qualified landscape architect for the following reasons:

- Qualified landscape architects are not readily available or experienced in rural areas (there are no qualified landscape architects within the Tamworth Regional Council local government area – a land area of 9,893 square kilometres);
 - In rural areas, the majority of residential properties have backyard areas and as a result, the demand for public spaces is vastly different to the demand and need for public spaces in metropolitan areas; and
 - Council's in rural areas do not want the financial responsibility of maintaining public spaces that are designed by landscape architects, who are not aware of local climatic conditions and in particular, the difficulty of maintaining spaces in times of drought.
- There is a shortage of qualified professionals in the fields of ecology, landscape architecture, architecture, European and Indigenous heritage in rural areas. For example, in the Tamworth Regional Council Area, other than 2 registered Architects, there are none of the other above listed qualified professionals. In this regard, given the role they play in rural development, I believe that Registered Surveyors should be included as competent, qualified professionals.

- Part 4 Design review

This part applies to development with a site area of at least 1 hectare. Given a significant number of subdivisions in rural areas have lots in excess of 1 hectare and these lots are lifestyle lots that will accommodate a single dwelling, it is unreasonable that these developments will require a design verification statement and/or design review reports and also be subject of the Design Review Panel.

Also, of concern is that the development outcomes in the draft policy have been nominated by the NSW Government Architect. Unfortunately, in Tamworth, the design outcomes of developments that have been the subject of the NSW Government Architect are not examples of excellence in design and place. For example, the redevelopment of the Tamworth Rural Referral Hospital does not provide any outdoor landscaped areas that provide spaces for the public to use and the connectivity between the carparking areas and the buildings is lacking for the following reasons:

- In an environment whereby it can be above 40 degrees in summer and where we experience storms, there are no covered walkways between the staff or public parking areas and the buildings; and
- There is also the need to walk uphill and a considerable distance, which is not ideal for people who are unwell or with mobility issues..

I agree to the above statement

Yes



BAXTER GEO CONSULTING

Surveying - Development Planning & Co-ordination
ACN: 103 579 335 ABN : 63 323 316 716

Limited liability by a scheme
approved under Professional
Standards Legislation

14 Byrnes Avenue
TAMWORTH NSW 2340

Ph 02 6766 6499
Fax 02 6766 6599
Mob: 0418 401 802

[please address all correspondence to](#)
[PO Box 1402 TAMWORTH NSW 2340](#)

general: okbaxter@baxtergeo.com.au
writers email: amanda@baxtergeo.com.au

27 February 2022

Department of Planning, Industry and Environment,
Locked Bag 5022,
PARRAMATTA NSW 2124

Dear Sir,

Re: Draft State Environmental Planning Policy (Design and Place) 2021

Thank you for the opportunity to make a submission to the abovementioned draft policy.

I have reviewed the policy and as a qualified, practising Town Planner with 30 years' experience in development assessment, I would like to raise the following concerns with the policy:

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- *Clause 16 Design consideration – culture, character and heritage*

In rural areas, given the potential for subdivision or agricultural development to affect significant Aboriginal places, there needs to be more consideration given to the scope of development that will require submissions of Aboriginal stakeholders to be taken into account, not just State Significant development.

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- There is a shortage of qualified professionals in the fields of ecology, landscape architecture, architecture, European and Indigenous heritage in rural areas. For example, in the Tamworth Regional Council Area, other than 2 registered Architects, there are none of the other above listed qualified professionals. In this regard, given the role they play in rural development, I believe that Registered Surveyors should be included as competent, qualified professionals.

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- There is also the need to walk uphill and a considerable distance, which is not ideal for people who are unwell or with mobility issues.

Yours faithfully,



Amanda Faulkner *B.Urb. Reg. Plan (UNE)*.

Town Planner

for BAXTER GEO CONSULTING

Member of the Association of Consulting Surveyors

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 9:24 AM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: bhl-dpsepp-submission-letter-feb-2022.pdf

Submitted on Mon, 28/02/2022 - 09:22

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

ADAM

Last name

CARMODY

I would like my submission to remain confidential

No

Info

Email

ADAM.CARMODY@BHLGROUP.COM.AU

Suburb/Town & Postcode

SYDNEY 2000

Please provide your view on the project

I object to it

Submission file

[bhl-dpsepp-submission-letter-feb-2022.pdf](#)

Submission

Please see attached letter submission

I agree to the above statement

Yes

24 February 2022

Mick Cassel
The Secretary
NSW Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

Via the NSW Planning Portal Website

Dear Mick,

RE: Design and Place State Environmental Planning Policy

The BHL Group acts as the development agent for several major residential and industrial development sites in Western Sydney. These development sites include the Clydesdale Estate in the North West Growth Centre, the Oxley Ridge Estate in the South West Growth Centre, and a major 280ha landholding located in the Northern Gateway precinct of the Western Sydney Aerotropolis.

The BHL Group and our clients have been major contributors in the supply of developed land to support the growth of Sydney and have played a role in supporting the economic success of Western Sydney through the investments we make in land development, and in the myriad of jobs (both direct and indirect) that our projects support. Our investments support these jobs, which in turn support further business investment and growth, and offer greater opportunities for the people who live and want to work in Western Sydney. We recognise the potential of greater Western Sydney and are excited to be involved in the delivery of some of Australia's most important urban growth areas. We are committed to design excellence in our projects.

We appreciate the opportunity to comment on the Design and Place State Environmental Policy (DPSEPP). We recognise and agree with the intent and objectives of the DPSEPP. We caution that there is a need to refine significant aspects of the policies as they stand. There is too much risk that the DPSEPP, as drafted, will exacerbate the complexity and opaqueness of the NSW planning system. The DPSEPP needs to be amended to ensure certainty and clarity of implementation, and to ensure that the development industry maintains its confidence to invest in the delivery of projects in Western Sydney.

Our main reservation with the DPSEPP is that it is adding to regulatory burden and approval uncertainty; and is adding to the risk of design changes being imposed through the assessment process. We are concerned about the DPSEPP implementation and assessment processes. Under the DPSEPP, assessments will involve significant elements of subjectivity and discretion by consent authorities (or design review professionals) in determining 'better design outcomes' when applied to specific projects.

A key concern that we face in delivering great projects is the uncertainty of gaining timely approvals, and the uncertainty of design changes imposed on projects through the assessment process. We engage world class consultants and designers in delivering our projects. We need to ensure they have the ability and flexibility to design and deliver the right outcome for our projects. We also need to ensure they can deliver these outcomes on time.

The balance of certainty and flexibility is discussed in the DPSEPP package of documents, and the approach of 5 principles supported by 10 considerations (2 per principle) has merit. Where the assessment risk lies is in satisfying the consent authority that the proposed project design responds 'appropriately' or 'adequately' to the various DPSEPP considerations; or does not result in an adverse impact to the public. The notion of assessing an 'appropriate' or

'adequate' design response, or assessing a perceived 'adverse impact', is considered too subjective to be imposed through a SEPP.

We also question if the development assessment professions can assess projects as envisaged in the DPSEPP. We are worried that there are not enough qualified design professionals for the increased workload envisaged in the implementation of the DPSEPP. We are already seeing evidence of this where projects languish because of inadequate resourcing within the consent authorities.

We generally support the intent to amend the sustainability requirements for residential buildings. BASIX, whilst not perfect, has demonstrated the value of drafting objective and measurable planning controls that can be applied in a consistent way across varying geographical areas. Work is required to ensure clarity and certainty in the implementation of the new sustainability requirements (especially with regards alternate merit pathways and multiunit assessments). This intention to increase the sustainability requirements reflects the social shift to ensure more sustainable outcomes, and the ability of industry to deliver products and technology to support residential building sustainability.

The above comments relate specifically to our residential projects. Please find attached a submission prepared by our expert consultants, Urbis, with particular reference to the application of the DPSEPP to the Aerotropolis Precincts. For the reasons that Urbis detail in their submission, we agree that when the DPSEPP is finalised, it should explicitly exclude all of the Aerotropolis precincts.

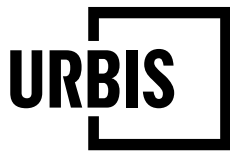
We look forward to discussing the above and attached in more detail. We strongly believe that the success of Western Sydney relies on a collaborative and cooperative approach to ensure design excellence. We know these issues and concerns are shared with industry peak bodies and peers who are also concerned about the appropriateness of the DPSEPP as currently drafted.

We are confident that the projects we are delivering ensure great design outcomes under the existing regulatory frameworks. We want to make sure that projects can continue to be delivered without being further delayed by increased regulation and uncertainty.

Yours sincerely



Michael Rabey
Head of Development
michael.rabey@bhlgroup.com.au



**ANGEL PLACE
LEVEL 8, 123 PITT STREET
SYDNEY NSW 2000**

URBIS.COM.AU
Urbis Pty Ltd
ABN 50 105 256 228

25 February 2022

The Planning Secretary
Department of Planning & Environment
Locked Bag 5022,
Parramatta NSW 2124.

Dear Sir,

SUBMISSION - DESIGN AND PLACE SEPP

We write on behalf of our client Roberts Jones Badgerys Creek (Roberts Jones) in relation the public exhibition of the new Design and Place State Environmental Planning Policy (DP SEPP) 2021 and supporting guides.

Roberts Jones is the owner of a 284ha site within the Northern Gateway Precinct of the Western Sydney Aerotropolis. Roberts Jones is currently progressing a major SSDA for its concept master plan and stage 1 early works. The SSDA also includes a 46,936-sqm warehouse. Roberts Jones is in separate ongoing dialogue with DPE Industry Assessments and the Aerotropolis team on this matter.

Planning for the Western Sydney Aerotropolis has been underway since 2018. The early strategic planning documents foreshadowed a new and flexible planning framework to guide development and infrastructure alongside this a 'once in a generation' development of a new 'curfew free' international airport.

The new planning framework is underpinned by a series of strategic and statutory planning documents including:

- Western Sydney Aerotropolis Plan (WSAP)
- State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 (ASEPP)
- Draft Aerotropolis Precinct Plan 2020 (Precinct Plan)
- Aerotropolis Development Control Plan, Phase 1 2020, (Phase 1 DCP)
- Draft Aerotropolis Development Control Plan, Phase 2, 2021 (Phase 2 DCP)

In addition to the above the following policies and guidelines have been specifically developed for the Aerotropolis and Western Sydney.

- Master Planning Guidelines for the Aerotropolis (Master Plan Guidelines)
- Draft Aviation Safeguarding Guidelines (Aviation Guidelines)
- Draft Recognise Country Guidelines
- Western Sydney Street Design Guidelines, and
- Western Sydney Engineering Guidelines.

Under the draft DP SEPP the clauses related to Urban Design Development apply (among other things) to development on land not in an industrial zone that have a site greater than 1ha. Non-residential development is also considered to be (among other things) State Significant Development that does not include residential development.

As land within the Western Sydney Aerotropolis is not listed in the land to which the DP SEPP does not apply it follows that the DP SEPP applies to all applicable development within the Aerotropolis. This is a significant concern to Roberts Jones.

The Aerotropolis has been subject to an extensive and detailed planning process. This includes a specific SEPP, detailed Precinct Plan, comprehensive development control plans and an optional Master Plan process which includes review by a technical assurance panel. A design excellence process is also applicable under the Aerotropolis SEPP. This process would apply for the types of development that would be considered 'urban design development' under the DP SEPP.

We have reviewed the draft DP SEPP and the accompanying Urban Design Guide and highlight the following inconsistencies:

- The industrial zones in the DP SEPP do not include the Enterprise and Agribusiness Zones under the Aerotropolis SEPP. These zones within the ASEPP typically encompass a wide range of land uses ordinarily associated with the Industrial Zones listed in the DP SEPP.
- The requirements/triggers for design review under the DP SEPP differ from those within the ASEPP.
- There are multiple instances where the design criteria within the draft Urban Design Guide differ from the controls within the draft Precinct Plan, Phase 2 DCP and Street Design Guidelines. Examples include:
 - Maximum block lengths,
 - Mid-block connection requirements,
 - Tree canopy targets
 - Public open space provision
 - Typical street cross sections and requirements for 'dwell space'.

Given the extensive and recently or soon to be completed planning requirements already in place for development within Aerotropolis, Roberts Jones submits that the Aerotropolis must be excluded from the application of the DP SEPP for non-residential development. In our opinion adding an additional assessment layer and guidelines is unnecessary and will lead to confusion for both applicants and consent authorities and significantly impact assessment timeframes. This will ultimately undermine the delivery and activation of key infrastructure within the Aerotropolis.

Yours sincerely,

A handwritten signature in black ink, appearing to read "C. Charkos".

Christophe Charkos
Associate Director
02 8233 7660
ccharkos@urbis.com.au

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 9:18 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 220228-bluescope---submission-on-design-and-place-sepp---basix.pdf

Submitted on Mon, 28/02/2022 - 21:17

Submitted by: Anonymous

Submitted values are:

Submission Type

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Suburb/Town & Postcode

2020

Please provide your view on the project

I am just providing comments

Submission file

[220228-bluescope---submission-on-design-and-place-sepp---basix.pdf](#)

Submission

Submission comments in the file attached.

I agree to the above statement

Yes

28 February 2022

Submission

Draft Design and Place State Environmental Planning Policy 2021 (DP SEPP)

Thank you for the opportunity to provide feedback on the Design and Place SEPP 2021 and the proposed changes to BASIX.

BlueScope has reviewed the proposed new requirements for embodied carbon emissions and the BASIX Materials Index and makes the following recommendations:

- BlueScope disagrees with the proposed use of the EPiC database as the basis for the default embodied emissions factors due to Hybrid LCA methodology it is based on. Results in EPiC have been inconsistent and typically higher than those obtained through the widely used and globally accepted Process-based LCA methodology. Process-based LCA is based on agreed ISO standards and underpins the development of third-party verified Environmental Product Declarations (EPDs) by a wide range of local and international building materials manufacturers.
- The hybrid LCA methodology used in the EPiC database is incompatible with the process-based LCA methodology used to produce EPDs, and lacks verification processes and formal mechanisms to query the results. The use of the EPiC database would not allow for meaningful comparisons to be made between the BASIX Materials Index factors and those being published in mainstream LCA databases such as AusLCI, ecoinvent, GaBi, etc and by manufacturers in their EPDs, as they would be based in different methodologies. Furthermore, this may represent a barrier for the industry to contribute with product-specific data from EPDs, which have been developed through a transparent and rigorous third-party verified process and with significant investment of time and resources from manufacturers.
- EPDs are already widely used and recognised in the Australian building sustainability sector. EPDs follow best practice international standards, such as ISO 14025 and EN 15804, and provide an excellent basis for the measurement of environmental impacts (incl. embodied carbon) of materials. Furthermore, EPDs (underpinned by process-based LCA) are already aligned with how large sections of the Australian building sector already measure and report embodied carbon, including Green Star and the IS Rating schemes which recognise the use of EPDs in building-level LCAs.
- The uncertainty on how imported products will be represented in the BASIX Materials Index is of concern, since the EPiC database is based on Australian data. BlueScope understands that LCA data and/or EPDs may not be available for a large portion of imported building materials and that manufacturing processes and carbon impacts may vary greatly depending on the origin and manufacturing process for a given material. BlueScope feels it is important that necessary steps are taken to ensure local products are being compared fairly and that the efforts being made by individual manufacturers to improve their environmental performance and lower their carbon footprint will be captured and recognised in the BASIX Materials Index. The use of average figures would not be helpful in incentivising manufacturers to improve their performance.
- The functionality of the BASIX tool is proposed to allow inter-change of materials to make a design meet the materials index. The functionality of this tool is only relevant where there are materials that provide a level of equivalence that do not interfere with both the inherent structural design, fire performance, durability or energy efficiency of the home. Please see examples:
 - roofing materials cannot simply be swapped. Changing from a metal roof to a tile roof imparts a load on the structure from the roofing material that is about 10 times greater requiring a change in

design to a more substantial material intense support structure. This necessary change and additional associated embodied carbon would not be accounted for in enabling a simple swap.

- substitution of a non-combustible walling material, such as brick, to a combustible material, such as timber cladding, within 900mm of a boundary would generally not be permitted on fire performance.

BlueScope recommends that guidance is provided within the BASIX tool to advise the user of the impacts of swapping materials to meet the material index and/or the tool is restricted to components that do not cause an impact on the design or the performance of the home.

- Swapping materials may significantly impact the design process and the building materials market. BlueScope recommends a staged approach to implementation to provide industry time to understand the tool and its shortcomings to avoid undesirable impacts and allow improvements prior to setting mandatory limits.
- BlueScope recommends that DPIE review the use of life-cycle based software and tools that consider the whole of life of the building to identify carbon saving opportunities (e.g. eTool), as they can assist to avoid unintended trade-offs between embodied and operational carbon. This approach ensures that the optimisation of upfront embodied carbon and the changes in materials selection do not negatively impact the thermal performance and energy efficiency of the overall building.
- In order to promote a more circular economy, BlueScope recommends the inclusion of indicators based on circular economy principles in the BASIX Materials Index, such as:
 - Durability and product life span;
 - Product recyclability;
 - Recycled content;
 - Potential for reuse and/or remanufacture; and
 - Resource efficiency/manufacturing waste rates (incl. materials and water).
- BlueScope understands that limits on embodied carbon are proposed to be introduced when the updated tool is launched. BlueScope strongly suggests an initial period for assessment and refinement ahead of any reductions being introduced. This would allow for users to become familiar with the tool and its requirements, for feedback to be provided to DPIE, and for improvements to be made ahead of the requirements being made mandatory. This would also allow for the building materials industry to gain a better understanding of the requirements as well as the avenues available for them to provide their data and make a meaningful contribution to the BASIX Materials Index.

In closing, BlueScope would recommend favouring the use of process-based LCA data in the BASIX Materials Index. BlueScope also recommends introducing an initial period for assessment of the new embodied carbon requirements where the disclosure of embodied carbon benchmarks is mandatory, but the limit is not enforced.

We thank you for the opportunity to provide input into the draft Design and Place SEPP 2021 and welcome the opportunity for continued consultation as the draft evolves. If you wish to discuss BlueScope's submission in more detail, please contact Philippa Stone at philippa.stone@bluescopesteel.com or Laura Guccione at laura.guccione@bluescopesteel.com.

Yours sincerely



Philippa Stone
Sustainability Manager
BlueScope

About BlueScope

BlueScope is a flat steel producer for the domestic Australian, New Zealand and US markets, and is a leading international supplier of steel products and solutions, principally focused on the global building and construction industry.

In Australia, BlueScope's Australian Steel Products employs around 6,000 employees at more than 50 facilities and over 50 distribution centres. We specialise in flat steel products, including slab, hot rolled coil, cold rolled coil, plate and value-added metallic coated and painted steel solutions. Our key focus is on higher value, branded products for the building and construction industry.

Our steelworks at Port Kembla - in New South Wales' Illawarra region - is the largest steel production facility in Australia. With an annual production capacity of approximately 3.0 million tonnes of crude steel it manufactures slab, hot rolled coil and plate products. The steelworks, metal coating and painting lines and associated operations constitute BlueScope in the Illawarra.

BlueScope's branded products are market leaders in Australia, and include COLORBOND® steel, ZINCALUME® steel, TRUECORE® steel and GALVSPAN® steel, among others.

Submitted on Fri, 25/02/2022 - 12:14

Submitted by: Anonymous

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Please provide your view on the project

I support it

Submission file

[bsl-feedback-basix-25022022.pdf](#)

Submission

The principle of higher standards for housing is supported. Significant carbon reductions may be possible through higher standards for provision of renewable energy and the use of efficient appliances with acceptable cost benefits. The potential for further carbon reductions through building fabric measures is limited by future accelerating decarbonisation of the electricity grid and may only provide a clear positive carbon contribution in the cooler climate zones of NSW.

I agree to the above statement

Yes

Feedback to Design and Place SEPP and BASIX Higher Standards (February 2022)

This document has been prepared by Jamie Adams of BlueScope.

Purpose

This feedback is intended to help improve the proposed higher standards implementation, help ensure that individual elements of the higher standards contribute to reduced life cycle carbon outcomes and that resources are efficiently used to provide the best economic and carbon outcomes.

General

The principle of higher standards for housing is supported. Significant carbon reductions may be possible through higher standards for provision of renewable energy and the use of efficient appliances with acceptable cost benefits. The potential for further carbon reductions through building fabric measures is limited by future accelerating decarbonisation of the electricity grid and may only provide a clear positive carbon contribution in the cooler climate zones of NSW.

Key Recommendations

To ensure that higher standards are effective and efficient:

1. Allow assessment of each element on its merit. This may be achieved by separating the cost benefits of higher standards for renewable energy, energy efficiency of appliances and energy efficiency of the building fabric.
2. Ensure that the building fabric measures reduce carbon emissions. The new BASIX material index will allow account of upfront carbon emissions of materials required to increase the building fabric from 6 to 7 stars against the predicted operational carbon emission savings.
3. Update thermal bridging mitigation measures and associated costs for steel framing with the latest ABCB research and industry research.
4. Update future grid emissions data to the October 2021 estimates by DISER. Grid emissions are projected to reduce much faster than assumed in the current proposal.
5. Restrict the benefits from moving from 6 stars to 7 stars to reduced emissions from total air-conditioning loads. We are unaware of substantive evidence that supports broader benefits such as reductions in peak load that allow air-conditioning equipment to be downsized.

Further Detail

1. Allow assessment of each element on its merit.

Separate out the cost benefits of renewable energy, appliance energy efficiency and building fabric energy efficiency. The ability to make effective improvements to higher standards requires transparency of the life cycle carbon and cost benefit for each individual element. It also ensures that each individual element creates clear positive outcomes and that resources are employed where they have greatest impact. Reporting all elements of the higher standards as a combined package does not allow clarity of individual measures to be adequately reviewed. The best performing elements may hide the poorest performing elements of the proposal. This introduces the risk that individual measures may have negative cost benefit and life cycle carbon outcomes.

2. Ensure that the building fabric measures reduces carbon emissions.

The case for improved building fabric is not clear within the proposal and may lead to poorer economic and carbon outcomes.

Higher standards for building fabric may not reduce life cycle carbon emissions once the carbon cost associated with additional required material is accounted for.

Carbon reductions have been overestimated due to unaccounted carbon emissions. Changing from 6 to 7 stars requires extra construction material only for the purpose of meeting 7 stars. The extra material has no other required function. This material takes the form of insulation (thicker batts, EPS board on the outer side of frames), additional layers of glazing, extra framing or support to accommodate extra insulation. In the most significant case deeper roof frames or wall frames or two sets of wall frames. These materials all produce upfront carbon emissions that have not been accounted for within the RIS.

Higher building fabric stringency may be increasing carbon emissions with the additional upfront carbon emissions of materials required to achieve higher stringency, particularly in the milder climate zones of NSW where energy savings are limited. In the future many homes will be primarily powered from renewable energy. A home that uses 100% renewable energy for heating and cooling has no carbon emission savings from increasing the building fabric from 6 to 7 stars stringency. Due to the increased amount of material required to meet 7 stars the home clearly increases carbon emissions relative to its 6 stars equivalent. This is in distinct conflict with the basis of the regulation to reduce carbon emissions.

With the introduction of the BASIX material index the additional upfront emissions from materials required to upgrade a dwelling to 7 stars could be easily determined to compare against its anticipated future carbon energy savings from reduced heating and cooling. The savings should be determined using the more recent DISER October 2021 grid emission projections which are significantly different to that used in the current proposal.

Renewables are projected to dominate the grid soon providing low/no carbon energy for heating and cooling. The need for energy efficiency of the building fabric to reduce carbon will then be greatly diminished. As such the emphasis for the building fabric regulation should be to provide function for health, amenity and resilience, which are currently given insufficient attention, in part due to an over-emphasis on energy efficiency.

3. Update thermal bridging mitigation measures and associated costs for steel framing with the latest ABCB research and industry research.

Thermal bridging costs and benefits are based on outdated information developed by Tony Isaacs Consulting (TIC). CSIRO have since developed alternative information that shows significant discrepancy. Relative to the CSIRO analysis, the information used in the proposal from TIC is shown to significantly overstate the impact of steel framing. Recent investigations by the University of Wollongong confirm the excessive mitigation measures determined by TIC.

The TIC and CSIRO reports both adopted a bridging methodology where the ceiling was found to have the greatest detrimental impact. Recent research by the University of Wollongong conducted for the ABCB finds that the difference between steel and timber framed ceilings is much less than used in either of the previous studies and as such they both overstate the steel frame impact. The study shows that with appropriate construction assumptions and levels of insulation steel and timber framing already have similar performance.

The latest ABCB and industry research supports that the existing thermal break measures with minor improvements result in similar performance between steel and timber frame construction. The measures originally introduced address problems associated with excessive bridging in a practical and pragmatic way.

4. Update future grid emissions data to the October 2021 estimates by DISER.

Projected grid emissions by DISER have recently been updated in October 2021.

The updated grid emissions projections have reduced considerably. In NSW/ACT the grid emissions in 2030 are less than half that was assumed in the previous estimates by DISER in September 2020, which are used in the proposal.

<https://www.industry.gov.au/data-and-publications/australias-emissions-projections-2021>

With the recent announcements of further early closure of coal fired power stations it is likely that the October 2021 estimates are also likely to overstate the emission savings, albeit less than the September 2020 estimates.

<https://www.abc.net.au/news/2022-02-20/australias-biggest-coal-plant-to-shut-but-others-ramp-up/100844208>

The estimated carbon reductions are therefore overstated and as such the economic and societal benefits should be re-visited.

5. Restrict the benefits from moving from 6 stars to 7 stars to reduced emissions from total air-conditioning loads.

Increasing the building fabric from 6 to 7 stars does not necessarily reduce peak loads that allow air-conditioning equipment savings. Achieving 7 stars may be achieved in a dwelling that performs well on average, however this does not necessarily translate to reduced cooling loads or peak loads allowing air-conditioner equipment to be downsized. A recent study by Uni SA for the ABCB found no correlation of star ratings and heatwave performance (or cooling energy) of a home that was already at 6 stars. The draft NCC elemental measures, which are based on 7 stars NatHERS, have worryingly shown that NatHERS can encourage design features (no eaves, dark colours) that worsen heatwave performance in terms of human health outcomes.

Hatvani-Kovacs, G., M. Belusko, J. Pockett, and J. Boland. 2016. Does the Australian Nationwide House Energy Rating Scheme Ensure Heat Stress Resistance? (p. 19). CRC for Low Carbon Living

<https://www.abcb.gov.au/sites/default/files/resources/2020/Does-the-Australian-Nationwide-House-Energy-Rating-Scheme-ensure-heat-resistance.pdf>

"The 6.9-star home had higher cooling energy consumption than the 2.3-star, double brick home in Sydney. Furthermore, the same amount of cooling energy was used by the 5.7-star and the 7.9-star homes. To summarise, star rating did not indicate the cooling energy consumption of a building either in Adelaide or Sydney."

"The report demonstrated that NatHERS does not directly encourage heat stress resistance in new homes. Energy efficiency and heat stress resistance can, nevertheless, be both achieved in the design process".

Article: Energy rating schemes sabotaging heat stress resistance of Australian homes, study finds

<https://architectureau.com/articles/energy-rating-schemes-sabotaging-heat-stress-resistance-of-australian-homes-study-finds/>

"Newly published research suggests that Australia's method of assessing the energy efficiency of newly built homes is resulting in the construction of buildings that are less heat-resistant during heatwaves than traditional brick houses."

Higher star rating of the building fabric achieved through building sealing measures create tighter building fabric reducing outdoor air circulation that may be detrimental to comfort and health. In the absence of a well-maintained mechanical ventilation system to bring in healthy levels of fresh air, tightening of the building envelope will typically lead to poorer indoor air quality and increased condensation risk.

<https://www.yourhome.gov.au/passive-design/ventilation-airtightness>

"An airtight house with inadequate ventilation may lead to condensation, mould and high internal levels of carbon dioxide. Build airtight for thermal comfort and energy efficiency, but not so tight that it compromises indoor air quality."

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:21 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: sepp-submission-brickworks-building-products-280222.pdf

Submitted on Mon, 28/02/2022 - 16:18

Submitted by: Anonymous

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Please provide your view on the project

I am just providing comments

Submission file

[sepp-submission-brickworks-building-products-280222.pdf](#)

Submission

Please see attached submission.

I agree to the above statement

Yes

28 February 2022

Brickworks submission to NSW Design and Place SEPP public consultation

Brickworks welcomes the opportunity to provide a submission to the NSW Government's proposed Design and Place State Environmental Planning Policy (SEPP) 2021. Brickworks is committed to working closely with the NSW Government as the SEPP is finalised to ensure the new policy meets the needs of NSW residents, industry and the environment into the future.

Information about Brickworks

Brickworks is one of the world's largest and most diverse building material manufacturers. We have around 2,500 staff worldwide, 45 manufacturing plants, and manufacture over 2,000 different building products, including bricks, pavers, roofing tiles, precast concrete, concrete masonry, stone, lightweight facades and retaining wall products.

In Australia we employ 1,160 staff and generated \$687 million in revenue in FY2020-21. We have 28 manufacturing sites and more than 45 design centres and design studios across the country as part of an extensive reseller network.

NSW is our largest market in the nation, and we have a strong presence in Western Sydney. Our role in NSW includes:

- The supply of over 50% of all bricks in NSW.
- The supply of around 50% of all masonry blocks in NSW.
- Construction of the most advanced brick facility in the world, which is currently underway in western Sydney.
- Employment of over 300 people in NSW, with a large proportion in highly skilled advanced manufacturing.
- A 50% joint venture interest in a Property Trust with gross assets of around \$2.5 billion, most of which are located in western Sydney. Our facilities provide critical supply chain solutions for major customers such as Amazon, Coles, and Woolworths.

Brickworks' commitment to sustainability

Brickworks applauds the NSW Government's focus on sustainability, resilience and quality of places in its proposed SEPP. Brickworks is also similarly committed to these goals, with our core purpose to create beautiful building products that last forever. We are keenly aware of the key contribution of our products to the fabric of our cities and homes and the substantial environmental and social impact they have.

Over recent years we have undertaken a range of measures to further improve the long-term sustainability of our products and business, including:

- Reducing our carbon emissions by 45 per cent since 2006, through activities like

using green fuels (e.g. landfill gas) to fire our kilns and investing in more fuel-efficient product design and production, with over \$3 million invested in emissions abatement technology.

- Increasing our use of recycled material in our products by 61 per cent over FY 2020-21, with our raw materials containing 12.5 per cent recycled materials in Australia.
- Partnering with Murdoch University, leaders in renewable energy research, in a study and lab-scale trials to explore the use of hydrogen as a kiln fuel in the manufacture of clay bricks.
- Releasing a 'Sustainable Home Guide' to support consumers and architects to use Brickworks' products to meet sustainability targets.

As outlined in the NSW Government's 'Net Zero Plan Stage 1: 2020-2030' released in March 2020, Brickworks has been recognised with mention of our Austral Bricks manufacturing operation in Longford Tasmania that has been certified carbon neutral since 2014. Carbon neutrality was achieved by using biomass as the fuel source for the kiln, increasing operational efficiency and offsetting remaining emissions through Australian and international environmental projects. In addition, we have recently extended our carbon neutral offering enabling any brick or paver produced in our 11 Australian manufacturing plants to be carbon neutral for specific projects under the Australian Government's Climate Active Certification.

We would welcome the opportunity to work with the NSW Government as we further develop our sustainability activities and product lines.

Brickworks' comments on the proposed SEPP

Brickworks strongly supports the five proposed principles for the Design and Place SEPP, which focus on delivering more attractive, connected, greener, and resilient communities and environments. As noted above, Brickworks has invested significant time and capital in furthering these principles in recent years through changes to our product lines and operations.

Brickworks over recent years has introduced a number of sustainable products including solar roof tiles, concrete double wall, high cored bricks and reduced cement masonry blocks.

We strongly support the aim of the SEPP to deliver healthier and more comfortable homes to live in. Brickworks has actively participated in a 10-year research project at Newcastle University to assess the thermal performance of Australian construction typologies. This research demonstrated that bricks used in the construction of a home will provide natural comfort through the contribution of thermal mass and will reduce the need for artificial heating and cooling.

Bricks contribute to healthy homes as they are natural materials and emit no volatile organic compounds (VOCs), providing improved internal air quality. Many other common building materials emit VOCs and contribute pollutants to indoor environments.

The built environment forms the fabric of our cities and our lives and contributes to substantial environmental and social impacts. Cities around the world are adapting to be more resilient.

Brickworks' bricks and concrete products are manufactured to provide resilience. They are durable, fire-proof, contain thermal mass for energy efficient design, provide excellent acoustic properties and no indoor air emissions. Brickworks' clay bricks hold a 100-year guarantee.

However, we have some concerns about the proposed limits to solar absorptance on new homes and the introduction of embodied energy targets into BASIX. These concerns are set out in further detail below and we would welcome the opportunity to discuss these issues with the NSW Government as the SEPP is developed.

Solar absorptance limits for new homes

Brickworks notes the proposed SEPP would limit solar absorptance on new houses to no higher than 0.7, which will have the effect of banning dark coloured roofs to mitigate the urban heat effect. We note the urban heat effect is largely only relevant to metropolitan areas where vegetation has been cleared and there is limited tree and plant cover.

While we support efforts to improve the liveability and efficiency of new homes, we believe banning dark coloured roofs would have a number of unintended consequences which should be further considered before the SEPP is finalised.

These unintended consequences include the:

- Impact on colder regions given dark roofs improve the energy efficiency of homes in colder regions.
- Limited benefits for regional areas, where the urban heat effect is minimal.
- Limited benefits for existing suburbs with established vegetation, mature trees and larger lot sizes where there is a reduced heat effect.
- Implications for rooftop solar PV systems which are dark in colour in order to improve their efficiency.

We also note that solar absorptance is not always a complete representation of a materials' contribution to the urban heat island impact. Solar absorptance considers colour only and although this is a proportion of the incident solar radiation absorbed, it doesn't consider a materials' emissivity and thermal mass.

We suggest the urban heat effect could be better addressed through measures such as:

- Increased vegetation.
- Requirements for mature tree planting along streets.
- Requirements for tree planting on individual properties.
- Community gardens.
- Diversity of building heights to encourage breeze paths.

Brickworks supports the intention of the policy to reduce urban heat in communities but urges the NSW Government to take a measured approach.

If the NSW Government wants to continue to implement limits to solar absorptance, we support a targeted approach as opposed to a blanket approach for all homes across NSW.

Suggestions for a targeted approach include:

- Solar absorbance limits applying only to new greenfield areas where substantial clearing of trees has occurred.
- Solar absorbance limits not required in established areas with mature trees.

At this stage, little is known about the impact of limiting solar absorptance materials on the roofing supply industry and consumers, and whether it will increase the cost of housing and impact housing affordability.

Brickworks suggests an economic analysis on the potential impact of limiting solar absorptance is conducted to ensure these impacts are fully understood before any changes to the SEPP are finalised.

In addition to adopting a targeted approach, we strongly advocate for any changes to requirements for roofing materials to be phased in over time to ensure the industry has time to adjust and to avoid major disruptions to businesses or significant cost or time increases for homeowners.

Targets for embodied emissions in BASIX

We also have significant concerns about the potential introduction of targets for embodied emissions into the BASIX scheme. As outlined above, Brickworks is committed to continuing to work with the industry and homeowners to improve the efficiency of homes. However, we consider further work and analysis should be undertaken to fully assess the impact of targets for embodied emissions.

In particular, we note the impact of embodied emissions targets has not been included in the BASIX cost-benefit analysis. This means the impact on industry and homeowners, including cost impacts, is highly uncertain and makes it impossible to assess or prepare for these changes.

In particular, the draft Design and Place SEPP's 'Sustainability in Residential Buildings' document, notes on page 10:

"Default factors for embodied emissions of materials will be based on the well-recognised EPiC database."

There are significant concerns about the EPiC database and the use of hybrid embodied carbon analysis methodologies contained in the EPiC database produced by the University of Melbourne.

The EPiC database gives inconsistent and much higher values of embodied carbon compared to the current and internationally recognised 'process-based' methodology that is used through

Environmental Product Declarations. Environmental Product Declarations are widely used, globally accepted, based on agreed ISO standards, and are independently verified and registered.

Use of hybrid analysis is not intended for individual product or project based environmental impact assessments.

The use of the EPiC approach will have significant unintended consequences, such as:

- Greatly over-reporting NSW's embodied carbon figures for building products.
- Preferentially advantaging imported products over local Australian products as the Environmental Product Declarations used for imported products will result in lower embodied carbon figures compared to the EPiC approach. This is likely to impact local investment and employment in the building materials industry.
- Reducing the incentive for Australian manufacturers to reduce their carbon footprint. This is because manufacturers have no control over the EPiC data inputs, which are generic, not tailored to individual businesses, and lack transparency.

To avoid these unintended consequences, Brickworks recommend the use of process based Environmental Product Declarations using recognised ISO standards rather than the EPiC approach if a materials index is included in BASIX.

Manufacturers and suppliers require a long lead time to change manufacturing processes to reduce carbon in products and this would need to be taken into consideration if targets for embodied emissions in BASIX are introduced. There would also be additional costs for manufacturers in changing their processes, which will likely be passed through to customers. It should also be noted that changes to embodied emissions would come on top of a range of other regulatory changes facing the building materials industry, including changes to the National Construction Code. These changes will all involve additional costs for housing construction, which will have a negative cumulative impact on housing affordability.

There is also a risk that home sale contracts will be signed ahead of the implementation of these targets. To ensure industry is fully aware of the impacts of any change, the targets should only apply to contracts signed after the policy is implemented. Implementation timeframes should not be linked to construction approval timeframes, as approvals may occur many months after contracts are established.

We also note the benefits of embodied emissions targets may be overstated as they do not take into account the longevity of building materials and design life of buildings. For example, a low embodied emissions material may have a very short life and only last 10 years or less, while building materials with higher embodied carbon may last 100 years or longer.

Embodied emissions do not take into consideration the carbon impact of replacing building materials or the maintenance over the life of the building, particularly as building materials with higher embodied energy can often reduce energy requirements over the life of the building.

Embodied emissions also do not take into account the resilience of building materials which may help buildings better withstand increased extreme weather events.

The SEPP's principle to deliver resilient and diverse places for enduring communities is reliant on the use of building materials that are durable and have a long life such as bricks, roof tiles and concrete, which will typically have higher embodied energy than those that demonstrate poor resilience.

If the NSW Government wants to continue implementing targets for embodied emissions into BASIX, we suggest a detailed cost benefit assessment is undertaken so that the full impact on industry and homeowners can be considered. We recommend this assessment also takes into account the longevity of building materials, maintenance costs and resilience of materials. To assist this process, Brickworks would welcome the opportunity to work with industry and the NSW Government to prepare this cost benefit assessment.

Conclusion

Brickworks is committed to continuing to improve the long-term sustainability of its materials for the benefit of the community and environment. We strongly support the key principles underlying the NSW Government's proposed Design and Place SEPP, but we encourage a measured approach to implementation.

We believe further work and assessment is required to limit unintended consequences and cost impacts for industry and homeowners before changes to the SEPP are implemented, particularly for the proposals to limit solar absorptance on roofs and to introduce embodied emissions targets into BASIX. We are concerned that these changes have not exhaustively assessed the impact on consumer choice, housing affordability and industry employment for what may be limited environmental gains that could be achieved through a more targeted approach.

Brickworks would like to work with industry and the NSW Government to undertake further assessment of the cost impacts of the SEPP's proposals. We will be in touch in the coming weeks to further discuss this assessment.

If you would like to discuss this submission in further detail, please contact the undersigned.

Yours sincerely,



Cathy Inglis AM
General Manager Technical and Innovation

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Email: cathy.inglis@brickworks.com.au

Submitted on Fri, 25/02/2022 - 14:26

Submitted by: Anonymous

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Please provide your view on the project

I object to it

Submission file

[bpic-submission---dp-sepp-2021---final.pdf](#)

Submission

In December 2021, BPIC wrote to the NSW Minister for Planning and Public Spaces - Minister Stokes - detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government, along with the reasons for our concerns including:

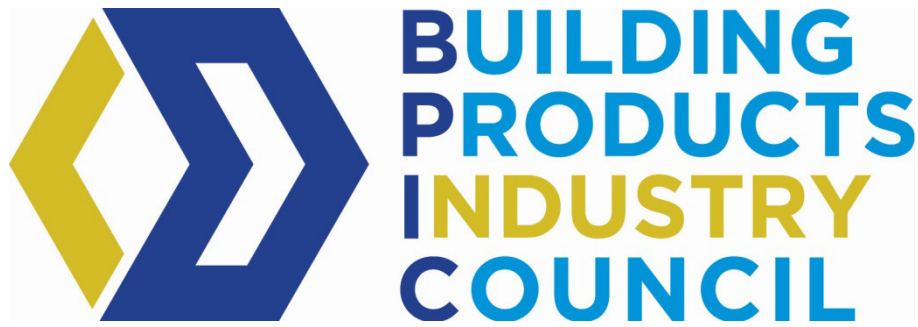
- * Greatly over-reporting NSW's embodied carbon figures for building products.
- * Preferentially advantaging imported products.
- * Invalidating all the work and the multi-millions of dollars of investment in embodied carbon measurement undertaken by industry in good faith compliance with expected government requirements.

We are dismayed to find that the Sustainability in Residential Buildings (BASIX Overview) document that is part of the Design and Place SEPP 2021 consultation states that: "Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.."

As a result we object, and submit the attached document. We look forward to meaningful industry consultation about this matter before any final decisions are made about embodied carbon measurement tools within BASIX or for that matter any other NSW sustainability scheme including NABERS and MECLA.

I agree to the above statement

Yes



Submission to the

Design and Place SEPP 2021 Consultation

Prepared by:

Building Products Industry Council

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Phone – 0438 740 240
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February 2022

Commentary

The Building Products Industry Council (**BPIC**) makes the following response to *the Design and Place SEPP 2021* consultation.

Most of the consultation subject is outside our organisation's area of interest and expertise, so this submission will focus only on the *Sustainability in Residential Buildings (BASIX Overview)* document, specifically the section dealing with a [Materials Index](#). As an industry, we support the inclusion of a Materials Index within BASIX. However there is a particular aspect of the design of the Index that is of considerable concern to us. On Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document, the following statement is made:

"Default factors for embodied emissions of materials will be based on the well-recognised EPiC database."

In December 2021, BPIC wrote to the NSW Minister for Planning and Public Spaces - Minister Stokes - detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government.

Principally our concerns relate to the NSW Government's contemplation of the use of Hybrid Analysis (HA) embodied carbon analysis methodologies, such as contained in the EPiC database produced by the University of Melbourne. It is BPIC's belief that the use of this methodology is inappropriate in individual embodied carbon studies of buildings and is going to cause the entire building product sector a great deal of problems.

Results from the EPiC database give inconsistent and much higher values compared to the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered Environmental Product Declarations (EPDs).

Use of HA (EPiC) might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - **it is not intended for individual product or project based environmental impact assessments.**

The use of EPiC approach rather than process based EPD information for building products within schemes like BASIX will have disastrous unintended consequences, such as:

- **Preferentially advantaging imported products** (which come with process methodology credentials based on EPDs and ISO standards) over local Australian products (which will have significantly higher EPiC credentials that are not based on EPDs and ISO standards).
- If adopted widely, the Input/Output Hybrid (I/O H) based data, such as EPiC data will **greatly over-report NSW's embodied carbon figures for building products**:
 - For softwood timber the EPiC value of Greenhouse Gas Emissions is 549 kgCO₂e/m³ compared to 181 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation. That is 3 times the amount of embodied carbon that NSW would have to report compared to other Australian and overseas jurisdictions.
 - For plasterboard the EPiC value of embodied energy is 0.44 kgCO₂e/kg compared to 0.096 kgCO₂e/kg using the internationally agreed EPD-backed process method of calculation. That is 4.6 times the amount of embodied carbon that NSW would have to report compared to other Australian and overseas jurisdictions.
- **Invalidating all the work and the multi-millions of dollars of investment** that building product suppliers have expended to comply with international carbon measurement standards and to develop EPDs.

Hybrid Analysis (HA) embodied carbon analysis methodologies like EPiC, load up, or burden, embodied carbon measurements with a range of metrics that are not only arbitrary, but that are *out of the control of the manufacturer*. As a result EPiC creates a strong disincentive for manufacturers to improve their performance. Because no matter what they might achieve, the externalities employed in the EPiC methodology will always punish them. And since EPiC methodologies are black box arrangements using hidden and proprietary algorithms, and not independently verified, there is no way for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes through other means.

Independent validation of different options is essential and clear definitions of the boundary structure is required so that information is transparent, consistent and reflects each company's true performance. In other words the user of this information is confident in comparing apples for apples.

Therefore BPIC requests that the NSW Government and the BASIX administrator in particular, cease contemplation of the inappropriate use of the EPiC system and instead adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered Environmental Product Declarations (EPDs).

The Role of BPIC

The Building Products Industry Council (BPIC) is a national peak body representing Australia's leading building products industries and related services (listed in the footer of this document) in:

Steel	Gypsum Board	Concrete	
Insulation	Timber Products	Roof Tiles	Glass
Windows	Clay Bricks	Concrete Masonry	
Cement	Tiles	Insulated Sandwich Panels	

BPIC's members and associated companies directly employ over 200,000 Australians with more than 470,000 employed indirectly. Their collective industries are worth over \$54B in annual production to the Australian economy. BPIC is a not for profit organisation governed by a Board of Directors comprised of representatives from its member organisations.

BPIC's primary objective is to provide coordinated representation of the building products industry to interested parties including Government, the construction industry, and the general public to help improve building and construction standards. We also provide a forum for discussion, information sharing and policy formulation among major product categories in the building industry. BPIC's mission is to:

- Promote regulatory reform to ensure that products meet minimum standards, code compliance, and are used in the manner for which they are intended.
- Promote public and regulatory confidence, growth and innovation in the building product sector.
- Promote and support improved, robust and nationally consistent building and construction product legislation, regulation, codes and standards.

BPIC works to fulfill these aims by gathering and supplying practical and current industry information on behalf of BPIC member organisations and other organisations and companies that are not members but follow BPIC through various means. This industry-wide approach to responding to regulatory issues, helps to ensure that Governments are informed of possible problems in the building industry and are provided with appropriate industry-considered responses. BPIC also encourages investment in skills formation, product development and industry research by helping to identify and remove regulatory impediments to innovation.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 1:19 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: bca-submission---design-and-place-sepp_0.pdf

Submitted on Mon, 28/02/2022 - 13:17

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Andrew

Last name

Fattal

I would like my submission to remain confidential

No

Info

Email

andrew.fattal@bca.com.au

Suburb/Town & Postcode

Sydney 2000

Please provide your view on the project

I am just providing comments

Submission file

[bca-submission---design-and-place-sepp_0.pdf](#)

Submission

Business Council of Australia submission attached.

I agree to the above statement

Yes

28 February 2022

Ms Abbie Galvin
NSW Government Architect
Department of Planning and Environment
Via submission inbox

Dear Ms Galvin,

The Business Council of Australia represents the nation's largest companies and private employers. Our members come from a diverse range of sectors across the economy.

Many of our members have highlighted that the delays and costs imposed by the NSW planning system are outsized in comparison to other states. It has reached the point where businesses are telling us they are choosing to invest in other jurisdictions, rather than risk the delay and uncertainty of outcome that the NSW system creates.

In this context, we are concerned about the impacts of the proposed Design and Place SEPP in exacerbating these issues further.

The proposed SEPP will introduce expanded requirements as part of the approval process, together with new constraints on developments. Members have indicated this will require extensive additional documentation, adding to application and assessment timeframes and cost. It will also add significant new costs for many developments in terms of both land and construction. There is also concern, based on current experience, that what is presented as guidance will be interpreted rigidly by some assessment authorities.

This is not sustainable in a system that is already excessively burdensome and costly in comparison to other jurisdictions. Further work on the burden that the proposed Design and Place SEPP would place on industry is needed. Assurance from Treasury and the NSW Productivity Commission should be sought on this. If the SEPP proceeds, a phase-in period should also be considered, to ensure there are not unintended consequences for projects already in train.

The Business Council supports the desire to improve urban design and lift apartment standards. We encourage the Department to instead look to incentivise good outcomes, rather than adding further complications and constraints to the existing system.

Yours sincerely



Jennifer Westacott AO
Chief Executive
Business Council of Australia

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Sunday, 27 February 2022 5:01 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: ccs-submission,-design-place-sepp.docx

Submitted on Sun, 27/02/2022 - 16:55

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Eric

Last name

Smith

I would like my submission to remain confidential

No

Info

Email

eric@compasscs.com.au

Suburb/Town & Postcode

Dubbo NSW

Please provide your view on the project

I object to it

Submission file

[ccs-submission,-design-place-sepp.docx](#)

Submission

Compass Consulting Surveyors welcome the opportunity to provide comment on the proposed Design and Place State Environmental Planning Policy and its intended effect.

Particular sections of the draft SEPP are addressed below:

6. Meaning of "urban design development"

(1) In this Policy, urban design development means the following development—

(a) development on land that is not in an industrial zone that has a site area greater than 1 hectare,

(b) development on land in an industrial zone that has—

(i) a capital investment value of \$30 million or more, and

(ii) a site area greater than 1 hectare,

(c) development in relation to which an environmental planning instrument requires a development control plan or master plan to be prepared for the land before development consent may be granted for the development.

The definition of urban design development included in the draft SEPP is outrageous. A site with an area of less than one hectare is hardly worth developing. Sites of more than 1 hectare that are not an industrial zone covers the majority of the development in NSW. The wording of this clause includes all rural-residential, residential, and tourism zoned land where the area of the proposed development is more than 1 hectare.

This clause sets the tone for a badly written Instrument.

8. Land to which this Policy applies

- (1) This Policy applies to the State, except as otherwise provided by this section.
- (2) This Policy does not apply to the following—
 - (a) development on land wholly in any of the following zones—
 - (i) Zones RU1 Primary Production, RU2 Rural Landscape, RU3 Forestry or RU4 Primary Production Small Lots,
 - (ii) Zone IN3 Heavy Industrial,
 - (iii) Zones E1 National Parks and Nature Reserves, E2 Environmental Conservation or E3 Environmental Management,
 - (iv) Zones W1 Natural Waterways, W2 Recreational Waterways or W3 Working Waterways,
 - (b) development that is permitted with or without consent or exempt or complying development under—
 - (i) State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, or
 - (ii) State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007,
 - (c) development of a kind specified in State Environmental Planning Policy (State and Regional Development) 2011, Schedule 1, clauses 1–10, 18 and 20–25 regardless of the capital investment value of the development,
 - (d) development involving only —
 - (i) minor subdivision within the meaning of the Environmental Planning and Assessment Regulation 2000, clause 256I, or
 - (ii) a strata subdivision, or
 - (iii) the subdivision involving less than 1 hectare of land,
 - (e) development involving the erection of 24 or less class 1a buildings under the Building Code of Australia, or of a class 7a or 10 building, if the buildings do not form part of mixed use development to which this Policy applies.

As mentioned in the previous point, this SEPP will apply to the majority of land with potential to be developed in NSW. The clause above also refers to "minor subdivision within the meaning of the Environmental Planning and Assessment Regulation 2000, Clause 256I". This means that any subdivision that is not already exempt under the SEPP Exempt and Complying Development Codes (2008) is caught in this proposed Design and Place SEPP. This is absolute overreach, is unnecessary, and is likely to cause substantial delays and increased costs for all stakeholders, from developers to Councils and the NSW Government.

It is noted that "Clause 18 Design consideration — vibrant and affordable neighbourhoods" appears to aim for affordability, in a document that intends to increase the amount of legislation to deal with when developing land, restrict who is able to design development, and add layers of oversight. These goals are incompatible. If affordability is truly a goal, this document is absolutely the wrong way to go about achieving that goal.

Clause 35 explains that development consent must not be granted to development to which this Part applies unless a design review panel has reviewed the development. So, further to assessment by Council, a development is now subject to review by a "design review panel". This can only add time to the assessment process and increase costs on all stakeholders. The costs incurred during planning and assessment stages of development are passed directly on to future purchasers of the development.

Further, the need for a design review panel is questioned. Are local government not trusted to assess a development? Is this not one of their primary functions? Will local government assessors now have to second-guess everything they approve in case the design review panel has a differing opinion? The whole concept is flawed.

When examining the Design and Place SEPP Overview document, it is extremely disappointing to see that developments over 1000m² require a design verification statement, and that the qualified designers who are able to provide these design verification statements are:

- Landscape architect (registered with the Australian Institute of Landscape Architects) or
- landscape designer (8 years' experience)

Similarly with Urban Design Development, the requirement for a design verification statement for sites larger than 1 hectare to be prepared by:

- Urban designer with 5 years' experience in precinct or master planning

In checking the Draft Environmental Planning and Assessment Amendment (Design and Place) Regulation 2021, the definition of Urban Designer is as follows:

urban designer means the following—

- (a) a qualified town planner with at least 5 years' experience in precinct or master planning,
- (b) a landscape architect with at least 5 years' experience in precinct or master planning,
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This list of consultants is embarrassing. In general, town planners, landscape architects and architects are not trained in the myriad of fields required to design the urban environment in relation to layout of roads and proposed lots of land. For good future planning to occur, a designer must be trained in drainage design, sewer design, road design, terrestrial biodiversity, environmental factors including bushfire hazard, flooding, and much more.

The only consultants trained from university to deal with all aspects of land development are registered surveyors. The degree course in Australia is largely common with the Civil Engineering degree course but in addition, aspects of town planning are

included, as well as stormwater design. During the registration process, each registered surveyor is thoroughly tested in five aspects of development, including civil design and town planning, as well as in relation to definition of land boundaries. This comprehensive education makes registered surveyors the most qualified to provide practical urban design.

Since the colony of NSW was first established, surveyors have been the leaders in design for development in terms of road and lot layout. The first streets of most towns were surveyed in the 1800s, with subsequent development being driven by surveyors. Surveyors today have an extremely broad knowledge of development, and routinely prepare designs for developments that meet the requirements for Urban Design.

Registered surveyors employ their skills to prepare designs for development, being the most appropriate designer in most regional and rural areas.. Regional councils recognise the expertise of registered surveyors, and work with them to achieve strategic goals.

The omission of surveyors from the list of urban designers is indicative of several factors:

1. The submissions for the initial exhibition of this legislation were not taken into account with this draft.
2. The people preparing this legislation have very limited knowledge on who has the expertise when it comes to urban design.
3. Architects are better represented in Government than registered surveyors.

It is further disappointing that the "What We Heard" document noted this discrepancy:

Many in industry suggested that the proposed list of suitably qualified professionals may currently be too narrow, potentially excluding other experienced professionals, and should be expanded to include more such as building designers and land surveyors.

Clearly, this was not "heard".

In regional NSW, the definition for Urban Design will mean that small developments will now have to be verified by an Urban Designer – qualified town planner, landscape architect, or architect. A subdivision of 1 lot into 2 in an R5 Large Lot Residential zone, where two lots exceed 1 hectare will trigger this requirement. The assessment will then have to be examined by the design review panel, before eventually being approved or rejected.

In most regional and rural areas, architects have closed their books as they are already unable to meet demand for design of buildings. There are very few qualified and experienced town planners to meet the definition as described. Therefore, a small subdivision as described above is likely to introduce large delays, and substantial costs, to have an urban designer involved, before the application ever goes to Council. A likely outcome to minimise delays at this point is the "rubber stamping" of designs because of the limited number of those deemed qualified to sign off.

Once the application is with Council, there will be further delays caused by the design review panel. This adds one more layer of oversight which for smaller developments is certainly not warranted. A redesign of urban Sydney is one thing, but a small rural subdivision should not require this added bureaucracy.

The focus by this legislation on metropolitan areas has meant that regional and rural NSW has been ignored. There are limited numbers of consultants in regional and rural NSW. The draft SEPP is extremely likely to increase costs for developers, large and small. This is particularly unfair on small developers, who do not have the time or money to deal with this level of regulation.

Confining the list of approved designers to such a narrow scope will inhibit development at a time when regional areas sorely need it. Adding qualified and experienced designers such as registered surveyors to the approved list will assist in maintaining momentum, not stifling growth.

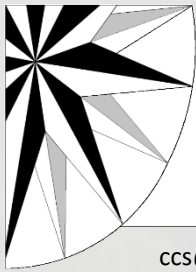
I look forward to seeing a revised version of the SEPP which considers the practicalities of development, the qualifications of those who design it, the level of oversight required, the impacts of increased regulation, and the impacts on regional and rural NSW.

If you have any queries please contact me.

Eric Smith
Registered Land Surveyor
Compass Consulting Surveyors

I agree to the above statement

Yes



COMPASS CONSULTING SURVEYORS

DIRECTION IN DEVELOPMENT

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3/204-206 Lords Place
PO Box 620
Orange NSW 2800
PH: 02 5339 4245

NSW Planning, Industry and Environment
GPO Box 39
Sydney NSW 2001

Uploaded via Planning Portal

To whom it may concern:

**RE: PROPOSED DESIGN AND PLACE
STATE ENVIRONMENTAL PLANNING POLICY
CALL FOR SUBMISSIONS
FEBRUARY 2022**

Compass Consulting Surveyors welcome the opportunity to provide comment on the proposed Design and Place State Environmental Planning Policy and its intended effect.

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I look forward to seeing a revised version of the SEPP which considers the practicalities of development, the qualifications of those who design it, the level of oversight required, the impacts of increased regulation, and the impacts on regional and rural NSW.

If you have any queries please contact me.

Eric Smith
Registered Land Surveyor
Compass Consulting Surveyors

Submitted on Fri, 25/02/2022 - 10:04

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Darren

Last name

Booth

I would like my submission to remain confidential

No

2 Info

Email

[HYPERLINK "mailto:president@countrysurveyors.com.au" president@countrysurveyors.com.au](mailto:president@countrysurveyors.com.au)

Suburb/Town & Postcode

2444

Please provide your view on the project

I object to it

Submission file

[ltr-dpie-20220218-enc 0.pdf](#)

Submission

Sirs,

On behalf of the Country Surveyors Association of NSW, please find herewith our submission providing objections part of the proposed policy and amendment regulation.

Yours Faithfully

Darren Booth

President

Country Surveyors Association of NSW

I agree to the above statement

Yes



President: **Darren Booth** Secretary: **Paul Mather**

Mailing Address PO Box 195, Adamstown NSW 2289
President Ph (02) 6884 1008 Secretary Ph (0417) 440 926
Email: secretary@countrysurveyors.com.au
Website: www.countrysurveyors.com.au

ABN: 229 693 296 03

18th February 2022

NSW Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Dear Sir

**RE: Proposed Design and Place SEPP 2022 and
Environmental Planning and Assessment Amendment
(Design and Place) Regulation 2021**

We refer to the subject draft Policy and Regulations.

The Country Surveyors Association of NSW (CSA NSW) represents privately practicing Registered Land Surveyors who specifically operate within regional NSW. Our membership is approximately one third the entire number of Registered Land Surveyors in NSW and are resident outside the Sydney Metropolitan area.

Whilst we as a professional association broadly support the objectives and aspirations of these documents to achieve better outcomes for the development of land and establish better livable developments by creating a sense of place within communities, our membership has expressed immense concerns with respect to aspects of the drafts.

Specifically, CSA NSW **objects** to the following:

- Definition of *Urban Designer* within the proposed regulation
- Definition of *Urban Design Development* and area/s of application

DEFINITION OF URBAN DESIGNER

CSA NSW wishes to express its absolute objection to the proposed definition of an Urban Designer.

Surveyors in NSW have historically been the primary land development professionals since the establishment of the colony. As exploration expanded further into the regional areas and the issue of Grants of Land by the Crown to freeholders accelerated, surveyors were charged with the task of establishing sites for, and the setting out towns and villages across NSW.

While there have been various licensing schemes adopted by the Crown in the past, the NSW Surveying Act 1929 formalised the registration of Land Surveyors and established the requirements for achieving registration. This established a state-based register administered and regulated by the NSW Board of Surveyors, now NSW Board of Surveying and Spatial Information (BoSSI). BoSSI is chaired by the NSW Surveyor-General.

For a surveyor to achieve a certificate of competency issued by BoSSI and thus become eligible to be placed on the Register, candidates require:

1. a bachelor's degree conferred for a university course approved by BoSSI,
2. to record the necessary minimum practical experience as set out by the board and under the supervision of an existing Registered Surveyor, and
3. to then be deemed competent by BoSSI on successful completion of examinations in five areas which include cadastral surveys, civil engineering, and town planning.

Not only do these competencies reflect university course content, but they also reflect the typical and traditional areas of professional operation of Registered Land Surveyors across all of NSW.

It is critical for the reader to understand the competencies examined by BoSSI are all integral in the Land Development process. Town Planners and Architects DO NOT possess the same broad understanding, education, skills, and expertise in all aspects of the Land development process as does a Registered Land Surveyor. Their tertiary courses and registration processes do not examine cadastral and engineering competence.

Architects, by definition, are about designing the built environment, specifically buildings and their immediate surrounds. They are not experts in land boundaries, civil engineering standards and specifications or subdivision types which are all critical to achieving a development proposal that will ultimately work on the ground.

For the edification of the reader, we annex to our submission an excerpt from the relevant BoSSI determination detailing the boards expectations and requirements for being deemed competent in Town Planning. Please note the Development scales stipulated by BoSSI in addition to the competencies assessed and required deliverables. In addition, we enclose historical correspondence and circular from the minister for local government dated 1993 which acknowledges the skills of Registered Land Surveyors with respect to land development.

The narrow definition contained within the draft is likely to have detrimental effect on the success of regional development across the state. The communities in more remote areas of the state will not be able to access those professionals contained within the current proposed definition. There is a distinct lack of such persons in the regions of NSW. It is anticipated the cost of development proposals will increase as a result and in an inevitable anti-competitive environment such costs will ultimately impact the end users of the planning system being "mums and dads".

We refer to the parts of the definition requiring five years' experience in master planning and note a conventional subdivision of five hectares into two lots DOES NOT require a party to be experienced in master planning. Registered Land Surveyors in NSW are consistently coordinating and preparing development proposals for subdivisions ranging from two to two hundred lots and many have been doing so for over twenty years.

The regional Registered Land Surveyor understands the expectations of regional communities and councils, regional market forces and economies and as such are best placed to be lead consultants in the development of land in those areas.

CSA NSW has attended the various consultation forums hosted by the department in the lead up to release of the current draft documents and through that process received acknowledgement and assurances Registered Land Surveyors would not be excluded from the policy and Regulations.

We refer to the Department's document "What We Heard" dated July 2021; the relevant excerpts also enclosed herewith.

Former Minister Stokes states in his foreword a need to "... recognise our most experienced built environment professionals across a range of skills." Further on page 21 of the document; *"Many in industry suggested that the proposed list of suitably qualified professionals may currently be too narrow, potentially excluding other experienced professionals, and should be expanded to include more such as building designers and **land surveyors.**"*

We are disappointed with what appears to be a blatant backflip in this regard. Some of our members have formed a cynical view that this policy is being driven by the NSW Government Architect specifically to exclude other land development professionals in favour of architects and go further to suggest there being some form of collusion.

We urge and encourage the Department to undertake some self-examination to ensure the definition of an urban designer contained within the Amendment Regulation as currently drafted does not constitute a **restraint of trade** under the Federal Competition and Consumer Act 2010. The definition of an urban designer as written will without doubt have detrimental impacts on long established regional surveying practices operating in the planning and land development environment.

We further encourage your careful review of the historical 1993 local government circular we have enclosed with respect to restraint of trade, recognition of equivalent qualifications, not disadvantaging a person who is competent and the endorsement of that circular by the Department of Planning at the time.

On this basis we respectfully insist the definition of an Urban Designer be broadened to be inclusive of NSW Registered Land Surveyors and that no limitation on length or scale of experience be applicable based on the BoSSI regulated process for being deemed competent and therefore eligible for Registration as a surveyor.

DEFINITION OF URBAN DESIGN DEVELOPMENT AND AREA OF APPLICATION

CSA NSW raised with the Department during the initial consultation phases concerns regarding the development scales originally proposed (Significant, Precinct & Other) expressing that the thresholds were too low. They included a subdivision of greater than 50 lots and a site 4 ha or more bounded by existing roads.

The current proposal is now even more onerous at 1ha and we strongly object to that threshold.

Further, the proposed exclusions to the areas of operation being limited to land use zones you can't already develop implies there are no exclusions.

The 1ha threshold therefore captures the most insignificant scales of land development into an already burdensome planning system.

Again, we refer to former Minister Stokes foreword within “What We Heard” where he proposes “... *increasing the threshold of 50 lots.*” This is yet another disappointing backflip by the Department by imposing a severely lower threshold.

The simple example of a subdivision proposal of 5ha into 2 lots previously referred to does not require:

1. Overseeing by a person required to possess master planning experience.
2. A design verification statement.
3. Referral to a design review panel.

All that is required is for a development proposal is to demonstrate compliance with the Local Environment Plan and Development Control Plan applicable to the site of the proposal.

The introduction of the NSW Planning Portal has already caused backlogs and delays at local government level. A proposal to introduce yet another step in the planning process by referring insignificant development proposals to a Design Review Panel which, while still requiring a development application, demonstrate compliance with relevant planning requirements is unnecessary.

Many regional councils are already under resourced and lack staff with technical expertise.

CSA NSW highlighted to the department during early phases of consultation that the development of this policy proposal was evidently metro-centric in its construction. We request the Department acknowledge styles and scales of development in regional areas are not at the same levels as within the Greater Sydney Metropolitan Area and in addition goes further to rectify the non-delineation the Department itself recognised. You will not see an Oran Park or Barangaroo style and scale of development in regional NSW.

The Department identified a need for “Metro and regional differentiation” (What We Heard – p22 and p8) but has seemingly failed to establish any form of distinction.

To this end we propose removing the 1ha threshold altogether, particularly for regional NSW, or significantly increasing the threshold in terms of capital investment so as not to further clog the planning process in regional local government areas.

Further, we propose the definition of urban design development be more explicit with respect to the style and scale of development the policy is intended to capture and provide a detailed list of development types excluded from the definition.

Finally, we suggest the list of land use zones proposed to be excluded also be expanded to encourage and permit development types more common in regional and rural areas to be assessed without the requirements for design verification and review.

Ideally however we would prefer the whole policy to be shelved in perpetuity so the people who reside in the regional communities where developments are proposed, and their councils, can decide on the appropriateness of a proposal for their community.

We are grateful for the opportunity to provide further input into the development of the proposed planning policy and, if adopted, look forward to the ultimate policy being more inclusive of experienced land development professionals like Registered Land Surveyors and being less onerous on regional and rural NSW in terms the planning process.

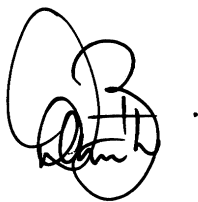
In summary the views of CSA NSW with respect to the Draft documents are:

- The draft SEPP and Amendment Regulation fails with respect to concerns identified by the Department itself within early consultation documents,
- The definition of an urban designer is too narrow, would constitute a restraint of trade under federal legislation by the exclusion of other suitably qualified professionals,
- The definition of an urban designer currently identifies qualifications for a limited number of persons particularly in regional areas which would ultimately stifle much needed development in regional NSW due the inability of these persons to service the regions,
- The proposed definition of an urban designer establishes the need for master planning experience to “design” the most insignificant of developments such as minor subdivisions over the 1ha threshold and is completely unnecessary,
- The Draft SEPP fails to acknowledge the different styles and scales of development within regions by imposing the same 1ha threshold and limited exclusions statewide despite this being an earlier concern of the Department,
- The 1ha threshold is far too low and contradicts the Departments and former Ministers previously printed comments and concerns,
- The implementation of both SEPP and Amendment Regulation in its current form will do nothing but increase cost and delay to end users of the system and place undue increased burden on already under resourced regional councils,
- The documents are nothing but policy written by Architects for Architects and for gaining advantage at the expense of others in an anti-competitive manner and by deception.

Should you require any further clarification on the matters raised, specifically with regards the education, training, and qualifications of NSW Registered Land Surveyors, please do not hesitate to contact the undersigned.

Yours faithfully

Country Surveyors Association of NSW



Darren Booth
B.Surv UoN MIS MSSSI MCSA
President
Country Surveyors Association of NSW
Registered Land Surveyor

Enc:

1. *Correspondence - Minister for Local Government 1993 and Director Generals circular*
2. *BoSSI Determination 2021 – Board Examinations – s9.1 “Town Planning Project”*
3. *What We Heard – Department of Planning Industry and environment – July 2021*



MO 10620/10693

NEW SOUTH WALES
MINISTER FOR LOCAL GOVERNMENT &
MINISTER FOR CO-OPERATIVES

02 MAR 1993

Mr D Loomes
President
Association of Consulting Surveyors
New South Wales Incorporated
363 Pitt Street
SYDNEY 2000

Dear Mr Loomes,

I am pleased to be able to provide you with a copy of a circular issued to all councils in New South Wales by the Director-General of my Department concerning the specification of professional qualifications in subdivision codes and approvals.

This circular No. 93/7, which has my full approval also has the support of the Departments of Planning and Conservation and Land Management. The purpose of issuing a circular on this matter is to ensure that councils give adequate consideration to the consequences of conditions of approval which require work to be carried out or certified by members of a particular professional association or by persons with a particular professional qualification.

I trust that this circular will alleviate the impasse that has developed between Registered Surveyors and some councils in New South Wales concerning competent professionals to undertake subdivision design works.

Yours sincerely,

G B PEACOCKE

Contact:

Phone No:

Leeann Simpson

793 0665

SPECIFICATION OF PROFESSIONAL QUALIFICATIONS IN SUBDIVISION CODES AND APPROVALS

In order to ensure that subdivision and other council approved works are properly constructed it is sometimes necessary to require work to be designed, carried out or certified by a person with specified skills and qualifications.

The need for care in drafting such codes and conditions has been raised in submissions by the NSW Institute of Surveyors who are concerned that if such requirements are narrowly drafted they can have the effect of excluding some qualified service providers and may be, in effect, a restraint of trade.

The Institute is concerned at a trend by councils to exclude surveyors from responsibility for the engineering component of subdivision works.

The Department's enquiries confirm that in qualifying to practice as a civil engineer or a surveyor in NSW students undertake similar strands of study and practice in soil mechanics, roadworks, drainage and allied topics in urban and rural subdivision design and supervision. At the Universities of Newcastle and New South Wales the bachelor degree programs in surveying and in civil engineering provide joint classes in these subjects. Practical competence in subdivision engineering is a condition of registration by the Board of Surveyors.

Clearly many Registered Surveyors do have appropriate qualifications, competence and experience in subdivision engineering design and may be unreasonably excluded from practice in cases where general engineering skills are adequate by a requirement that design and certification of subdivision works must be done by a "Professional Engineer" rather than a "Surveyor".

The apparent trend for councils to insist on a professional engineer's certificate for all subdivision works could eventually exclude surveyors from providing the comprehensive site planning, engineering design and cadastral service which has been a traditional responsibility of surveyors in NSW and which may in many cases be the most appropriate, practical and efficient way of providing professional advice to subdivision clients and assuring the quality of work.

Department of Local Government
& Co-operatives

GPO 72 Rickard Road, Bankstown, NSW 2200
Locked Bag 1500, Bankstown, NSW 2200
Tel: (02) 793 0793 Fax: (02) 793 0799

Councils are requested to consider such impacts when drafting codes and conditions which require the certification of work by a person with specified skills and qualifications. As far as possible the terms of councils codes and conditions should recognise equivalent qualifications and should neither advantage nor disadvantage a person in access to work which is otherwise within the scope of their individual competence and qualifications.

A handwritten signature in black ink, consisting of a large, stylized 'G' followed by a horizontal line and a small flourish.

GARRY PAYNE,
Director General.



**Board of Surveying
& Spatial Information**

Determination – Board Examinations

April 2021

Edition 2

9.1. Town Planning Project

The assessment process involves the presentation of a Town Planning project at the viva voce exam. The project allows the candidate to demonstrate competence in town planning, land development, subdivision design and the relevant legislation that is encountered when undertaking these activities.

Candidates must also demonstrate that the proposal complies with the relevant planning controls and appropriately addresses the natural and man-made attributes of the site and reflects current commercial and social expectations for such a proposal.

Guidelines for the size and scope of suitable projects

The project will involve preparing a proposal for a significantly large development in an urban, rural or industrial area which meets the provisions of the relevant planning instruments and other planning requirements. Ideally the project will be one on which the candidate has had some professional involvement whilst undertaking their practical experience.

A project of suitable complexity will generally assist the candidate to demonstrate competence, thus avoiding the need for assessors to also rely on questions of a more general nature.

As a guide the following subdivisions sizes are considered suitable:

- Conventional residential subdivision 20 hectares or 50 lots
- Rural subdivision 50 hectares or 20 lots
- Industrial subdivision 20 hectares or 20 lots.

A 'hypothetical' project may be prepared, but candidates must visit the site and document their investigations with photos and notes. Candidates should discuss this project with their mentoring surveyor and other professionals, and also note these discussions, along with any comments. Candidates should seek relevant data from councils and government agencies for their project.

Project design work

For each type of subdivision, the candidate must:

- undertake and document a site inspection with photos and notes
- obtain relevant planning requirements from the consent authority
- obtain copies of relevant planning instruments
- obtain copies of relevant topographic and planning constraints mapping
- obtain specialist reports
- undertake a site analysis, road and lot layout design
- prepare relevant plans as required by the consent authority
- prepare concept cut/fill, drainage, service & landscaping plans
- complete a development application form
- prepare a statement of environmental effects
- undertake a detailed cost analysis and report on the economic feasibility

Competencies

Candidates must demonstrate competence in the following topics, amongst other things:

- legal framework and hierarchy of planning instruments
- development application and approval process (including NSW Planning Portal)
- consent authority standards
- principles of subdivision design
- environmental considerations
- appreciation of site features, opportunities and constraints
- design and document preparation
- cost estimate and economic feasibility
- preparation of a planning report
- working with specialist consultants
- communication with stakeholders and authorities
- development application
- project management
- *Work Health and Safety Act 2011*
- ethics and professional conduct
- spatial information competencies (Appendix B) as may be related to town planning including
 - Point of truth
 - Fitness for purpose
 - Flow of data through a project
 - Metadata
 - NSW Spatial Information Management framework
 - Digital cadastres

Deliverables

For each type of Town Planning Project, the candidate must bring the following documents to the exam:

- Copy of the titles for the relevant parcels of land
- two A3 size copies of the development proposal plans
- one copy of the applicable Local Environmental Plan together with one copy of any applicable Development Control Plans
- list of the current State Environmental Planning policies that apply to the development site
- copy of any other relevant reference documentation, such as external consultant studies undertaken over the site
- evidence of site visit
- two copies of the Statement of Environmental Effects meeting the requirements of the *Environmental Planning and Assessment Act 1979*

- two copies of the completed Development Application form template provided by BOSSI
- two copies of the detailed cost analysis to establish the projects feasibility
- two copies of a letter/report to the client detailing the economic feasibility
- metadata statements for at least 5 sourced data sets (see Appendix A for a metadata statement template)
- working drawings to demonstrate the process resulting in the adopted lot and road layout
- one electronic copy of the submitted project as per the requirements outlined in Section 9.

The project must be presented as if it would be lodged at the consent authority for development consent. Plans must be at an appropriate size and scale to be legible.

9.2. Engineering Design Project

The assessment process involves the presentation of an Engineering project at the viva voce exam. The project allows the candidate to demonstrate competence in Engineering design, storm water drainage design, tender preparation and construction management.

Guidelines for the size and scope of suitable projects

The prepared plans and documentation will normally consist of a road, or other major structure that includes storm water design, together with documents for tender and construction. Ideally the project will be one on which the candidate has had some professional involvement whilst undertaking their practical experience.

A project of suitable complexity will generally assist the candidate to demonstrate competence, thus avoiding the need for assessors to also rely on questions of a more general nature.

As a guide the following minimum sized engineering projects are considered suitable:

- Residential subdivision of 20 lots and 250 m of road incorporating the design of:
 - a) two roads incorporating six vertical curves
 - b) connection to an existing road
 - c) any battle axe driveways that are part of the project
 - d) one intersection
 - e) three kerb returns
 - f) hydrology and hydraulics for storm water drainage of three pipe lines, 10 pits, upstream catchment and downstream discharge minor and major storm events
- Rural Subdivision of 500 m of new road incorporating the design of:
 - a) connection to existing road
 - b) two horizontal curves with super-elevation
 - c) three vertical curves
 - d) design speed compliance
 - e) any battle axe driveways that are part of the project
 - f) hydrology and hydraulics for three storm water pipe lines and culverts for two catchments for the minor and major storm events

SUBMISSION REPORT – JULY 2021

What we heard

Design and Place SEPP
Explanation of intended effect

Minister's foreword

Great design is everyone's business. It supports safer, healthier and inclusive communities and is fundamental to achieving a more sustainable and prosperous future.

The Design and Place State Environmental Planning Policy (SEPP) aims to put great places and great design at the heart of the planning process.



It will help us design for the future, enable our cities and towns to develop sustainably and adapt to new technologies. While the policy is still in draft, my intention is that when finalised it will help deliver the developments our communities need, in the places they want to live, work and play. It will also set clearer benchmarks for development, leading to more predictable, simpler and clearer approval pathways.

The Explanation of Intended Effect (EIE), on exhibition from February to April, provided the opportunity to get your feedback on the proposed policy. While there was strong support for the principles and ambitions of the policy, there were some concerns about implementation.

We've heard consistently that you want to ensure housing in NSW is not only affordable, but homes are built to support your needs in the long term. The *Design and Place SEPP* aims to set a better benchmark for development across NSW, while the revised Apartment Design Guide supports innovation through flexibility.

What this means is better amenity in the places we live and work, housing diversity, creating cooler and greener urban environments and new vibrant streets and public spaces.

While some support certain elements of the policy, or may like it to go even further, others have expressed concern with the potential impacts on housing affordability and project feasibility. We believe that we can do both – support good design and investment.

To address these concerns, I have asked the Government Architect to continue working with you and develop solutions with councils, industry and peak bodies. I have asked the Department of Planning, Industry and Environment to immediately undertake the following:

- 1. Undertake rigorous cost benefit modelling for the SEPP and supporting guides** in collaboration with the Productivity Commission to ensure we have a full picture of the impacts on development feasibility and make sure these impacts are limited. This modelling must include rigorous testing across a range of scenarios, and measure the economic, environmental, cultural and social costs and benefits of the proposal over the short and long term. The results must also be shared in the public domain when finalised.
- 2. Set clear environmental sustainability targets** and measures that support NSW Government's net zero ambitions. These measures must be able to be applied easily

and consistently and enhance, not undermine, prosperity and quality of life while supporting the acceleration of innovative technologies and best practice.

3. **Clarify the appropriate qualifications and design skills** as outlined in the SEPP to consider consistency with the *Building Practitioners Act* and recognise our most experienced built environment professionals across a range of skills.
4. **Establish clear definitions for precinct thresholds** relative to location, density, and scale. These must be flexible enough to be able to apply a place-based approach to development and decisions. This includes increasing the threshold of 50 lots.
5. **Develop streamlined and consistent processes for design review** to ensure design panels facilitate good and innovative design rather than acting as a bureaucratic hurdle, and continue to engage with stakeholders to provide greater certainty on the format, more predictable timeframes for approvals and greater consistency in local design review panels.
6. **Draft the SEPP to require the flexible application of the revised Apartment Design Guide** and provide more clear and effective guidance to support better and innovative outcomes. We must ensure diversity, quality, affordability and amenity in design outcomes, and that better design leads to faster approvals.
7. **Prioritise consolidating and streamlining policies and guidelines** as part of the integration of the SEPP into the planning process.

In addition to the above, to provide certainty for projects already in the pipeline and continue to support investment, I can confirm that the *Design and Place SEPP* will not apply to proposals that have consent to build, have approval for a stage 1 concept DA, or have been issued with gateway. These savings provisions will ensure the SEPP's impact on approved envelopes is minimised, as well as encouraging proponents to take up the approvals. I also wish to reiterate that the draft policy cannot influence the assessment of any DA that is lodged prior to the SEPP coming into effect.

I am committed to successfully delivering this *Design and Place SEPP* to address the needs of our communities across NSW in a form that responds to the issues you have raised. The SEPP will be introduced through a careful process of transition to ensure that the principles are applied in such a way as to provide confidence, ensuring when it is released, the draft *Design and Place SEPP* will be a welcome change.

Rob Stokes

Minister for Planning and Public Spaces



Overarching perspectives

Aspects of the proposed *Design and Place SEPP* that we heard you broadly support:

- We want strong principles that prioritise peoples' health and wellbeing in the design of our cities, towns and streets
- We want to prioritise public space to promote inclusive, greener and healthier places
- The ambition to streamline and reduce complexity in the planning system
- Prioritising precinct-scale planning to ensure we get the basic elements of a great place right
- Updating BASIX requirements so they are fit for purpose and reflect contemporary targets
- Strengthening sustainability objectives to align with the NSW Government's commitment to net zero
- Recognising and celebrating Aboriginal culture and heritage, starting with Country to support the health and wellbeing of all of us
- Embracing flexibility to enable innovation and achieve the best possible design outcomes
- Updating requirements for design skills to ensure that good design is available to everyone.

Some of the concerns and issues we have heard that we need to work through in partnership with local government, industry and the community include:

- The potential for added costs of development, impacting housing affordability
- We need to clarify the role of Design Review at state and local levels to ensure consistency and good value
- **We need to review precinct thresholds and development scales, and differentiate metro and regional areas to ensure relevance to varying contexts**
- We need to analyse the impacts of removing standards as part of a principle-based approach so that we can address:
 - Potential for increased ambiguity
 - Potential for 'trade-offs' and allowing too much discretion in design - potentially resulting in reduced quality and outcomes
 - Potential for a 'building-first' perspective, with too much emphasis on process rather than outcomes of good design
- Risk of legal enforcement challenges in defending principle-based compliance, and/or increased appeals.

As well as outlining aspects that were supported or those that raised concern, many submissions suggested ways to achieve the overall intent of the SEPP via alternative solutions. More detail on the intent and interpretation of the principles, including metrics to measure successful delivery was suggested as a way to manage some of these risks and to clarify the outcomes sought. Some of you suggested giving the principles statutory weighting to support enforcement.

DESIGN REVIEW

How can design review be improved and better integrated in the assessment pathway to ensure it adds value? This relates to developing a consistent terms of reference for all Design Review Panels (DRPs); alignment with the ADG; reviewing relevant design review thresholds; typologies; project stage; accreditation of panellists; state and local panels; quality, consistency and authority of advice.

DESIGN SKILLS

Are there opportunities to include a wider range of accreditation and skills that currently practice within the built environment industry, and will there be support for growing the skill sets of assessing officers? This relates to the proposed requirements for accredited design professionals for certain scales of development, as well as concerns about the capacity of councils to adapt to new principles-based assessment.

METRO AND REGIONAL DIFFERENTIATION

How will the SEPP accommodate different development contexts (e.g. metro and regional, inner city and suburban or greenfield)? This includes the EIE's proposed development definitions, particularly precinct thresholds and scales, density targets and urban land definition.

HIERARCHY OF INSTRUMENTS

How will the hierarchy of the proposed SEPP be clarified? This includes interaction with other SEPPs (e.g. Growth Centres and Greenfield Code); interaction with Local Environmental Plans (LEPs), Development Control Plans (DCPs), the role of supporting guidance; interaction with other legislation (e.g. Cultural Heritage).

CONNECTING WITH COUNTRY

How will contemporary practice of living culture be reflected as well as cultural heritage? How will industry and government be supported to improve processes and protocols for more meaningful and appropriate engagement with Aboriginal people? How will Aboriginal communities be supported to respond to increased requirements for participation in planning, design and delivery of projects?

Design skills

The EIE introduces an emphasis on good design process, including an emphasis on skills and design review.

It sets out a proposal for certain types of development to be designed by suitably qualified design professionals – defined by clause 50 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation).

We heard clear concern about the proposed introduction of this requirement beyond its current inclusion in existing SEPPs from local and state government, industry and peak bodies. Many in industry suggested that the proposed list of suitably qualified professionals may currently be too narrow, potentially excluding other experienced professionals, and should be expanded to include more such as building designers and land surveyors.

Some of you made recommendations that design skills be required in planning authority assessment teams. A small number of local government submissions noted that while the requirements for suitably qualified professionals were supported, they do not necessarily guarantee better design outcomes – stressing an emphasis on outcomes not process is required.

Several local government submissions raised concerns about the resourcing required to provide good development assessment services under the *Design and Place SEPP*. They also stressed the potential for increased regulatory burden.

“Recognise registered planners with suitable experience as ‘qualified designers’ for the purposes of master planning and urban design under the Design and Place SEPP.”

PLANNING INSTITUTE OF AUSTRALIA

What we need to consider

- Include wider range of accreditation and skills in the design process, and expand the definition of suitably qualified professionals
- Opportunities to provide support for assessment and local officer skill sets through training and education.

“While Council is supportive of a planning system that encourages innovation... Significant resourcing into professional development will need to be provided for both development assessment and strategic planning officers, should the proposed SEPP be implemented.”

LIVERPOOL CITY COUNCIL

Metro and regional differentiation

While the EIE notes that metro and regional differentiation will be further defined in development of the *Design and Place SEPP*, we heard the need for further clarity on what land and development types the *Design and Place SEPP* will apply to.

Requests for clarification included:

- The definition of ‘urban lands’, the differentiation between urban (including infill), and non-urban (including greenfield) development contexts and how the SEPP will apply in the context of rural land
- The status of coverage of state significant development areas containing environmental sensitive land, for example bushfire buffers, environmental corridors and drainage corridors
- The characteristics of various development types.

There was support from some of you for the new *Design and Place SEPP* to be broadened to apply to all types of land and developments. However, submissions also included suggestions that, where this might occur, requirements be differentiated for regional, rural and urban lands, to reflect the different contexts for development.

“We support, in principle, the aims of the Design and Place SEPP to improve the design quality and performance of development across the state, however are concerned that a one size fits all policy may hinder Council’s ability to tailor controls to reflect issues that are important to the local community.”

BLACKTOWN CITY COUNCIL

“The Institute supports a rational linear-based planning system, where good strategic planning underpins development controls that can lead to predictable outcomes for development assessment.”

AUSTRALIAN INSTITUTE OF ARCHITECTS

What we need to consider

- Developing clearer definition of the land, development types, and development scales to which the SEPP will apply
- How the SEPP will relate to non-urban or rural contexts
- Refining the definitions of ‘precincts’ and ‘significant development’ to ensure the proposed scale is reasonable in terms of the location and function of those developments which are captured.



Newcastle foreshore

Submitted on Mon, 28/02/2022 - 17:47

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Warren

Last name

Stewart

I would like my submission to remain confidential

No

2 Info

Email

[HYPERLINK "mailto:wstewart@csr.com.au" wstewart@csr.com.au](mailto:wstewart@csr.com.au)

Suburb/Town & Postcode

North Ryde

Please provide your view on the project

I object to it

Submission file

[csr-building-products-submission---dp-sepp-2021.pdf](#)

Submission

Objection to the use of Hybrid Analysis (HA) embodied carbon analysis methodologies - Please see attached file

I agree to the above statement

Yes

CSR BRADFORD

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T 61 2 9235 8000
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Design and Place SEPP 2021 Consultation

Submitted by:

Warren Stewart

Head of Product Development – CSR Masonry & Insulation (Bradford)

Email: wstewart@csr.com.au

February 2022

Feedback

CSR Building Products (CSR) makes the following response to the Design and Place SEPP 2021 consultation in support of comment submitted by the Building Products Industry Council of Australia (BPIC).

On Page 10 of the Sustainability in Residential Buildings (BASIX Overview) document, reference is made to the following: *“Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.”*

In December 2021, BPIC wrote to the NSW Minister for Planning and Public Spaces - Minister Stokes - detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government.

Principally these concerns related to the NSW Government's contemplation of the use of Hybrid Analysis (HA) embodied carbon analysis methodologies, such as contained in the EPiC database produced by the University of Melbourne. It is BPIC's belief that the use of this methodology is inappropriate in individual embodied carbon studies of buildings and is going to cause the entire building product sector a great deal of problems.

Results from the EPiC database give inconsistent and much higher values compared to the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered Environmental Product Declarations (EPDs).

Use of HA (EPiC) might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - it is not intended for individual product or project based environmental impact assessments.

The use of EPiC approach rather than process based EPD information for building products within schemes like BASIX will have disastrous unintended consequences, such as:

- Preferentially advantaging imported products (which come with process methodology credentials based on EPDs and ISO standards) over local Australian products (which will have significantly higher EPiC credentials that are not based on EPDs and ISO standards).
- If adopted widely, the Input/Output Hybrid (I/O H) based data, such as EPiC data will greatly over-report NSW's embodied carbon figures for building products:
 - For softwood timber the EPiC value of Greenhouse Gas Emissions is 549 kgCO₂e/m³ compared to 181 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation. That is 3 times the amount of embodied carbon that NSW would have to report compared to other Australian and overseas jurisdictions.
 - For plasterboard the EPiC value of embodied energy is 0.44 kgCO₂e/kg compared to 0.096 kgCO₂e/kg using the internationally agreed EPD-backed process method of calculation. That is 4.6 times the amount of embodied carbon that NSW would have to report compared to other Australian and overseas jurisdictions.
- Invalidating all the work and the multi-millions of dollars of investment that building product suppliers have expended to comply with international carbon measurement standards and to develop EPDs.

Hybrid Analysis (HA) embodied carbon analysis methodologies like EPiC, load up, or burden, embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer. As a result, EPiC creates a strong disincentive for manufacturers to improve their performance. Because no matter what they might achieve, the externalities employed in the EPiC methodology will always punish them. And since EPiC methodologies are black box arrangements using hidden and proprietary algorithms, and not independently verified, there is no way for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes through other means.

Therefore, BPIC requests that the NSW Government and the BASIX administrator in particular, cease contemplation of the inappropriate use of the EPiC system and instead adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered Environmental Product Declarations (EPDs).

Dear NSW Department of Planning, Industry and Environment,

I am writing on behalf of CSR Limited to provide submission in response to the draft *State Environmental Planning Policy (Design and Place) 2021* (DP SEPP) and supporting guides as a part of the broader review of all SEPPs.

Overall, these proposed policy changes by the NSW government are welcome developments that take us in the right direction. The only opposition we like to put is to the **amendments to limit solar absorptance** in the following instruments:

- Part 3 Housing Code
- Part 3A Rural Housing Code
- Part 3B Low Rise Housing Diversity Code
- Part 3C Greenfield Housing Code
- Part 3D Inland Housing Code
- Part 5A Commercial and Industrial (New Buildings and Additions) Code.
- The future clause of Standard Instrument LEP

CSR do not support limiting Solar Absorptance (SA) proposed under **A.5 Amendments to other instruments**. We request the Department to take the below into consideration:

1. Adopting a more comprehensive measure

Research has shown that solar absorptance values are not a true representation of a material's effect to urban heat impact (UHI) as it only considers colour, omitting material properties e.g. corrugated surface, thermal emittance, thermal conductivity, thermal mass. Colour only plays a small role in determine the proportion of the incident solar radiation, and not the main influencer of heat generation.

From [A roof over your head: Choosing the right roofing materials - Renew](#) : "Dark colours are believed to attract greater heat but the difference in heat to a light coloured roof is thought to be *minimal*." In fact, from [Effects of Urban Surfaces and White Roofs on Global and Regional Climate \(stanford.edu\)](#), which supported by NASA and the US EPA , **white coatings can only cool roofs locally but adversely contributes to global warming**: "Local ground cooling stabilized surface air, reducing sensible and latent heat fluxes and local cloudiness, increasing local surface solar radiation, resulting in local cooling smaller in magnitude than without the cloud reduction"; "The local cooling due to white roofs may reduce or increase energy demand and thus other emissions as well".

Solar Reflective Index (SRI), determined through ASTM E1980, is an alternative measure that has been recognised internationally. This measure is also adopted by [the Green Building Council of Australia for assessing the Urban Heat Island Effect credit criteria](#) which calculates both the materials` emittance values and total solar reflectance value.

We recommend greater emphasis being placed on the SRI rather than the SA for evaluating a roofing/ facade material's contribution in creating an effect to its surrounding environments.

2. More nuanced requirement to encourage passive design

Factors that could greatly affect dwelling's overall thermal performance and contribution to UHI e.g. roofing ventilation and slope, is recommended to be considered when setting the development standard. A pitched roof in natural provides better ventilation, greater energy efficiency and less contribution to UHI.

The Australian Building Codes Board (ABCB) is planning to introduce in NCC 2022 more refined requirement scheme including assessment on **thermal bridging effect**, and more nuanced thermal requirement in consideration of **thermal mass, roof pitch, roof ventilation and location of insulation**. By acknowledging the benefit through passive design, the legislation is fair to all industries and not overkill.

A number of environmental authorities recognise the largely varied performance between low-sloped and steep-sloped roofs in their effect to UHI:

Leadership in Energy and Environmental Design (LEED) certifies for:

- Low Slope: Aged roofing with min. SRI 64/ New roof with SRI 82
- Steep slope: Aged roofing with min. SRI 32/ New roof with SRI 39

The **Green Star rating (Green Building Council Credit Scheme)** requires:

- For roof pitched < 15°: a three year SRI of min. 64; or
- For roof pitched > 15°: a three year SRI of min. 34.

ENERGY STAR program also adopts significantly different criteria for low-sloped versus steep-sloped roof products:

Type of Roof Product	Initial Solar Reflectance		Maintenance of Solar Reflectance*	
	Standard	Test Methods	Standard	Test Methods
Low-sloped	65% or higher	ASTM E 903 or ASTM C 1549**	50% or higher	ASTM E 1918 or ASTM C 1549
Steep-sloped	25% or higher	ASTM E 903 or ASTM C 1549**	15% or higher	ASTM C 1549

[Ref: [Reducing Urban Heat Islands: Compendium of Strategies](#)]

We hence strongly recommend the Department to consider adopting a rating system that **sets different SRI requirement on low-sloped and steep-sloped roofs, such as the LEED or Green Building Council Credit Scheme**.

3. PV panel on dark roofs

We are supportive to **B.3 Sustainability and Ambition, to develop sustainably and adapt to new technology** – to foster new and emerging markets, businesses, jobs, and economic prosperity, and to enable the transition to net zero in the built environment.

Technologies that can largely mitigate the UHI is proposed to be considered. The combined effect of many rooftop solar deployments can reduce the urban heat island effect by help keeping not just homes but entire cities cooler. Whilst solar photovoltaic system (PV) panels are in general in dark colours, the solar energy absorbed do not add extra burden to urban temperature but transferred to an energy that can save energy consumption and GHG emission; which both contributes to the UHI effect. However, it is not clearly identified under A.5 for whether dark coloured PV roofing are still allowed under the limitation on dark roofs.

Aesthetically, incorporate PV panels on dark roofs makes them less noticeable and achieves better appearance and design outcome. As such, **the SA restrictions should not be applied to solar panels. Dark roofs are recommended to still be allowed when solar PV are installed; or if the overall project sustainability demand is otherwise met.**

4. Design flexibility

Consent authorities are required by the DP SEPP to evaluate flexibility of design, and to consider reasonable alternative solutions to design criteria and/or design guidance that meet the objectives.

The A.5 proposal contradicts to the key design principles of the policy package of:

- Deliver beauty and amenity; and
- Deliver resilient and diverse places for enduring communities

It is not adequate to only allow darker coloured roofs be used in heritage-listed items and in cold climates. Prohibit the use of dark coloured roofing sets a limit to design flexibility and discourage diverse city culture development. For aesthetic reasons, bright white options are generally not marketable for steep-sloped roofs.

Dark coloured roofs are preferred by architects from market research, and require less maintenance and cleaning than light coloured roofs. Under [Economic Feasibility of Cleaning Roofs to Maintain Reflectance Ratings \(coolroofs.org\)](https://coolroofs.org/): *“Another important factor is the “cost” of cleaning the roof, which must take into consideration the potential negative effect that it has on roof life (roof damage) and on the environment (due to run off of cleaning chemicals.”; “There is a real probability*

that high-pressure-washing could damage membrane seams, remove protective surfacing material, or weaken roof/flashing junctions”.

As such, **alternative design solutions should still be allowed for roofs with solar absorptance (SA) > 0.7, if the overall sustainability performance of the project achieves a neutral or better design outcome.**

I hope this provides greater insight into the role of urban heat in the building industry, and if you'd like any of the research or supporting information to the content outlined in this letter, please feel free to get in touch.

Thanks for your consideration.

Kind regards,

Regards,

Cora Xu | Structural Engineer

CSR Limited – Masonry & Insulation

t +61 2 9964 1106 | e cxu@csr.com.au

Level 5, Trinité 3, 39 Delhi Road, North Ryde NSW 2113



Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 5:51 AM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021

Submitted on Mon, 28/02/2022 - 05:50

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Graham

Last name

Hunt

I would like my submission to remain confidential

No

Info

Email

graham@dhwdesign.com

Suburb/Town & Postcode

Marrickville 2204

Please provide your view on the project

I support it

Submission

Generally, we are supportive of the new DP SEPP. It has taken two successful policies - SEPP 64 and BASIX and now has included the concept of precinct planning which is long overdue. However, from an environmental planning point of view, the DP SEPP could be better on a broader holistic perspective if all of the different objectives were better integrated.

I agree to the above statement

Yes

Submitted on Wed, 23/02/2022 - 11:47

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Peta

Last name

Anderson

I would like my submission to remain confidential

No

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Suburb/Town & Postcode

3184

Please provide your view on the project

I am just providing comments

Submission file

[design-matters-national-submission-to-nsw-design-and-place-sepp_fnl.pdf](#)

Submission

Design Matters National submission to the draft State Environmental Planning Policy (Design and Place) 2021 (DP SEPP) which is on public exhibition until 28 February 2022.

We support the initiative to review and refresh the NSW Sustainability in Residential Buildings landscape, and our submission is specifically in relation to the Design and Place SEPP's 'Proposed changes to BASIX' and the introduction of an alternative merit assessment pathway (MAP) to demonstrate that a residential development has met the

NSW sustainability requirements.

I agree to the above statement

Yes

23 February 2022

Design and Place SEPP – Public Exhibition
NSW Department of Planning, Industry and Environment

Via online upload: designandplacesepp@planning.nsw.gov.au

Design Matters National submission to the draft State Environmental Planning Policy (Design and Place) 2021 (DP SEPP) which is on public exhibition until 28 February 2022.

On behalf of Design Matters National (DMN), I write to you with respect to the NSW Department of Planning, Industry and Environment's public exhibition of the *State Environmental Planning Policy (Design and Place) 2021 (DP SEPP)*. We support the initiative to review and refresh the NSW Sustainability in Residential Buildings landscape, and our submission is specifically in relation to the Design and Place SEPP's 'Proposed changes to BASIX' and the introduction of an alternative merit assessment pathway (MAP) to demonstrate that a residential development has met the NSW sustainability requirements.

Design Matters National are the peak body for NatHERS Accredited Thermal Performance Assessors (TPAs) and Building Designers in Australia. We are an independent, national member organisation with over 2000 members located across Australia. DMN exists to advance the interests of members, their professional standards and contemporary practice, and we are dedicated to broadening, building and embedding the appreciation of sustainable, thermally efficient design into contemporary Australian built environment and culture.

As the peak NatHERS Assessor Accrediting Organisation (AAO), DMN represents the largest body of NatHERS-accredited Thermal Performance Assessors and Building Design professionals across Australia. DMN advocates for continuous review, improvement and innovation in the energy efficient, environmentally sensitive, sustainably built environment industry.

DMN commends the NSW Government and the NSW Department of Planning, Industry and Environment for its commitment to environmentally sustainable outcomes in the residential built environment. We appreciate the opportunity to contribute to these important reforms proposed under the Design and Place SEPP, knowing that the outcomes achieved in NSW will set a healthy precedent in jurisdictions across Australia.

C.2 Sustainability in Residential Design

- **Proposed changes to BASIX – Merit assessment pathway**

Recommendation

As noted in the Design and Place SEPP ‘Sustainability in Residential Buildings’ document, an alternative Merit Assessment Pathway (MAP) will be introduced to provide greater flexibility in demonstrating that a development has met the NSW sustainability requirements.

It is our view that NatHERS-accredited Thermal Performance Assessors should not be excluded from using the Merit Assessment Pathway to assess and declare that the proposed development meets the residential sustainability standards. NatHERS-accredited Thermal Performance Assessors are one of, if not the most, qualified persons to perform this assessment and while they can and will continue to perform assessment through the BASIX tool, they should also be included as part of the ‘**qualified persons**’ that will be listed in the *New Regulation cl 164a*. If the MAP is to be introduced and used as an equivalent assessment to the BASIX certificate in an effort to provide greater flexibility, then NatHERS-accredited Thermal Performance Assessors should not be excluded from using this method of assessment.

NatHERS-accredited Thermal Performance Assessors are qualified and are required to meet stringent accreditation and quality assurance audit protocols.

- NatHERS-accredited TPAs are qualified with CPP41212 Certificate IV in NatHERS Assessment, superseded by CPP41119 Certificate IV in Home Energy Efficiency and Sustainability
- All TPAs must be members of and accredited by an Assessor Accrediting Organisation (AAO) that operates under the NatHERS Protocol
- To become accredited with an AAO TPAs must, in addition to the Cert IV, have current professional indemnity insurance and are required to agree to and abide by a professional Code of Conduct
- NatHERS-accredited TPAs are required to complete annual mandatory continuing professional development to ensure their skills and knowledge are aligned with professional standards and industry updates
- Under the NatHERS AAO Protocol, minimum of 20% (typically 30%-40%) of TPAs must undergo a Quality Assurance Audit process. Quality Assurance Audit data is reported to the NatHERS Administrator annually.

Other Feedback

In addition to our recommendation, DMN would like to take this opportunity to raise some other questions with respect to the introduction of the alternative Merit Assessment Pathway.

It is noted that to demonstrate compliance with the thermal performance and energy standards using the MAP, only energy modelling software that meets the international technical standard (ANSI/ ASHRAE standard 140-2017) may be used. As it stands, while there are listed 'qualified persons' able to use the software to make the assessment and declaration, there is no certification required (or available) for the use of this approved simulation software. While this may make it easier for more individuals to provide assessment and declarations for residential developments and their compliance with thermal performance and energy standards in NSW, it risks eroding the quality assurance that is currently in place through the BASIX tool and certificate.

We urge that in the proposed *Merit Assessment Pathway Modelling Rules*, there is stringent quality assurance put in place to guarantee the assessment and outcomes are up to equivalent standard of the BASIX assessment and certificate. There is a need for greater detail and information to be provided with respect to the proposed Merit Assessment Pathway, as to what calculations have been carried out and what guarantee there will be that intended energy efficiency and net zero carbon targets for the built environment will be attained for buildings being evaluated.

Design Matters National acknowledge the important work of NSW Department of Planning, Industry and Environment and we share your commitment to improving sustainability in residential buildings across NSW. We appreciate the opportunity to contribute to this reform process and are available for further feedback and discussion.

Yours sincerely,



Peta Anderson

Chief Executive Officer

Design Matters National

Design + Place SEPP Submission

06/03/2022

TO WHOM IT MAY CONCERN

Thank you for the opportunity to provide comments on the Design and Place SEPP (the SEPP), associated guidelines and proposed changes to support the SEPP in the EP&A Regulations (the Regs).

This submission has been prepared by the Designers In Government (DiG) group which was established in 2021 with the objective of promoting higher quality outcomes within the built environment and supporting design professionals working within Government. The group currently has over 40 members with backgrounds in urban design, architecture and landscape architecture. Members of the group are employed by a variety of state and local government agencies including ACT Government, Blacktown City Council, City of Sydney Council, City of Parramatta Council, Lake Macquarie City Council, Maitland City Council, Wollondilly Shire Council, Wollongong City Council, various teams within Transport for NSW and the NSW Department of Planning and Environment.

DiG recognises that past changes to the EP&A Act to include 'good design' in the objects, triggered a need for further design guidance throughout the planning framework, and we welcome the provision of this through the SEPP and associated guidelines. DiG also welcomes the intent of the SEPP to highlight the importance of the design process in responding to place, and supports the overall objective to increase the quality of urban design outcomes - including environmental performance and connections to Country - within the built and natural environment.

Acknowledging that many members of DiG are providing feedback on the SEPP through the agencies they work for, the focus of this submission is in providing insights and perspectives offered collectively by this group. We also acknowledge that this submission has considered in detail the ability for the SEPP to be applied within the existing state and local government context, and for this reason have made observations and recommendations which speak to issues that are broader than the documents themselves. Our members are embedded in the day to day activities that are the interface between planning policy and development outcomes and their voices provide a valuable insight into the usability and robustness of the SEPP's aims and mechanisms. We trust that these observations and recommendations will be understood as relevant to the success of the SEPP moving forward and welcome further discussion on the information provided below.

1. The Design Review Process and Design Review Panels

DiG strongly supports the intention to embed a robust design review process into the development assessment process. The SEPP, Regulation and Local Government Design Review Panel Manual (DRPM) emphasises the role of Design Review Panels in providing this review through the employment of independent experts, however the DRPM does not acknowledge the important role Council's own design staff play within the process. The documents should be adapted to include and support designers within government rather than focussing only on external design advice.

Some Councils are well equipped with urban design officers who work in multi-disciplinary teams, testing and informing the development of strategic plans, providing urban design input to policies and providing day to day design review advice to planners.

External Design Review Panels also benefit from the support and insight of internal designers, and this needs to be recognised. The ability to distill vast quantities of technical documentation into key design issues and questions is essential to allow external experts to operate effectively and provide accurate and relevant advice within time constraints. Internal urban designers can also clarify local controls and provide recommendations regarding local context, legal implications or the potential precedent it sets, to support cases where a non-compliant scheme might be applicable. Enabling Design Review Panels to support non-compliant schemes without having a thorough understanding of context is not recommended.

Working in this way, with design skills integrated into councils, engenders a design-focused culture within the plan-making and planning assessment process, upskilling planners to undertake the tasks necessary under this SEPP. Many members of DiG have integral roles in this process and can share learnings and experiences.

DiG suggests that rather than investing State Government efforts entirely in the establishment of independent design review panels which are active only during the assessment process, some of these resources could be more effectively and efficiently redirected towards the integration of design skills within Councils, to ensure design review is integrated into the earliest stages of plan making. This is particularly needed within Councils with little or no internal design expertise.

The Design Review Panel process is supported in principle, and has been very effective in many existing LGAs, however the process outlined in the DRPM could be costly for both Councils and proponents, especially if the DRP is acting in isolation of internal design advice. Some larger Councils already have design expertise internally and operate successful long-standing Design Panels, the process for endorsing these should be simple and efficient.

DiG recommends:

- The DRPM acknowledges, incorporates and supports the role of designers within government by including the need for in-house urban design expertise to contribute to better planning documents, work with DRPs and provide internal design review in the planning process;
- The DRPM and Regulations be expanded to include a mechanism allowing the DRP to recommend Councils revise their controls, with the DRPs support, where planning controls are consistently generating poor design outcomes. This is considered more appropriate than supporting an external panel of experts to consistently advise against local planning provisions;
- The DRPM guidelines relating to the timing, duration, frequency and triggers for DRP sessions be revised. A place-specific structure should be developed to ensure that the DRPM outlines processes that are workable for Councils across NSW and the range and scale of development assessed;
- The DRPM be reviewed to confirm current (successful) Design Review Panel processes can continue, and where alternative design review processes exist, whether these could be considered to achieve the design review and the aims and principles of the SEPP.

2. Recognising the role of design in Strategic Planning within State and Local Government

DiG supports the requirement for Planning Proposals and Development Control Plans to have consideration of the SEPP principles and considerations, and the Urban Design Guide (UDG) through the Ministerial Direction (Planning Proposals) and the Regulations (Development Control Plans).

We note however, that much of the thinking, decisions and agreements that influence urban design outcomes occur prior to the preparation of Planning Proposals and Development Control Plans. It is driven by State and Local government, through district and regional plans, growth centre strategies, Housing and Centres Strategies and the like. These strategies require the collaboration of multi-disciplinary teams including urban designers, urban planners, landscape architects, transport planners, civil designers, social planners, economists and more. Structure plans for urban release areas, urban design frameworks for CBDs, and site specific massing and structure studies all represent a next step in the process. The products of these endeavours contribute to a foundational logic (or 'base case') from which more detailed strategic plans and statutory documents are generated. Similarly, large scale infrastructure projects (highways, Metro, light rail) are 'city shaping' in nature and transform the strategic planning context of the environments around them. Design leadership, guidance and testing of strategic work is critical to ensure city

shaping projects and strategic plans are robust enough to guide intended or unintended development outcomes.

DiG champions the improvement of urban design outcomes at all phases of the planning process and encourages GANSW and DPE to consider how design leadership can be better promoted within local governments, and design capacity improved at the early stages of strategic planning (both precincts and large scale infrastructure). We acknowledge that these changes require both Councils and the State Government to build design leadership within their governance structures, and the urban design capacity, design competencies and capabilities of their - earliest phase - strategic planning teams.

DiG recommends:

- Recognition and strengthening of the role designers in Government play in strategic work, plan making, design advice and design guidance
- Working with Local Government and design professionals to -
 - strengthen awareness regarding the importance of design skills and design-led processes to achieving high quality outcomes,
 - increase internal design skills and capacity (particularly in Councils with no design trained staff)
 - create a supportive culture for design professionals to work within Local and State Government.
- Direct engagement with designers in Local government to obtain frank feedback on current design skills within Councils and potential challenges for design assessment and implementation of the SEPP

3. Making the DP SEPP work in the context of existing planning processes

The Ministerial Direction requiring Planning Proposals (PPs), and the changes to the EP&A Regulation requiring Development Control Plans (DCPs), to 'consider' the SEPP principles and the UDG is welcome, however further work is needed to clarify the intended implementation of this alignment. Alignment between planning and design processes are necessary to achieve the objectives of the SEPP. These are not articulated in the design process in part 3 of the UDG and there are no clear definitions for the different project types which occur (for example precinct plan, place strategy or even 'site' which can relate to a precinct and as well as individual land ownership parcels).

The definition of “urban design development” would benefit from further review as it is not suitable in all contexts. The current phrasing of the definition implies that urban design is not a priority for types of development not covered by the definition, such as a small apartment building complex, or a large office building. On the flip side, the considerations triggered by the definition through the UDG will invoke requirements for developments at the smaller end of the definition’s scale that are not appropriate or relevant. This becomes a heightened concern for Councils with LEPs requiring Site Specific DCPs or Concept DAs for development on sites under the 1 hectare threshold. In these situations a consent authority must assess the development against the objectives, regardless of whether they are applicable, adding time and cost to the application and assessment process.

DiG appreciates that the State Government is not focused on Local Government instruments or processes and recommends a collaborative approach to achieving the intent behind these proposed linkages. We would welcome the opportunity to assist in refining the language used to balance flexibility and certainty, discussing various contexts and agreeing on a method of application across instruments and jurisdictions.

DiG recommends:

- Partnership between DPE and Councils is needed to resolve the applicability and relationship of the SEPP and UDG with LEPs, PPs and DCPs;
- Appropriate, site specific testing in a range of contexts to refine the threshold condition for the definition of urban design development and guide wording;
- If the UDG is to apply to all development which requires a site specific DCP or concept consent, the objectives need to be rewritten to consider all types of development and be applicable to urban design development in all contexts.

4. Providing general urban design guidance without compromising place-based outcomes

DiG acknowledges that the concept of an Urban Design Guide (UDG) may be of assistance in providing general urban design guidance where there are limited or no design trained staff within Councils and/or there is an absence of any other guiding controls. Some members of DiG work within contexts where these challenges exist and providing support for these designers is important. For the UDG to respond to this need, it must be constructed with a clear purpose in mind and designed to address its limitations.

DiG strongly supports the aspiration for a place-based and place-responsive approach to design implied by the Design and Place SEPP. The core tenet of urban design is that it is contextual and there are many different urban morphologies. However the approach taken by the UDG to cover all development types, in all contexts in a single document is not

recommended. The result is that the outcomes proposed within the UDG are too generic for all contexts and the metrics it adopts are not place-based or site specific. The UDG appears to have been based on a particular type of residential development that does not translate well into all the applicable development proposed by the SEPP. For example, the criteria for density, walkability and block size need further development and guidance for streets should also be developed given their important place in the public domain network.

The UDG should be structured to make clear that district level, strategic planning decisions, such as the distribution of public open space and facilities, can not be achieved successfully at the development assessment phase on a site by site basis. We firmly agree that urban outcomes do need to be better coordinated and improved - to ensure densities, transport, community facilities, and environmental outcomes are adequately considered and appropriately located - but that framework needs to be set in plan making stages, not on a site by site basis by individual applicants.

Pending further work on the UDG, DiG supports the Ministerial Direction requiring it to be considered when preparing planning proposals, however for this to happen it needs to be embedded more broadly within the planning system and to be incorporated earlier in strategic processes. A redrafted UDG must make these two key distinctions - district scale/plan-making; site scale/assessment stages.

A clear line of sight is also needed between the Design Principles and Design Considerations in the SEPP, and the UDG objectives and design criteria. Without this the eight design criteria could become the focus of the entire UDG. This disconnect could be a legal loophole and weaken its enforcement.

Should the UDG progress in its current form, the urban design resources that will be needed within Local Government to evaluate applications are anticipated to be significant. Planners generally do not have the design skills needed to undertake design review and the requirements of the UDG will place a large impost on low resourced Councils. Should a full redesign of the UDG not be possible, DiG recommends targeting design input in the strategic plan making phases over development assessment.

DiG recommends:

- That further work is undertaken on the UDG to address different scales and contexts. Possible options include:
 - redrafting the UDG to apply to two key and distinct phases - 1) district scale/plan-making; 2) site scale/assessment stages.
 - changing the title and narrowing the scope of the current guide to more accurately reflect its focus on residential development in certain contexts,

- re-conceiving the UDG as a suite of guides for different development types or contexts,
- adding chapters to address other contexts.

5. Definition of an Urban Designer

Urban design as an outcome is a field with many contributors. DiG commends the recognition of the specific role that urban designers play within this outcome, however notes that the SEPP seeks to introduce a regulatory definition of an urban designer within the EP&A Regulations, in an emerging sector ahead of the profession itself.

The definition currently proposed presents a number of challenges:

- it excludes many practicing urban designers;
- it assumes the skills and capabilities of planners, architects, landscape architects are interchangeable with urban designers;
- it assumes a certain level of design skills and capabilities (not guaranteed by the thresholds indicated) to sign off design verification statements and participate in design review panels;
- it sets a different threshold for participation by different disciplines without reference to skills or competencies

DiG suggests it is not the place for the SEPP to define the profession or provide accreditation of urban designers by procedural default. A framework is needed that both supports the role and function of urban designers under the SEPP, and sustains the future of the urban design profession via a recognised professional pathway. Further work needs to be undertaken by the profession to clarify: suitable background and/or qualifications, length and type of experience required, skills and competencies, and how these attributes will be peer reviewed and independently assessed by a recognised professional body.

The creation of a focused entity which has regard for the long term future of the urban design profession (including but not limited to education, maintenance of a register, accreditation) as well as addressing the roles and functions of urban designers under the SEPP is supported. Any future process to resolve a definition needs to incorporate the many views and voices across the urban design professional sector.

DiG recommends:

- Removal of the current definition of an urban designer and further discussion with urban design practitioners and relevant professional bodies to resolve an appropriate alternative before the SEPP is enacted;
- Ensuring any future definition is mindful of the roles and responsibilities of Urban Designers under the SEPP - including design skills and competencies required to be eligible to sign off on design verification statements and for appointment on design review panels;
- Partnering with the profession to support this process as the registrar of the ARB and the building commissioner have done with the implementation phase of the Design and Building Practitioners Act.

6. Applicability of independent peer review process to review draft instruments

DiG recognises the efforts of the authors in creating the SEPP and UDG. DiG also acknowledges that the preparation of generic, place-based controls for the entire State of NSW, would be particularly challenging without the on-the-ground practical insights, and implementation experiences of designers practicing across a range of typologies and contexts. While a number of DiG members participated in industry consultation and roundtable discussions to inform the preparation of the SEPP, these forums were not designed to review details, test feasibility, collegiately work through unintended consequences or further refine the suite of documents and changes proposed.

DiG supports DPE and GANSW's promotion of independent peer review as a cornerstone of design excellence and quality built environment outcomes. It is recommended that a similar process of independent peer review be applied to the refinement of these important instruments.

DiG recommends:

- Independent peer review is undertaken of the UDG (outside of the exhibition process) by urban design practitioners, working within State and Local Government, from 6 different contexts: regional, outer urban expansion, inner-urban infill, major centre, urban renewal area and major transport project.
- A separate, independent expert review panel be formed to guide the finalisation of the UDG.

DiG supports the intent of the SEPP to highlight the importance of the design process in responding to place and the overall objective to increase the quality of urban design outcomes. We look forward to the opportunity for ongoing discussion and recommend a meeting with the Government Architect to determine how best to work together in progressing the matters raised by this submission.

Yours Sincerely

A handwritten signature in dark ink, appearing to read 'Callantha Brigham', with a stylized, flowing script.

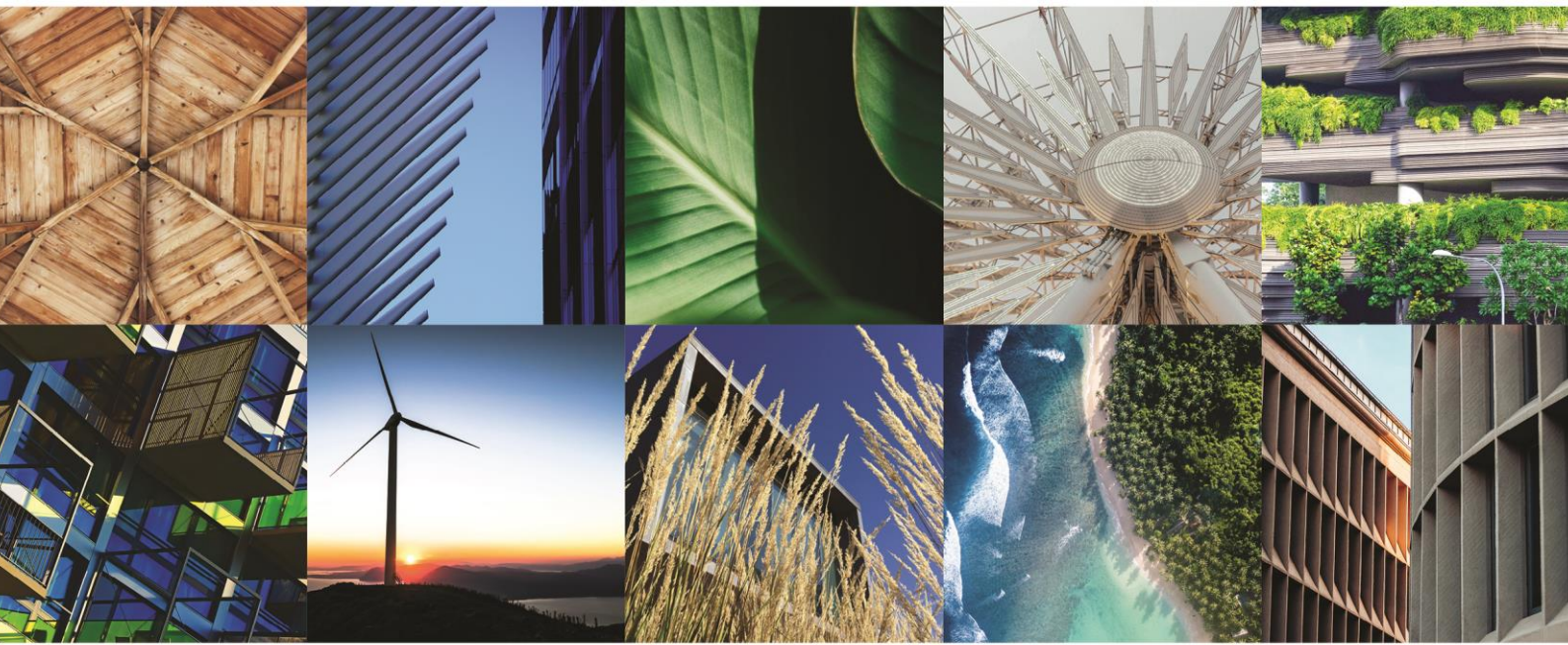
Callantha Brigham,
Chair, Designers in Government (DiG)

6 March 2022

designersingovernment@gmail.com



efficient
LIVING



Design and Place SEPP 2021 Submission

by Tracey Cools of Efficient Living



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My name is Tracey Cools and I have been the Managing Director of Efficient Living, Sustainable Building Consultants for 20 years.

The Efficient Living team have completed more BASIX assessments than any other company nationally. We are expert residential and commercial building energy modelers, passionate policy followers and give our time generously to support good decision making.

Many building companies large and small rely on us to advise them and support them through policy changes and we try to strike a balanced approach between meaningful change and practical built outcomes.

As a general overview I support the changes proposed and the direction the DPIE are heading with the Draft Design and Place SEPP.

My feedback focuses only on areas of my expertise and highlights only my areas of concern or ideas to strengthen the industry and improve policy.

Of particular interest to Efficient Living is detailed testing of the BASIX Thermal Comfort Heating and Cooling Caps and Energy targets. Detailed analysis and peer review is critical to getting these targets right. We would like to work with DPIE to set suitable targets for the DIY tool.

We are willing and able to support the department with industry education programs particularly with regards to the design and specification of 7-star homes. I recommend we host one of these for policy makers sooner rather than later.

We can run quality control audits of current assessments to support education programs that promotes a higher level of compliance in BASIX DIY, Adds and Alt assessments and commercial building modelling. We can complete 'As Built Inspections' to help the department identify and close loopholes and use the learnings to run builder education programs.

1. **BASIX Thermal Comfort and Energy Targets – feedback pending**

While DPIE have had the new thermal comfort heating and cooling caps published since Nov there is no way of determining the appropriateness of these targets till the tools required to test the targets are provided.

Efficient Living and our clients reserve the right to comment on the BASIX Heating and Cooling caps and energy target once detailed testing can be completed.

2. **BASIX – 7 Star thermal comfort targets**

As suggested earlier testing of the new 7-star thermal comfort targets on new NatHERS software tools has not been possible to date because the tools were not made available. This opinion and recommendation is therefore based on the information we know to date and the modelling of thousands of real life houses across 21 years of being thermal simulation experts.

We are deeply concerned for how the single homes market will adjust to 7 stars if not given a soft start and we know from experience a delay is nowhere near as effective as a soft start. I have discussed my ideas with members of the HIA, AIA and UDIA as I would prefer them support the policy with temporary measures in place than reject it all together.

Our suggestions as a transition to 7 stars for class 1 buildings is;

A 6-star minimum with a range of pre-agreed alternative solutions to offset the final star ie:

- Blower door test 0.5 stars
- Physical time of use energy display in the home 0.5 stars
- More considered optimization and control of the air-conditioning system and fresh air intake 0.5 stars
- Heat recovery ventilation 0.5 stars
- AC unit inter-connected to the external door with a deactivate function if the door remains open for more than 2 minutes (now mandated in hotels) 0.5 stars

In my mind all these things deliver far more tangible energy savings, better built outcomes and are great initiatives to get designers and homeowners thinking about. The cost of these measures in many cases will be less than that final NatHERS star and allow architects and supply chains a little more time to adjust.

I would suggest a 6-star minimum (as measured in NatHERS regulatory mode) for 6 months and then 6.5 stars for a further 12 months before finally moving to a 7-star minimum in 18 months' time.

It is my hope this concession allows policy makers to implement the DP SEPP sooner with this one concession around an area that needs a lot of industry education and preparation.

3. **BASIX DIY**

NatHERS protocol regulates that if a building is on a green field site you must assume your exact home is sited next door and model the overshadowing impact of that.

BASIX Adds and Alts tools allow for overshadowing from neighbouring properties. Current building code 'Deemed To Satisfy' solutions tend to assume no neighbours and to date BASIX DIY matched this method.

Neighbours, landscape features and boundary fences have a massive impact on a building's thermal performance. Designing at a 7-star level requires careful consideration of every room in the house. Not allowing for overshadowing will impact responsible glass specification in terms of Solar Heat Gain Co-Efficient and visual light transmittance. It would be very irresponsible to enforce 7-star houses and not measure one of the biggest impacts on heating and cooling loads. BASIX DIY for 2022 should include neighbours in the same method used in BASIX Adds and Alts.

The new 2022 BASIX DIY tool should consider data input fields for;

- Neighbours
- Number of downlights and clearance for insulation
- Thermal bridging of metal frames

The BASIX certificates should detail installation requirements including;

- Ceiling fans for 'Deemed To satisfy Solutions' in certain climate zones inline with NCC.
- Compliant insulation installation methods
- Maximum air changes per hour requirements in line with NCC
- Ventilation recommendations for well-sealed buildings
- Condensation risk management regulations in line with NCC

4. **BASIX Adds and Alts**

NSW residents and architects hate the lack of flexibility and logic associated with the BASIX Adds and Alts tool. Home renovators deserve to have a NatHERS alternative compliance solution in line with the National protocol. This compliance option should be added to the BASIX Adds and Alts tool much the same way it works in the new home tool for simulation method assessments.

5. **Merit Assessment Pathway**

The Merit Assessment Pathway (MAP) is being developed by the NSW government following industry consultation that heard;

- Thermal comfort methods available in BASIX (NatHERS) are not suitable for all building designs (especially apartments);
- Tedious to make NatHERS updates one apartment at a time for large apartment buildings;
- Apartment buildings are not just a collection of small units - want integrated design solutions;
- Want assumptions that work for small apartments;
- Want best-practice energy modelling to design and more choice;
- For some architecturally designed homes - want more appropriate assumptions;
- Achieving good outcomes/minimizing gaming is important for a new pathway;
- Any pathway needs to be easy to use and understand, especially for councils.

These NatHERS shortfalls were valid when NSW government started looking at the Merit Assessment Pathway (MAP) last year but the next generation NatHERS tools are significantly more sophisticated and can now address all of the previous concerns.

The proposed MAP pathway holds merit if delivered in a control way. MAP light however with no industry training, no licensing and only 5% of jobs being audited will lead to poor outcomes and a high likelihood of gaming. Other states like WA have never recovered from the introduction of

Verification Using a Reference Building (VURB) being rolled out without enough consideration of the built outcomes and MAP has the same potential.

I do believe NSW government have been too prescriptive in the past and a performance-based code is great for innovation and progress.

The NABERS for Apartment buildings framework could deliver a performance-based approach for common area energy and embodied carbon of materials and water.

NatHERS whole of building tools are only prescriptive because NatHERS and BASIX policy dedicates the simulation protocols. A policy change can open many more doors for innovation.

Continuing to utilize the NABERS and NatHERS frameworks also removes the obligation from DPIE from training, licensing and auditing assessors as industry bodies are already set up for this and deregistration of assessors can be done at any time by accreditation bodies.

6. **Solar Access, Natural ventilation, and Embodied Carbon of materials modelling**

Nick Bishop the creator of HERO NatHERS software is focused on designing a simulation software tool for the future. His whole of building NatHERS tool can model a building as a whole and apply various design upgrade solutions to all units and test the results in 1 simulation. Updates are now fast and data inputs methods lead to less user error.

I understand DPIE were also interested in having the potential for daylighting, ventilation and embodied Carbon of Building Materials all integrated into the building model. I suggest you talk to Nick at HERO and see what he can produce that is custom designed to suit NSW specific needs.

It would be nice to see BASIX drive better NatHERS outcomes.

7. **Registered Design Professionals for MAP**

I understand DPIE want to use existing licensing frameworks to roll out the MAP pathway with speed and low cost but using Architects and Mechanical Engineers as the 'Registered Design Professionals' for these MAP assessments puts them and certifiers at considerable risk.

Accurate use of thermal comfort modelling software is delivered in degrees that focus on Architectural Science and Sustainable Building Design.

Architectural design models can export straight into third party thermal simulation software like Design Builder and IES. The problem is the smallest drawing errors will produce an inaccurate result. Two lines not touching assumes an open airspace allowing heat and cool to readily transfer between spaces. Enough of these small and seemingly innocent errors will give a hugely inaccurate result. Without training, prior experience or deemed to satisfy benchmark results the untrained assessor will not know the simulated result is inaccurate.

If then challenged by a future homeowner and a calculating error is found leading to an underperforming building the Architect and certifier will be the ones with their insurance and license on the line.

8. Empower Sustainability professionals

Our universities are producing degree and PDH qualified Architectural Science and Sustainable Building Design professionals in huge volumes.

These are the professionals trained to understand building thermal physics. Yet we struggle to get recognized as professional engineers by Engineers Australia and we cannot gain registration under the building's practitioners act.

Architects are educated to understand the core concepts in a huge variety of disciplines. They are not trained to be experts in building thermal physics and they should not be responsible for issuing **Design Verification Statements** on behalf of Sustainable building engineers.

The Building Practitioners Act is about making each of the discipline responsible for their own work. Implementation of sustainability measures onsite has been one of the poorest areas of compliance and it appears to be the only area not addressed in the building reforms. This is a clear reflection of the importance this government places on Sustainability.

Civil and Mechanical engineers can be registered, and a variety of my staff have these qualifications but because they are actively working in the Sustainability space and not in civil and mechanical fields, they do not pass the work criteria for registration.

Given the overwhelming response DPIE received from the exclusion of Sustainability professionals, they have since asked for feedback on the types of degrees held by people working in the Sustainability space so I have included the details of my team members to support your research.

9. Qualification Table

Below are the qualifications and course locations for the full-time employees at Efficient Living, Sustainable Building Consultants.

EMPLOYEE	QUALIFICATION / REGISTRATION
Micha	Master's degree, Architecture and Civil Engineering (Czech) Advanced diploma Sustainable Building Design (Tafe NSW)
Rishabh	Master of Architecture science in Sustainable Design and High-Performance Buildings (University of Sydney) Bachelor's degree, Architecture (Panjab University)
Dan	Master of Philosophy - Thesis Electric Vehicles and vehicle to grid operations Degree - Bachelor of Renewable Energy Engineering
Niall	NABERS Assessor Energy and Water for Offices qualification Degrees - BSc Energy, MEng Sc Sustainable Energy

Alison	Degree - Master of Architecture (Professional) Degree - BSC (Arch) from the University of Pretoria (UP) South Africa
Justin	Degree - Bachelor of Renewable Energy Engineering (UNSW) Certificate IV in Home Energy Efficiency and Sustainability (NatHERS) qualification Green Star Accredited Professional (GSAP) – qualification Engineering Technologist (Engineers Australia) -registration
Mariana	Degree - Bachelor of Civil Engineering (FAAP – Faculty of Engineering Brazil) Degree - Master of Design Science – Sustainable Design (University of Sydney)
Manoela	Diploma in Architectural Technology (Building Design)- TAFE NSW qualification Degree - Bachelor of Environmental Management (Macquarie University)
Nick	Degree - Bachelor of Environmental Science Degree - Master of Architectural Science in Sustainable Design (University of Sydney) White card registration Licensed asbestos assessor - license
Haylea	Cert 4 NatHERS qualification Cert 4 Construction qualification Cert 4 Leadership Licenses - Design Matters (NatHERS) Green star registration BESS registration
Troy	Master of Urban and Regional Planning Bachelor of Economics

10. Carbon footprint of the electrical grid

It is well understood that a significant part of Australia's Net Zero strategy is the electrification of buildings to reflect the rapid decarbonization of the electrical grid.

BASIX delayed updating the carbon intensity of the electrical grid for over 10 years and as a result NSW is a very gas dependent state and it's been impossible to get Net Zero buildings to comply with BASIX framework.

The more electricity is favored in BASIX energy the faster builders will transition to all electric. Ideally BASIX will refresh its algorithms annually and reset energy targets to match but if this is not the plan and you intend to move in 3 years cycles 2024 carbon intensity estimates should be used so electric buildings are not unfairly disadvantaged again.

11. Photovoltaic Systems

Solar power is clearly the primary compliance method under the BASIX energy tool, and this is aligned with the NCC approach.

BASIX didn't put any design guidelines around good install methods in the past and they now have an opportunity to resolve this. I don't believe correcting this issue in BASIX needs to wait for the next policy update.

I think BASIX needs to adopt wording that indicates system performance is not based on the panels peak design potential but instead the installed average energy output. This should be measured by the solar consultant / installer and come with a certificate for the homeowner and building certifier. The correct method of measuring the installed output would include orientation, overshadowing from neighbours and potential future trees. Systems with shading risk should be designed as a multiple string array or have a micro-inverter array so shading to 1 panel doesn't reduce effectiveness of the whole system.

12. Green canopy and solar strategies

All master planned communities should have a tree planting strategy that protects neighbours access to direct sunlight on their solar arrays. This could be managed with tree planting zones and nomination of selected tree types that have various canopy heights depending on the trees shadow line.

13. New BASIX Energy Inclusions

While we support the photovoltaic strategy not every house will have good solar access, this is especially true for new homes in existing neighbourhoods and in multi-residential buildings that have small roof spaces or wish to use the roof top for community open space and gardens.

We support BASIX move to remove some of the previous BASIX energy inclusions like whitegoods.

Having a range of compliance methods is however important. We have a range of alternative ideas that can be included in BASIX energy, and we would like to work with you to develop these ideas.

14. Cost Benefit Analysis

Leading statements out of London's Energy Transformation Initiative.

'The built environment industry is seriously lagging behind the carbon trajectory required to protect life on planet earth. Everyone's future is at stake. As an industry we must be absolutely confident that all new buildings can operate at net zero carbon from 2030.'

Australia's cost benefit analysis method is always governments reason for inaction.

Policy makers please; Find solutions to problems, not reason to back down. Australia has lacked leadership in this space for too long.

15. Calculating real out of pocket expenses

The governments cost benefit analysis uses a short-term return on investment method which might be suitable for an upfront purchase of a new energy savings technology, but these codes are running analysis for the cost benefit of new buildings.

The example DPIE used in the BASIX information sheet showed the average cost to comply with the new BASIX standards for and average homes is \$7,152. The annual savings in 2022 would be \$845 and \$7,200 would be saved over 12 years.

In this case the investment is then considered reasonable, and the policy is put forward for industry comment.

In reality however, these homeowners are buying a new home, the biggest purchase in most people's lives. If the house and land costs \$800,000 and you have a 20% deposit your mortgage will be \$640,000 over 30 years and at 3% interest you are looking at \$32,400 per year in repayments.

If this home now costs \$807,152 with the cost of the new BASIX energy standards included the repayments will be \$32,748 pa. This annual repayment increases of \$748 is less than the \$845 saved in energy bills.

It does not take 12 years for this investment to be repaid this homeowner is immediately better off for having made this investment.

The sustainable home may also attract a lower 'Green Loans' interest rate allowing further funding of sustainability measures. They should get better return on investment when selling their more sustainable home compared to other stock on the market. In addition to health benefits, quality of life and dare I mention; A lower environmental footprint.

16. Small regular changes

Planning policy changing in 3-year cycles might be suitable for the plumbing code, but it is outrageous to maintain this cycle with Sustainability, considering the urgency required to meet Australia's net-zero emissions goal.

The NSW BASIX has not increased targets since 2017, you missed NCC 2019, you will miss the May 1 2022 target and are now aiming to align with NSW SEPP in late 2022.

Before industry could even comment the cost benefit analysis removed any increase in the thermal performance or energy targets of houses and multi-residential buildings for northern NSW (catchment area still to be confirmed) and no change to unit buildings under 5 stories across the whole state.

Under current planning policy regulation these areas and building types will not be reviewed again till 2025 and if a 6 – 12 month adoption period is used again 2026 is the soonest the quality of building stock in these areas and building types will be addressed.

Unit buildings under 5 stories make up a growing portion of our housing stock in NSW, this delay accounts for a massive number of future dwellings.

DPIE policy documents refer to 'NSW Leading by Example'. 9 years with no increase in targets for these buildings is not leading by example. I felt it was important to bring this to your attention.

17. Plan Documentation

The BASIX thermal comfort Protocol recently added an expanded plan documentation rules for NatHERS assessments. This includes the requirements for a window schedule at Development Application stage as per the below;

Window schedule that includes:

- a. Location and orientation.
 - b. Drawing to scale.
 - c. Shading.
 - d. Glass type (including films).
 - e. Frame material and type.
 - f. Type (e.g. sliding, double hung) or openable panes clearly drawn to determine openable proportions.
 - g. NFR Solar Heat Gain Coefficient (SHGC) and U-value of complete glazing unit (glass and frame combined) – regardless of whether the glass is single clear or not. The unit should match the description of Window type (with the exception of frame material) on the Assessor Certificate.
- U-value of the unit should not exceed the value specified on the Assessor Certificate.
- SHGC value of the unit should be within +/-10% of the value specified on the Assessor Certificate.

The details in red are normally unknown at the time of development application as a window supplier is generally appointed post DA. This level of detail can be modelled once the window company is selected but it would require an update to the NatHERS assessment prior to sending construction documentation to site. That would be ideal for Class 2 buildings as many things change between DA and CC and few builders bother updating the assessments to suit. Class 1 buildings should only need to meet the selected performance requirements at DA stage unless plans change, otherwise the cost of reassessment is unjustified.

18. Plan Certification

The NatHERS assessment protocol requires plans to be fully documented with all thermal performance inclusions and energy inclusions used in the assessment. The plans then get stamped with a QR code that includes all building details used in the assessment.

Built outcomes would significantly improve if there was a policy direction to also have your construction certificate plans and specifications reviewed and stamped prior to site commencement and if Occupation Certificate plans and specifications were reviewed and stamped prior to certification and upload to the building portal.

BASIX mandates no thermal performance requirements on plan for BASIX DIY or BASIX Adds and Alts assessments. The BASIX tool could create a plan block summary in addition to the BASIX certificate. Adding the notes directly to the plans will reduce some of the gaming of data inputs and support correct specification by trades.

The MAP Assessment Pathway will need a robust certificate method that allows homeowners, certifiers and architects to see all the data inputs used with in the assessment. Much like a NatHERS certificate generates a details report and a QR code to attached to the plans for transparency the MAP pathway should have this framework established.

The National construction code Section J, Energy Efficiency sets out a Verification Using a Reference Building (VURB) assessment method for commercial building energy modelling. This system does not mandate co-ordination of Construction drawings and the compliance report and there is a huge amount of non-compliance as a result. Like BASIX Thermal Comfort Protocol sets out plan documentation requirements for NatHERS assessments this should be expanded to commercial buildings.

19. **Blower Door tests**

Blower door tests are a very effective way of improving built outcomes and have been instrumental in building industry education and transformation overseas. The NCC 2022 now sets maximum air changes per hour. Many budget construction dwellings exceed the allowable 10 air changes. Good building sealing is cheap and significantly improves a home's comfort and reduces energy bills. Mandating blower doors tests is a great additional initiative to set NSW as a leader in Sustainability.

20. **NABERS for Apartment Buildings**

The Draft SEPP refers to capturing and monitoring operational emissions for non-residential buildings only.

I think there is untapped potential to mandate NABERS for multi-residential buildings. This tool focuses on common areas only. It's a simple set of inputs to produce a Design Stage Commitment Agreement and set out a pathway for constant monitoring and optimization in operation. This framework drives real change. If not mandated it should be one of the BASIX energy compliance pathways now and look to mandate it in the next round of changes.

21. **Existing Buildings**

There continues to be a lot of focus on new builds while the 2 million existing homes that change hands on average every 7 years, 300,000 resales per year go untouched.

Nationally government have sat and pondered the framework for disclosure of Residential Energy Efficiency for almost 2 decades. If NSW want to show leadership, they can push forward with the framework for the Trajectory for Low Energy Homes ahead of the other states.

It's a long time since they did market research, but the ACT has had mandatory disclose for decades, in a 2008 study found a 3% premium on the sale price for each additional star and recent data shows that new homes in the ACT have a significantly higher new home star ratings and good builder compliance because the value and comfort is well understood.

This area is has untapped potential for reduced carbon emissions and greater time and energy from policy makers is required to role out this program as soon as possible.

22. **Design Stage assessments / Poor built outcomes**

All the policy work completed by our industry is done in the hopes that it results in a comfortable and energy-efficient home that will allow a future family to thrive.

BASIX objective is to benchmark performance and produce a very clear set of instructions to allow a network of trades to construct a compliant building.

Education and compliance is low when it comes to Sustainability and your BASIX reports should not make assumptions that people will do the right thing, adding extra detail to reduce error is a good thing.

An example of this is Building sealing in BASIX DIY homes.

This assessment method accounts for about 50% of the new home assessments in NSW. The NatHERS compliance pathway has accounted for loss of insulation from downlights and regulated it on certificates for a very long time. NatHERS certificates also specify key items like weather seals and dampers.

BASIX has neglected to address building sealing in their assessment methods or provide instruction on reports. They instead rely on designers to know they need to do separate BCA loss of insulation calculations. This never happens and builders prefer to remove insulation to avoid fire concerns, as a result there are over 1000,000 homeowners living in poorly sealed and underperforming DIY houses.

This can be corrected in the tool and BASIX reports now. It does not have to wait for the next round of policy updates.

23. **Spot Audits**

Victoria completed a study on the 'As built compliance' of their homes with unsurprising outcomes. I don't believe NSW government have done the same due diligence in the past decade.

If builders and certifiers in NSW thought, there was a chance of getting caught for non-compliances they would be more inclined to pay a little attention and care.

The results of a round of site compliance spots checks could also be used as a training platform for the wider market and to help the BASIX team close any loops holes in the next generation BASIX tool.

Efficient Living could deliver a cost-effective program to collect 'As Built Compliance data' in a short turn around. We are already onsite regularly to support our clients with site compliance and some of this work could be done virtually with the help of home owners, builders and certifiers via video calls to ensure we cover a wide area.

24. Industry Preparation

Lack of leadership and action in this space is the reason why new targets get delayed each time you put them forward. NSW government and industry associations now have a very short time to run a lot of education programs to prepare business for the change to building design and specification.

Efficient Living are happy to help you develop and run training in the following areas;

- 7-star design workshops
- Certifier's education
- Building material suppliers

We also have a keen interest to ensure the buildings our or drawing boards are delivered onsite. To this end we can provide an affordable BASIX audit program and building industry education.

25. Closing Statements

Well done DPIE on a well-considered proposal. We look forward to being able to deliver you the results of our test homes and units on the Accurate whole of home software. We hope to see you soon on a 7 star house optimisation workshop and we look forward to the challenges and successes as we support the building industry in the transition to Net Zero Buildings.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 8:58 AM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: nsw-apartment-design-guide-2021---mark-randle-comments.docx

Submitted on Mon, 28/02/2022 - 08:53

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Mark

Last name

Randle

I would like my submission to remain confidential

No

Info

Email

mark.randle@stantec.com

Suburb/Town & Postcode

2000

Please provide your view on the project

I support it

Submission file

[nsw-apartment-design-guide-2021---mark-randle-comments.docx](#)

Submission

Hi,

I have been helping the NSW Fair Trade and Workssafe department as part of the industry liaison team. Hence I have an interest in the ADG aligning with the guidance notes of the Design Practitioner regulation.

Regards

Mark

I agree to the above statement

Yes

Draft NSW Apartment Design Guide 2021

Public Comments

Clause 2.1 Page 39 – Common Circulation – Design Criteria

Replace

- average waiting time: 60 seconds or less
- handling capacity: 7 per cent or more.

with

The minimum performance targets:

- average waiting time: 60 seconds or less
- handling capacity: 7 per cent or more.

Note 1 - Average waiting time: 60 seconds or less when the lift is carrying the nominated handling capacity (%) of the population served by the lift, with 50% of traffic travelling up and 50% travelling down, via a simulation over a duration of 120mins, with the average waiting time over all 5-minute increments.

Explanation

You must be careful in stating a prescriptive target, as residential buildings typically follow a performance target **range** dependant on the development, a luxury residential tower against foundation housing will be different

Even the referenced ISO8100-32 under this nominated target states:

NOTE 2 Other values can be used provided they are documented with reasons. The values given can change depending on national and cultural norms, building usage, etc. For example, for luxury residential buildings, the average waiting time should be less than 40 s.

Also, CIBSE Guide D (closely related to ISO8100-32) states 7% as the topmost value in the range of 5-7% for residential buildings.

Prima Pearl in Melbourne is 9%.

The solution is to leave a minimum performance target out and let the designer rely on ISO8100-32 or expand the wording as above.

Clause 2.1 Page 39 – Common Circulation – Design Criteria

Replace

Lift handling capacity and anticipated waiting times, demonstrated in a vertical transportation report prepared by a **suitably qualified person**, comply with the minimum standards in ISO 8100-32:2020 Lifts for the transportation of persons and goods – Part 32:

with

Lift handling capacity and anticipated waiting times, demonstrated in a vertical transportation report prepared by a **Vertical Transportation Design Practitioner**, comply with the minimum standards in ISO 8100-32:2020 Lifts for the transportation of persons and goods – Part 32:

Explanation

Would it not be prudent to tie the ADG to the Design Practitioner regulation? Also keep the language the same between the legislation. As the Regulated Design declaration must be made by a VT Design Practitioner, who has already been assessed as suitable qualified.

Clause 2.1 Page 41 – Common Circulation – Design Criteria

3rd Paragraph

Replace

Consider lift redundancy (access to an alternative lift in case one lift is out of service).

with

Consider lift redundancy (access to an alternative lift in case one lift is out of service), **even if the vertical transportation report to ISO8100-32 demonstrates a single lift meets the performance targets.**

Explanation

It is common for the traffic analysis on a residential building to show that a single lift will suffice. However, many clients consider the overall development cost and the market value of the apartments will decide to put in a second lift, not for performance but for redundancy.

Clause 2.1 Page 41 – Common Circulation – Design Criteria

2nd Paragraph

Replace

Provide suitable clearance in front of lifts to allow for people passing, for medical emergency access, and for movement of furniture.

with

Provide suitable clearance in front of lifts to allow for people passing, for medical emergency access (including BCA stretcher loading), and for movement of furniture.

or

Provide suitable clearance in front of lifts to allow for people passing, for medical emergency access , and for movement of furniture.

For lifts deemed to meet the BCA stretcher compliance, the suitable clearance in front of the lift/s shall be greater than 2000mm, to facilitate the loading and unloading of stretchers.

Explanation

There is no code or standard clause for lift lobby clearance, only a guide in CIBSE of 1.5x the distance of the car depth. However, the BCA does state the minimum size of lift car to transport an emergency stretcher and hence it is a reasonable interpretation that the BCA also would expect the lobby to facilitate the movements of stretchers. A common issue is when Architects make the corridor width in front of the lifts compliant to the disability code AS1428, and it doesn't allow the stretcher to enter the lift.

Clause 2.1 Page 41 – Common Circulation – Design Criteria

4th Paragraph

Replace

To determine the location, number, size and capacity of lifts, consider:

- functional uses, including allowing for prams, mobility equipment, bicycles and shopping, and movement of goods, waste and furniture
- access to parking levels including bicycle parking and mobility equipment.

with

To determine the location, number, size, entrance details and capacity of lifts, consider:

— legislative requirements of ADG, BCA, DDA principles, applicable Australian Standards and ISO8100-32

- functional uses, including allowing for prams, mobility equipment, bicycles and shopping, and movement of goods, waste and furniture
- access to parking levels including bicycle parking and mobility equipment.

Explanation

In my opinion, it is the legislation that has the primary impact on the size and capacity.

Clause 2.8 Page 70 – Acoustic Privacy – Internal Acoustic Separation

2nd Paragraph

Replace

Locate noise sources such as garage doors, driveways, service areas, plant rooms, mechanical equipment, communal open space and circulation areas at least 3 m away from bedrooms.

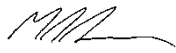
with

Locate noise sources such as garage doors, driveways, **lift shafts**, service areas, plant rooms, mechanical equipment, communal open space and circulation areas at least 3 m away from bedrooms.

Explanation

A very common problem in residential buildings, occurs when the Architect puts the bedroom of an apartment on the wall of the lift shaft. The sound transmission outside the lift shaft (from the lift passing) can be up to 55dbA.

Regards,



[Mark Randle](#)

BEng (Hons) | MSc | CPEng FIEAust | NER | CEng CIBSE | RPEQ | DPVT |
MIMechE UK | ACCI | M. LESA | M. I.A.E.E | M. CTBUH | APEC IntPE(Aus)



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mrandle@elevatedconsulting.com.au

c

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 2:27 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: comments-on-draft-apartment-design-guide---epm.pdf

Submitted on Mon, 28/02/2022 - 14:26

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Evan

Last name

Chin

I would like my submission to remain confidential

No

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evan.chin@elevatorpm.com.au

Suburb/Town & Postcode

2000

Please provide your view on the project

I am just providing comments

Submission file

[comments-on-draft-apartment-design-guide---epm.pdf](#)

Submission

Elevator Project Management (EPM) have reviewed the drafted State Environmental Planning Policy (Design and Place) 2021 (DP SEPP) and supporting guides and have the following comments to the Draft Apartment Design Guide.

Clause 2.1, page 39.

Current criteria do not detail key traffic study parameters. Suggest adding the following wordings:

Lift handling capacity, building population density and anticipated waiting times, demonstrated in a vertical transportation report prepared by a suitably qualified person, comply with the minimum standards in ISO 8100-32:2020 Lifts for the transportation of persons and goods – Part 32:

- Building population under population occupancy factor
- 2-way traffic profile (50% incoming – 50% outgoing) in each 5-minutes
- handling capacity: 7 per cent or more
- average waiting time (all floors): 60 seconds or less

page 41, 1st paragraph.

Clause 2.1 have already set the design criteria requirement, to report the percentage of beyond the threshold does not add much value, especially with traffic simulations. Suggest the following wordings:
In the vertical transportation report, include the tipping point of the maximum building population or handling capacity that achieves the required average waiting time.

page 41, 3rd paragraph.

The statement does not cover building designs where is not practical to have lift redundancy. Suggest adding the following wordings:

Where reasonably practical assessed by a suitably qualified person, consider lift redundancy (access to an alternative lift in case one lift is out of service).

I agree to the above statement

Yes

28 February 2022

RE: Draft Apartment Design Guide

To whom it may concern,

Elevator Project Management (EPM) have reviewed the drafted *State Environmental Planning Policy (Design and Place) 2021* (DP SEPP) and supporting guides and have the following comments to the Draft Apartment Design Guide:

Item	Description	EPM Suggested amendments
Page 39, Clause 2.1	Lift handling capacity and anticipated waiting times, demonstrated in a vertical transportation report prepared by a suitably qualified person, comply with the minimum standards in ISO 8100-32:2020 Lifts for the transportation of persons and goods – Part 32: — average waiting time: 60 seconds or less — handling capacity: 7 per cent or more	Current criteria do not detail key traffic study parameters. Suggest adding the following wordings: Lift handling capacity, <i>building population density</i> and anticipated waiting times, demonstrated in a vertical transportation report prepared by a suitably qualified person, comply with the minimum standards in ISO 8100-32:2020 Lifts for the transportation of persons and goods – Part 32: — <i>Building population under population occupancy factor</i> — <i>2-way traffic profile (50% incoming – 50% outgoing) in each 5-minutes</i> — handling capacity: 7 per cent or more — average waiting time (<i>all floors</i>): 60 seconds or less
Page 41	In the vertical transportation report, include the <i>percentage of the population waiting beyond the</i> average waiting time.	Clause 2.1 have already set the design criteria requirement, to report the percentage of beyond the threshold does not add much value, especially with traffic simulations. Suggest the following wordings: In the vertical transportation report, include the <i>tipping point of the maximum building population or handling capacity that achieves the required</i> average waiting time.
Page 41	Consider lift redundancy (access to an alternative lift in case one lift is out of service).	The statement does not cover building designs where is not practical to have lift redundancy. Suggest adding the following wordings: <i>Where reasonably practical assessed by a suitably qualified person</i> , consider lift redundancy (access to an alternative lift in case one lift is out of service).

Kind Regards

Evan Chin | Engineering Manager



LIFT CONSULTANCY | PROJECT MANAGEMENT | STRATEGIC ACCOUNTS

Mob: 0467 868 588 | email: evan.chin@elevatorpm.com.au | web: www.elevatorpm.com.au

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Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 4:08 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 2022-2-ewpaa-nsw-sepp-consultation-submission.pdf

Submitted on Fri, 25/02/2022 - 16:04

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Gavin

Last name

Matthew

I would like my submission to remain confidential

No

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gavin.matthew@ewp.asn.au

Suburb/Town & Postcode

Virginia 4014

Please provide your view on the project

I object to it

Submission file

[2022-2-ewpaa-nsw-sepp-consultation-submission.pdf](#)

Submission

25 February 2022

NSW Department of Planning, Industry, and the Environment

Re: Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

The Engineered Wood Products Association of Australasia (EWPA) welcomes the opportunity to make a submission to the NSW Department of Planning, Industry, and the Environment (DPIE) on its draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper.

This submission will focus on the Sustainability in Residential Buildings (BASIX Overview) document, specifically the section dealing with a Materials Index. We support in-principle the inclusion of a Materials Index within BASIX, although an effective reporting and documentation framework for materials needs to be further developed, calculations and definitions need clarity, and any limitations for developers addressed.

However, on Page 10 of the Sustainability in Residential Buildings (BASIX Overview) document, the following statement is made: "Default factors for embodied emissions of materials will be based on the well-recognised EPiC database." This proposed aspect of the design of the Index is of significant concern and is not supported for the reasons detailed below; including it would disadvantage our domestic manufacturing compared to imported building products which will continue to use existing ISO standards and Environmental Product Declarations (EPDs).

In December 2021, the Building Products Industry Council (BPIC) wrote to the NSW Minister for Planning and Public Spaces, Minister Stokes, detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government. EWPAA is an active member of BPIC.

Principally our concerns relate to the NSW Government's proposed use of Input-Output (I-O) or Hybrid Analysis (HA) LCA methodologies, such as contained in the EPiC database produced by the University of Melbourne. The use of the I-O or HA methodologies is seen as inappropriate in individual embodied carbon studies of products or buildings and will lead to many unintended and perverse outcomes in the construction sector.

I-O or HA economic based data in the EPiC database are not appropriate for comparative assessment of building products or constructed dwellings and their use will give inconsistent and much higher values compared to the current and internationally recognised 'process-based' LCA methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

Use of the I-O or HA (via EPiC) methodology might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - it is not intended for individual product or project based environmental impact assessments.

Use of I-O or HA approaches (via EPiC) rather than 'process based' EPD information for building products within schemes like BASIX will have significant unintended and perverse outcomes, such as:

- Preferentially advantaging imported building products that utilise process based LCA methodology credentials based on EPDs and ISO standards over local Australian products which will have significantly higher I-O or HA LCA (via EPiC) outcomes.
- If adopted widely, the HA LCA approach (via EPiC) data will greatly over-report NSW's embodied carbon figures for building products compared to other Australian and overseas jurisdictions, for example:
 - o For softwood timber the EPiC HA value of Greenhouse Gas Emissions is 549 kgCO₂e/m³ compared to 181 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation (3 times higher).
 - o For plasterboard the EPiC HA value of embodied energy is 0.44 kgCO₂e/kg compared to 0.096 kgCO₂e/kg using the internationally agreed EPD-backed process method of calculation (4.6 times higher).
- Will undermine all the work and enormous investment that building product suppliers have made in complying with international carbon measurement standards and development of EPDs.

I-O or HA approaches (via EPiC), significantly increase embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer. This perversely creates a strong disincentive for manufacturers to improve their environmental performance, as no matter what they might achieve, the externalities employed in the EPiC methodology will always disadvantage them.

These I-O or HA methodologies are complex and black box arrangements using hidden and proprietary algorithms, and not independently verified, so it is extremely difficult if not impossible for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes.

EWPAA urges the NSW Government and the BASIX administrator to not pursue the proposed I-O or HA approaches (via EPiC) but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

If you have any queries on this submission, please contact Gavin Matthew (EWPAA CEO) on gavin.matthew@ewp.asn.au.

The Engineered Wood Products Association of Australasia (EWPAA) is a member association for manufacturers of engineered wood products (EWP), particularly solid timber, plywood, laminated veneer lumber, glue laminated timber, cross laminated timber, particleboard, and medium density fibreboard located throughout Australasia, including Australia, New Zealand, Fiji, and Papua New Guinea. See www.ewp.asn.au. On behalf of our industry sector and member companies, EWPAA coordinates a broad market development program, including product certification and testing, PEFC Chain of Custody certification, standards development, research and development facilitation, and technical support.

I agree to the above statement

Yes



Re: Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

The Engineered Wood Products Association of Australasia (EWPA) welcomes the opportunity to make a submission to the NSW Department of Planning, Industry, and the Environment (DPIE) on its draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper.

This submission will focus on the *Sustainability in Residential Buildings (BASIX Overview)* document, specifically the section dealing with a Materials Index. We support in-principle the inclusion of a Materials Index within BASIX, although an effective reporting and documentation framework for materials needs to be further developed, calculations and definitions need clarity, and any limitations for developers addressed.

However, on Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document, the following statement is made: “Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.” This proposed aspect of the design of the Index is of significant concern and is not supported for the reasons detailed below; including it would disadvantage our domestic manufacturing compared to imported building products which will continue to use existing ISO standards and Environmental Product Declarations (EPDs).

In December 2021, the Building Products Industry Council (BPIC) wrote to the NSW Minister for Planning and Public Spaces, Minister Stokes, detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government. EWPA is an active member of BPIC.

Principally our concerns relate to the NSW Government’s proposed use of Input-Output (I-O) or Hybrid Analysis (HA) LCA methodologies, such as contained in the EPiC database produced by the University of Melbourne. The use of the I-O or HA methodologies is seen as inappropriate in individual embodied carbon studies of products or buildings and will lead to many unintended and perverse outcomes in the construction sector.

I-O or HA economic based data in the EPiC database are not appropriate for comparative assessment of building products or constructed dwellings and their use will give inconsistent and much higher values compared to the current and internationally recognised ‘process-based’ LCA methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

Use of the I-O or HA (via EPiC) methodology might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - **it is not intended for individual product or project based environmental impact assessments.**

Use of I-O or HA approaches (via EPiC) rather than 'process based' EPD information for building products within schemes like BASIX will have significant unintended and perverse outcomes, such as:

- **Preferentially advantaging imported building products** that utilise process based LCA methodology credentials based on EPDs and ISO standards over local Australian products which will have significantly higher I-O or HA LCA (via EPiC) outcomes.
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I-O or HA approaches (via EPiC), significantly increase embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer. This perversely creates a strong disincentive for manufacturers to improve their environmental performance, as no matter what they might achieve, the externalities employed in the EPiC methodology will always disadvantage them.

These I-O or HA methodologies are complex and black box arrangements using hidden and proprietary algorithms, and not independently verified, so it is extremely difficult if not impossible for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes.

EWPAAs urges the NSW Government and the BASIX administrator to not pursue the proposed I-O or HA approaches (via EPiC) but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

If you have any queries on this submission, please contact Gavin Matthew (EWPAAs CEO) on gavin.matthew@ewp.asn.au.

The Engineered Wood Products Association of Australasia (EWPAAs) is a member association for manufacturers of engineered wood products (EWP), particularly solid timber, plywood, laminated veneer lumber, glue laminated timber, cross laminated timber, particleboard, and medium density fibreboard located throughout Australasia, including Australia, New Zealand, Fiji, and Papua New Guinea. See www.ewp.asn.au. On behalf of our industry sector and member companies, EWPAAs coordinates a broad market development program, including product certification and testing, PEFC Chain of Custody certification, standards development, research and development facilitation, and technical support.

Submitted on Mon, 28/02/2022 - 17:44

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Stephen

Last name

Mitchell

I would like my submission to remain confidential

No

2 Info

Email

[HYPERLINK "mailto:chair@epd-australasia..com" chair@epd-australasia.com](mailto:chair@epd-australasia..com)

Suburb/Town & Postcode

Earlwood NSW 2206

Please provide your view on the project

I am just providing comments

Submission file

[epd-australasia_submission-re-basix-materials_feb2022_final.pdf](#)

Submission

Our submission is on behalf of EPD Australasia and is focused on feedback to the proposed Materials Index in the NSW BASIX - 'Sustainability in Residential Buildings'..

I agree to the above statement

Yes

Submission to the

Design and Place SEPP 2021 Consultation

Prepared by:

Stephen Mitchell – Chair of EPD Australasia Ltd
315a Hardy Street
Nelson 7010 New Zealand
Phone: +61 432 860 100
Email: chair@epd-australasia.com

28 February 2022

Comment

We write to comment on the proposed BASIX materials index. Specifically, the proposal to include default factors for embodied emissions of materials will be based on "the well-recognised EPiC database."

We support the concept of measuring and setting a benchmark for embodied carbon footprint of residential buildings. However, we submit that there are better and more appropriate sources of data than the EPiC database proposed.

Environmental Product Declarations (EPDs) are third-party verified and registered documents that communicate the environmental impact (including the carbon footprint) and other relevant environmental information about the life-cycle environmental impact of products.

EPDs for building and construction products have quite a number of advantages over alternative sources of carbon footprint and other data. Namely:

- EPD data is product specific (i.e., not generic).
- EPD data is developed by qualified professionals to well-recognised international ISO and best practice European standards.
- EPD data is third-party verified.
- As the data is developed using a process-based life cycle assessment (LCA) methodology, the LCA EPD process allows building and construction product suppliers to identify and plan reductions in the carbon footprint of their products.
- EPDs provide data on a products carbon footprint plus other environmental impacts - i.e., they provide much more information than just embodied carbon impact.
- EPDs are part of an international system of EPDs that puts Australian producers on the same environmental reporting footing basis as imported product and puts Australian exporters on a level playing field.
- There is strong industry support from across building materials sectors – see footer for organisations with EPDs registered with EPD Australasia.

Organisations in Australia and New Zealand with EPDs registered with EPD Australasia: Abodo Wood, Allied Concrete Limited, Asaleo Care Ltd, Asp Access Floors, Australian Reinforcing Company (Arc), Barchip Inc., Bluescope, Boral, Bridgeman Concrete, Concrete, CSR Martini Pty Ltd, Daiken New Zealand Limited, David Trubridge Limited, Downer Edi Limited, Dulux Australia, Fibercon, Firth Industries Limited, Fletcher Steel Ltd And Its Subsidiary Pacific Coilcoaters, Forest And Wood Products Australia Ltd (FWPA), Galvanizers Association Of Australia (GAA), Golden Bay Cement, Hanson, Holcim (Australia) Pty Ltd, Holcim NZ Ltd, HR Cement, Hymix, Infrabuild Australia, Innowood Australia Pty Ltd, Iplex Pipelines Australia Pty Ltd, Iplex Pipelines Nz, James Hardie® Industries Ltd, Karndean Designflooring (Australia), Kingfield Galvanizing, Kingspan Insulated Panels, Liberty Primary Steel, Mitsubishi Chemical Infratec Co., Ltd., New Zealand King Salmon Ltd, New Zealand Steel Limited (Bluescope), NXT Tec. Ltd, Pacific Steel (NZ) Limited, Railconnect, Red Stag Timber, Red Stag Wood Solutions, Repurpose It, Rondo, Stevenson Concrete, Successori Reda S.P.A., Tasman Insulation New Zealand Limited, Tate Asia Pacific Pty Ltd, Tufduct Pty Ltd., Vinindex Pty Limited, Winstone Aggregates, Winstone Wallboards Ltd, Wood Processors' And Manufacturers' Association Of New Zealand (Inc.) (WPMA), Woven Image Pty Ltd, Xlam, Zenith Interiors, Zip Water (Aust) Pty. Ltd.

- EPDs registered with EPD Australasia are required to be reviewed every year to ensure data is not less than 10% greater than that reported in the EPD.
- EPDs registered with EPD Australasia are required to be reverified every 5 years.
- EPDs are well integrated with sustainable building assessment standards such as EN15978, ISO 21930 and building rating tools such as those developed for Green Building Councils of Australia and New Zealand as well as the Infrastructure Sustainability Council.
- EPDs are publicly and freely available.
- EPD Australasia is a well-governed organisation operating to international standards on a non-profit basis

The EPiC database falls short in a number of key areas of credibility, consistency, updateability, transparency of methodology and governance. The data is not third-party verified.

Therefore, EPD Australasia requests that the NSW Government, and the developers of the proposed BASIX materials index in particular, reconsiders the inappropriate use of the EPiC database.

We put forward instead the proposal to adopt the current and internationally recognised ‘process-based’ methodology that is most widely used by Australian building product manufacturers and suppliers, is globally accepted, based on agreed ISO standards, and reported through independently verified and registered Environmental Product Declarations (EPDs).

We are happy to contribute to genuine consultation on this issue and can be contacted by phone and/or email to discuss.

Organisations in Australia and New Zealand with EPDs registered with EPD Australasia: Abodo Wood, Allied Concrete Limited, Asaleo Care Ltd, Asp Access Floors, Australian Reinforcing Company (Arc), Barchip Inc., Bluescope, Boral, Bridgeman Concrete, Concrete, CSR Martini Pty Ltd, Daiken New Zealand Limited, David Trubridge Limited, Downer Edi Limited, Dulux Australia, Fibercon, Firth Industries Limited, Fletcher Steel Ltd And Its Subsidiary Pacific Coilcoaters, Forest And Wood Products Australia Ltd (FWPA), Galvanizers Association Of Australia (GAA), Golden Bay Cement, Hanson, Holcim (Australia) Pty Ltd, Holcim NZ Ltd, HR Cement, Hymix, Infrabuild Australia, Innowood Australia Pty Ltd, Iplex Pipelines Australia Pty Ltd, Iplex Pipelines Nz, James Hardie® Industries Ltd, Karndean Designflooring (Australia), Kingfield Galvanizing, Kingspan Insulated Panels, Liberty Primary Steel, Mitsubishi Chemical Infratec Co., Ltd., New Zealand King Salmon Ltd, New Zealand Steel Limited (Bluescope), NXT Tec. Ltd, Pacific Steel (NZ) Limited, Railconnect, Red Stag Timber, Red Stag Wood Solutions, Repurpose It, Rondo, Stevenson Concrete, Successori Reda S.P.A., Tasman Insulation New Zealand Limited, Tate Asia Pacific Pty Ltd, Tufduct Pty Ltd., Vinindex Pty Limited, Winstone Aggregates, Winstone Wallboards Ltd, Wood Processors’ And Manufacturers’ Association Of New Zealand (Inc.) (WPMA), Woven Image Pty Ltd, Xlam, Zenith Interiors, Zip Water (Aust) Pty. Ltd.

The Role of EPD Australasia

EPD Australasia is a framework for registering and publishes Environmental Product Declarations (EPDs) that are third-party verified to the international standard ISO 14025.

EPDs for building and construction products registered with EPD Australasia must also comply with EN 15804 and ISO 21930. EPD Australasia currently publishes EPDs for hundreds of building and construction products under the following categories:

Aggregates	Asphalt mixtures	Cement & building limes	Cladding & facade elements
Concrete & concrete elements	Floor systems	Insulated panels	Interior lining & panels
Lighting	Paint & coatings	Pipes	Steel & other metal products
Thermal insulations	Wood & wood-based products	Other building & construction products	

All EPDs are freely available on our website at www.epd-australasia.com and through our international partner the International EPD System at www.environdec.com

Building and construction material organisations in Australia and New Zealand with EPDs registered with EPD Australasia are listed in the footer below and include some of Australia's largest companies, many small and medium-sized enterprises and industry associations.

EPD Australasia operates a not-for-profit organisation EPD Programme governed by a Board of Directors who are all members of either the Australian or New Zealand life cycle assessment professional associations. The Programme's objectives include:

- Providing an option to industry in Australia and New Zealand to communicate their LCA work in a credible manner via Environmental Product Declarations.
- Providing an internationally recognised, third party-verified basis for declaration of product environmental performance, based on consistent and transparent rules.

Organisations in Australia and New Zealand with EPDs registered with EPD Australasia: Abodo Wood, Allied Concrete Limited, Asaleo Care Ltd, Asp Access Floors, Australian Reinforcing Company (Arc), Barchip Inc., Bluescope, Boral, Bridgeman Concrete, Concrete, CSR Martini Pty Ltd, Daiken New Zealand Limited, David Trubridge Limited, Downer Edi Limited, Dulux Australia, Fibercon, Firth Industries Limited, Fletcher Steel Ltd And Its Subsidiary Pacific Coilcoaters, Forest And Wood Products Australia Ltd (FWPA), Galvanizers Association Of Australia (GAA), Golden Bay Cement, Hanson, Holcim (Australia) Pty Ltd, Holcim NZ Ltd, HR Cement, Hymix, Infrabuild Australia, Innowood Australia Pty Ltd, Iplex Pipelines Australia Pty Ltd, Iplex Pipelines Nz, James Hardie® Industries Ltd, Karndean Designflooring (Australia), Kingfield Galvanizing, Kingspan Insulated Panels, Liberty Primary Steel, Mitsubishi Chemical Infratec Co., Ltd., New Zealand King Salmon Ltd, New Zealand Steel Limited (Bluescope), NXT Tec. Ltd, Pacific Steel (NZ) Limited, Railconnect, Red Stag Timber, Red Stag Wood Solutions, Repurpose It, Rondo, Stevenson Concrete, Successori Reda S.P.A., Tasman Insulation New Zealand Limited, Tate Asia Pacific Pty Ltd, Tufduct Pty Ltd., Vinindex Pty Limited, Winstone Aggregates, Winstone Wallboards Ltd, Wood Processors' And Manufacturers' Association Of New Zealand (Inc.) (WPMA), Woven Image Pty Ltd, Xlam, Zenith Interiors, Zip Water (Aust) Pty. Ltd.

- Providing the basis, processes, and documentation for development and delivery of EPDs in Australia and New Zealand.
- Contributing to establishing the “level playing field” sought by manufacturers for communication of environmental product/ service credentials.
- Providing a mechanism for integrating scientifically quantified information in rating tools.

The Programme is assisted in our work by a Technical Advisory Group (TAG) consisting of LCA Practitioners who are Certified by the Australian Life Cycle Assessment Society (ALCAS) and/or Life Cycle Assessment New Zealand (LCANZ).

EPD Australasia operates in compliance with international standard ISO 14025 in partnership with the International EPD System – the oldest and one of the largest EPD Programmes in the world.

Organisations in Australia and New Zealand with EPDs registered with EPD Australasia: Abodo Wood, Allied Concrete Limited, Asaleo Care Ltd, Asp Access Floors, Australian Reinforcing Company (Arc), Barchip Inc., Bluescope, Boral, Bridgeman Concrete, Concrete, CSR Martini Pty Ltd, Daiken New Zealand Limited, David Trubridge Limited, Downer Edi Limited, Dulux Australia, Fibercon, Firth Industries Limited, Fletcher Steel Ltd And Its Subsidiary Pacific Coilcoaters, Forest And Wood Products Australia Ltd (FWPA), Galvanizers Association Of Australia (GAA), Golden Bay Cement, Hanson, Holcim (Australia) Pty Ltd, Holcim NZ Ltd, HR Cement, Hymix, Infrabuild Australia, Innowood Australia Pty Ltd, Iplex Pipelines Australia Pty Ltd, Iplex Pipelines Nz, James Hardie® Industries Ltd, Karndean Designflooring (Australia), Kingfield Galvanizing, Kingspan Insulated Panels, Liberty Primary Steel, Mitsubishi Chemical Infratec Co., Ltd., New Zealand King Salmon Ltd, New Zealand Steel Limited (Bluescope), NXT Tec. Ltd, Pacific Steel (NZ) Limited, Railconnect, Red Stag Timber, Red Stag Wood Solutions, Repurpose It, Rondo, Stevenson Concrete, Successori Reda S.P.A., Tasman Insulation New Zealand Limited, Tate Asia Pacific Pty Ltd, Tufduct Pty Ltd., Vinidex Pty Limited, Winstone Aggregates, Winstone Wallboards Ltd, Wood Processors’ And Manufacturers’ Association Of New Zealand (Inc.) (WPMA), Woven Image Pty Ltd, Xlam, Zenith Interiors, Zip Water (Aust) Pty. Ltd.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Sunday, 27 February 2022 8:49 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021

Submitted on Sun, 27/02/2022 - 20:48

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Richard

Last name

Haynes

I would like my submission to remain confidential

No

Info

Email

richard@etoolglobal.com

Suburb/Town & Postcode

6000

Please provide your view on the project

I object to it

Submission

To Whom it May Concern,

Whilst eTool absolutely support lower carbon building and targets intended to achieve that outcome.

Unfortunately we can't support the intended framework and detail of the methods. Our main objections are:

- Splitting life cycle carbon targets into "Operational" and "Embodied". This is because the inter-relationship between operational and embodied performance is nearly always inter-twined. It doesn't make sense to impose a penalty on one category without recognising a much larger gain in the other. This is going to penalise the lowest carbon buildings and significantly increase the cost of achieving a target. The planet doesn't have time to slowly de-carbonise, we need to set aggressive targets and give the industry the most possible flexibility in achieving those targets.
- Use of an index instead of just setting Global Warming Potential targets reduces transparency and scrutinisation as well as creating difficulty for the market (including supply chains) to adjust in the most cost effective manner.
- Reinventing a methodology when robust, extremely well considered standards already exist (e.g. EN15978). The likelihood of poor outcomes not recognised by a relatively small technical committee and consultation group is much higher. This also isolates the Australian market in terms of available skills, LCI data and software.
- The use of the Hybrid EPiC database for environmental factors. eTool have been engaging with the Authors of EPiC to provide feedback on inconceivably high Global Warming Potential figures for some materials (both low and high). To date the Authors have not provided reasonable explanations for the figures nor committed to reviewing and updating. Example 1, Softwood Timber has

an included "Road Transport" impact of 138kgCO₂ / m³ yet this equivalent to transporting the product some 1000kms on an articulated truck (yet the EPiC figures are reportedly cradle to gate, that is at the gate of the sawmill). Our calculations after consulting many industry sources for real world data on transport methods, distances, log densities, mill waste factors etc is that the impact is likely to be under 20kgCO₂e/m³ for transport (approximately 7 times less than the EPiC figure). EPiC authors have been unable to explain this. Example 2 is ready mix concrete. The AusLCI process data figures for concrete align well with EPiC despite very poor alignment of all major ingredients. EPiC reporting much higher numbers for sand (380%), gravel (177%) and Portland cement (30%) yet the 32MPa, 40MPa and 50MPa concrete figures are all within +/- 5%. This simply doesn't make any sense and points to an issue with the EPiC model that needs to be addressed. The EPiC data is also now approaching three years of age without any committed maintenance activities or a roadmap for improvements. The EPiC data is also not independently reviewed.

- The choice of EPiC also removes the ability to utilise EPDs within the index which severely the industry's ability to actually respond to low carbon designs, there will be no proper market signal or incentive for individual suppliers to improve their supply chains.

Once again, we wanted to voice our support for the initiative and if the choice was between "nothing" and what is being proposed we would support the proposed. However we felt a responsibility to provide written feedback regarding obvious areas for improvement which can be summarised below:

- Use a whole of life target instead of splitting targets into embodied and operational to maximise the flexibility industry has to deliver low carbon and affordable housing.
- Apply the EN15978 standard which is well recognised, better researched, more widely consulted, provides for more transparent reporting and is far better aligned with the direction of global supply chains than the proposal.
- Utilise a background data source that aligns with EN15804 enabling the use of EPDs and a transparent set of methods and results.
- Utilise a background data source which is independently reviewed and continually supported, maintained and improved. AusLCI would be the obvious choice here.

Thank you for consideration of our feedback.

Richard
Director - eTool

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 1:26 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: design-and-place-sepp-submission---bennelong-parkway,-wentworth-point.pdf

Submitted on Fri, 25/02/2022 - 13:23

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Anna

Last name

Johnston

I would like my submission to remain confidential

No

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anna.johnston@fileplanning.com

Suburb/Town & Postcode

2049

Please provide your view on the project

I am just providing comments

Submission file

[design-and-place-sepp-submission---bennelong-parkway,-wentworth-point.pdf](#)

Submission

See attached

I agree to the above statement

Yes

25 February 2022

Mr Mick Cassel
Secretary
Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Submission to public exhibition of the draft Design and Place SEPP

Dear Mr Cassel

This submission has been prepared on behalf of my client, Piety Group, in relation to the to the implications of the Design and Place SEPP for a Part 3A Concept Plan approval that applies to their landholdings located at the intersection of Hill Road and Bennelong Parkway in Wentworth Point described as Lot 14 DP271179. **In this regard we are seeking that the savings and transitional provisions for concept development applications under the SEPP are extended to apply to Concept Plans approved under the former provisions of Part 3A of the *Environmental Planning and Assessment Act 1979 (Act)* as discussed in further detail within this letter.**

The Concept Plan approval for the site (MP09-0160) was originally granted under the former provisions of Part 3A by the Planning Assessment Commission on 22 June 2010 for the development of the site for residential apartment buildings with a floor area of 44,730sqm ranging in height from four to eight storeys with a notional yield of 573 dwellings.

A modification to the Concept Plan approval was granted by DPIE on the 22 December 2020 (MP09_0160 MOD4) which amended the approval as it relates to Buildings C and F which are the only remaining buildings to be delivered within the site. The modification approved a revised built form envelope and an illustrative master plan which has been based on the existing Apartment Design Guide criteria.

A development application to progress approval of the construction of Buildings C and F is currently being prepared and is expected to be lodged shortly with Parramatta Council. This follows a formal pre-DA process with Council which included a pre-DA meeting and review by Council's Design Excellence Advisory Panel in November 2021.

We note that the Draft Design and Place SEPP includes savings and transitional provisions (Section 38) which set out that the Policy does not apply to:

- (b) a development application that is part of a concept development application if the development application is lodged within 2 years after development consent was granted to the concept development application.*

We are supportive of this provision, but would request that for the avoidance of any doubt, it be amended to clearly apply to Concept Plan approvals under the former provisions of Part 3A of the Act. This will ensure that the provisions of the current Apartment Design Guide can be applied to future development on the site consistent with their application in the plans approved under the Concept Plan.

Thank you for the opportunity to make a submission to the Design and Place SEPP.

Regards,

A handwritten signature in dark ink, appearing to read "Michael File". The signature is fluid and cursive, with the first name "Michael" and the last name "File" clearly distinguishable.

Michael File

Director

Phone: 0433 458 984

E-mail: Michael@fileplanning.com

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:41 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: frasers-property-australia-dp-sepp-submission-28feb22.pdf

Submitted on Mon, 28/02/2022 - 16:00

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

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George

Last name

Massoud

I would like my submission to remain confidential

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Suburb/Town & Postcode

Sydney

Please provide your view on the project

I object to it

Submission file

[frasers-property-australia-dp-sepp-submission-28feb22.pdf](#)

Submission

Please see attached submission

I agree to the above statement

Yes

28 February 2022

Department of Planning, Industry and Environment
Submission to the Draft Design and Place State Environmental Planning Policy 2021
Locked Bag 5022,
Parramatta, NSW 2124

FRASERS PROPERTY AUSTRALIA'S SUBMISSION TO THE DRAFT DESIGN AND PLACE SEPP 2021

Thank you for providing the opportunity to comment on the draft *Design and Place State Environmental Planning Policy 2021* (DP SEPP). Frasers Property Australia (Frasers) supports the Government's commitment to creating great places and good design as we believe it is critical to ensuring the success and sustainable growth of our urban areas. As a major developer of master planned residential, commercial, industrial, and mixed-use developments across NSW, Frasers has a significant interest in the draft DP SEPP.

The implementation of a realistic and workable planning framework is critical to increasing the supply of housing, employment spaces and the infrastructure required to support new development across NSW. This submission provides our feedback on the exhibited Draft Design & Place SEPP 2021, whilst there are elements of the DP SEPP package that we think are positive improvements, for the reasons outlined in this letter we do not support the DP SEPP in its current form and request that it be amended to comprehensively address these issues prior to finalisation.

1.0 A Performance Based Assessment Framework

Frasers can see the extensive work that has gone into the preparation of the DP SEPP and appreciated the opportunity provided by the GANSW to input into the process following the public exhibition of the Explanation of Intended Effect (EIE), which led to numerous improvements to the ADG from the EIE. During the process, Frasers took the GANSW on a site visit of its Central Park development, which has been held up as an exemplar mixed-use precinct by Government, City of Sydney Council, industry and professional groups and the general public.

At the site visit, the GANSW requested that Frasers prepare a submission by way of an assessment of the residential components of the precinct against the proposed amendments. The analysis undertaken confirmed that, despite the accepted design quality of the buildings, they each fail to comply with several key design and amenity criteria in the existing and proposed ADG and UDG. The key areas of non-compliance include solar and daylight access, number of apartments per floor, apartment size and layout, natural ventilation, private and communal open space provision, deep soil and tree canopy cover.

During the assessment of the Central Park the Department, as the assessment authority, and the Planning Assessment Commission, as the consent authority, consistently applied a flexible and pragmatic approach to the assessment of the buildings. This was by way of a process of acknowledging the broad range of the factors that drive amenity on the site, both location-based (external amenity) and design based (internal amenity). This enabled design flexibility, creating a precinct with aesthetically interesting and attractive buildings that still provides superior residential amenity for its inhabitants and highly accessible public domain for the broader community to use.

Unfortunately, this merit-based approach, considering and weighing the full range of factors that drive amenity for development, is not facilitated through the ADG & UDG nor the proposed DP SEPP. Fraser's extensive development experience across NSW has shown that SEPP 65 and the ADG is typically treated by consent authorities, including the Department, as a rigid development checklist, which in many cases

detracts from the ability to deliver site-specific, high-quality design outcomes. Whilst the DP SEPP does aim to be a more performance-based assessment framework, the drafting of the SEPP and the ADG are likely to drive an increase in rigid development assessment, and as a result, Frasers believes further work should be done to the DP SEPP before it is finalised.

2.0 Savings and Transitional Provisions

In addition to the above, Frasers strongly request that appropriate savings and transitional provisions be introduced to the DP SEPP in order to provide certainty for projects that have already been approved, and in particular for master planned sites with Concept DA (or Part 3A) approvals. The introduction of the new policy has the potential to materially impact the yield of these long-term approvals upon which major financial decisions have been made that also impact the state of NSW.

For example, Fraser's redevelopment of the Ivanhoe Estate in Macquarie Park in partnership with NSW Land and Housing Corporation is an entirely self-funding program which enables the delivery of over 3,000 new dwellings including over 1,000 social housing dwellings. If the subsequent DAs under the approved Masterplan are not protected from the D+P SEPP, then it will impact on the overall yield and consequently the delivery of social and affordable housing on the site.

Section 38 of the DP SEPP does provide savings and transitional provisions. However, they only apply to DAs and Modification lodged within 2 years after the development consent was granted. The life of masterplan consents is often 10+ years and therefore a 2-year period is insufficient to protect the long-term realisation of the consents. Whilst implementing the intent of the DP SEPP into existing masterplans has the potential to improve the quality of those dwellings, it fails to consider the economic and social implications of the change being introduced retrospectively to a large long-term consent.

Accordingly, we request that clause 38(1)(b) is amended to delete the 2-year cut-off timeframe for existing approved concept plans. It is further recommended that any savings provision should protect existing concept approvals indefinitely. It is also vital the savings provisions apply to any subsequent Modifications or associated Development Applications, and that this is clearly outlined in the SEPP.

3.0 Legal Drafting and Terminology

As discussed in Section 2, Frasers is very concerned with the practical implementation of the DP SEPP. Whilst the document aims to allow for a principles-based assessment, the draft DP SEPP includes rigid requirements as well as ambiguous terminology which are not supported in their current form and should be clarified and defined further prior to finalisation, otherwise we foresee very real risks of interpretation and potentially an increasing adversarial legalistic assessment process.

The DP SEPP needs to be clearer in terms of flexibility – in particular, the flexibility it is affording to the application of the ADG and the UDG. The terms “criteria” and “compliance” are used intermittently throughout the exhibited suite of documents and aren't conducive of a flexible merits-based approach to applying these guidance documents.

An important and relevant example of this is in the Principles of the DP SEPP document. The principles are broad and lend themselves to a degree of flexibility which is welcomed. However, clause 13 sets out:

*“(1) Development consent **must not be granted** for development to which this Policy applies unless the consent authority is satisfied that the development **is consistent** with the design principles”*

*“(2) In determining whether development **is consistent** with the design principles, the consent authority **must** take into account the design considerations for each design principle.” [our emphasis added].*

The strong terminology in clause 13 conflicts with the flexible intent of the broad, highly subjective principles. In our view this wording has significantly more impetus than the current wording of SEPP 65 and has potential to enable consent authorities to apply the design principles more rigidly than they are intended, and in isolation from the aims of the DP SEPP. We recommend that clauses 13(1) and 13(2) be amended to read; “the consent authority is satisfied that the development **has taken into consideration** the design principles **and DP SEPP aims**” [our emphasis added].

Further, each of the 10 considerations is prefaced by a strict requirement for the consent authority to consider or to be satisfied with, some of which may not be capable of being satisfied despite the overall merits of the development, for example:

- *17 The consent authority must be satisfied of the following... (c) the development does not result in an adverse impact on, or net loss of, public open space*

Working with the recommendation in Clause 13, we would recommend this prefacing requirement be deleted in front of the principles.

We also recommend that for the guidelines to be treated as such, the language is amended to consistently refer to “guidance” and “consideration” in order to give real weight to the intent of clauses 24(3)(a) and 30(3)(a), and to allow for alternative solutions to be considered.

Similarly, we also recommend that throughout the DP SEPP, absolute terms such as “minimise” or “maximise” should be removed. These terms place the onus on proponents to go to considerable detailed design analysis, not only to demonstrate that impacts of a proposal are acceptable, but to prove beyond that, that a particular impact is the most or the least that it could possibly be. We foresee that inclusion of these ‘absolute’ terms will increase the amount of negotiation required during assessment and result in protracted development assessment timeframes.

4.0 Other Issues

- ◆ **Design and Place SEPP:** We find the subjectivity of the principles and considerations, and sheer number of additional points of assessment (51) to be problematic. It is our view, the removal of the weight afforded to the 5 principles, and a rationalised version of the considerations and sub-clauses would be sufficient in providing a simplified planning framework, without diluting the aims and objectives of the framework. The DP SEPP uses strong terminology which is not conducive to allowing proponents and consent authorities to benefit from the flexibility and merits-based assessment that the DP SEPP aims to provide.
 - **Recommendation:** As noted above, we recommend that clauses 13(1) and 13(2) be amended to read; “the consent authority is satisfied that the development **has taken into consideration** the design principles **and DP SEPP aims**” and the prefacing requirement to consider or be satisfied with in each design consideration be deleted.
 - **Recommendation:** The number of additional points of assessment (51) should be consolidated.
- ◆ **Apartment Design Guide (ADG):** As noted above, we support the amendments to the ADG from the EIE and consider that with some further refinements this document could be adopted under SEPP 65, ahead of the wider DP SEPP framework. We do however note that the amendments to cross ventilation will necessitate additional cores which will materially impact on the yield and efficiency of buildings, adding significantly to the cost of their construction for limited benefit and is therefore not supported and should be left in its current form.
 - **Recommendation:** Remove the 225° test as it creates perverse outcomes and does not deliver the desired intent to establish a simple DTS solution for natural cross ventilation.
 - **Recommendation:** Solar access window be extended to 4pm on 22 June.

- ◆ **Urban Design Guide (UDG):** The structure of the UDG is very clearly a guide, and this approach is welcomed. It's role in providing a common language of assessment for urban design practitioners to use, is supported. However, the document introduces 19 further objectives, and requires stand-alone Design Verification Statements (DVS) which we consider to be onerous given that the UDG is intended to have a role as a 'guide' and is likely to result in significant delays and issues in the DA process where Council's lack the sufficient skills to assess application through it. Accordingly, we believe the document should not be used as an assessment tool, but rather be a guide to designers and a point of reference for Design Review Panels on DAs for large sites where there is no site-specific DCP in place or as part of a Planning Proposal.

We note that the UDG is an entirely fresh document presented to this industry in this exhibition and unlike the revised ADG (which went through an early round of review via the EIE process) has not been subject to useful industry input, review, and refinement to be the best it can be. Whilst well written and structured in principle, it needs development industry oversight and refinement before adoption. In addition to changing the way it is applied as noted above, we recommend:

- **Recommendation:** As with the ADG, we consider that the terminology used is 'absolute' and facilitates a prescriptive approach to implementing the guidelines. This is likely to result in sub-optimal design outcomes. We recommend that the terms "minimise" and "maximise" are replaced throughout the document with softer language that allows greater flexibility.
- **Recommendation:** Part 57A(1)(b) EP&A Amendment (Design and Place) sets out that the Design Verification Statement (DVS) must "*explain how the design is **consistent** with design review panel advice*". The use of the word 'consistent' has the effect of removing flexibility that consent authorities may have otherwise had regard to design review panel advice. This elevates the role of design review panels above that of the planner who is ultimately responsible for considering all the competing considerations on a site and finding the best planning outcome. We would encourage that this word is replaced with "consideration" in order to prevent this from occurring as well as minimising delays to development delivery which may result from re-referral back to design review panel over minor matters.
- **Recommendation:** A DVS must also be submitted with modification applications under the draft DP SEPP. We consider that this blanket approach will likely result in unnecessary delay to the assessment process, particularly where a modification is minor. We recommend that a clearly worded caveat be applied to only require modifications that substantially deviate from previous panel advice to be referred.
- **Recommendation:** Appropriate implementation of the UDG will be essential to the delivery of high-quality design outcomes. We believe that if the UDG is applied in a rigid manner, as a 'compliance tool' (in a similar manner to the existing application of the existing ADG) it will present additional complexity in the planning assessment process and deliver sub-optimal design outcomes. We recommend that the level of detail provided in the UDG be simplified if it is going to be used for that purpose.
- ◆ **Design Review Panel Manual:** We welcome a guide to provide consistency between Design Review Panel (DRP) experiences. However, we believe the Manual along with the DP SEPP drafting places disproportionate weight on the role of DRPs. We advocate for amendments to be made to ensure DRP reviews and written feedback are timely, do not conflict with proponent's rights to lodge development applications, and are carried out in an independent manner. The latter being vital to the integrity of panels and their role in the determination process.
 - **Recommendation:** Amend Part 57A(1)(b) the EP&A Amendment (Design and Place) to clearly allow consent authorities to exercise discretion over DRP comments.
 - **Recommendation:** Embed the response to design review panel comments within the SEE or Design Report (as required) rather than as a separate report required for lodgement.

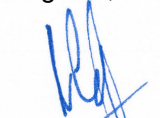
- **Recommendation:** Afford more weight to design review panels being both independent from council.
- ◆ **Workforce Capabilities and Resourcing:** The draft DP SEPP includes new metrics and criteria which aim to improve design outcomes. Several additional Consultants will be required to provide services to support the lodgement of development applications. We raise concern over consent authorities' ability to assess additional specialist reports in a timely manner. We believe the number, and complexity of these additional requirements for the lodgement of DA's and Planning Proposals will lead to further delays in determination, or to a more convoluted planning pathway where consent authorities will be requiring applications are withdrawn, rather than negotiating resolutions.
 - **Recommendation:** It is recommended that the Department reconsiders the extent of documentation required to accompany Development Applications and Planning Proposals. It is necessary to make provision for deliverable requirements to be determined on merit, as opposed to in response to rigid standards that may not be necessary in the context of the proposal.
 - **Recommendation:** It is further recommended that a targeted program of training for stakeholders should be delivered, including for consent authorities, to address the existing skillset disparity and resource shortages that challenge the viability of introducing additional assessment metrics and criteria.
- ◆ **Planning Cost:** Fundamentally, the DP SEPP will result in significant up-front cost to proponents. We see additional cost arising through increased and ongoing referrals to design review panels, through the expanded list of deliverables and consultant expertise required for lodgement, and through the protracted determination timeframes that the DP SEPP will give rise to. Frontloading the design component only proves to place this cost at the point of highest risk when pursuing a planning pathway.
- ◆ **Housing affordability:** The proposed legislation, while clearly tackling design and sustainability issues, does so at the expense of affordability. Based on our review, the proposed planning process will not only be more expensive to run and take longer (noting that time taken to currently run the planning process in NSW is the single biggest factor informing project feasibility), but it will also introduce uncertainty. These factors contribute to the housing supply equation, which together with cost implications will correlate with a further reduction in housing affordability.

The release of the policy could not come at a worse time for NSW as we are struggling to recover from the impact of the COVID-19 pandemic, construction shutdowns, worker shortages, supply chain issues and increased cost of materials. The impact to the construction industry and resultant loss of jobs, is a challenge that is only beginning to appear. We have seen several well-established organisations collapse under these pressures, most recently our partner builder Probuild. These impacts will see a decrease in housing supply, worsening affordability and decline in state productivity

Thank you for the opportunity to provide a submission to the draft DP SEPP. Frasers welcomes the opportunity to work collaboratively with the Department and looks forward to delivering on our shared commitment to provide great places for our communities to live, work, and play.

Should you require any further information in relation to the matters raised in this submission, please do not hesitate to contact the undersigned.

Regards,



Nigel Edgar
General Manager Development
Frasers Property Australia Pty Limited

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 9:19 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: design-seep-submission-280222.pdf

Submitted on Mon, 28/02/2022 - 21:17

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

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Last name

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I would like my submission to remain confidential

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Suburb/Town & Postcode

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Please provide your view on the project

I support it

Submission file

[design-seep-submission-280222.pdf](#)

Submission

Please see the attached document.

I agree to the above statement

Yes

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28 February 2022

Re: The Design and Place SEPP 2021

To Whom It May Concern,

I write this submission on behalf of my organisation. I will also declare that I am an accredited NatHERS Assessor. The business, which I am a director and also founded, Fry Energywise, provides a suite of services to the building and construction industry, predominantly thermal and sustainable advise and reports to the residential construction sector.

These services include, BASIX Reports, NatHERS assessments and Certificates, Section J Reports, plus other sustainable and environmental reports as required by our clients from time to time. When required we often outsource consultants' expertise, such as engineers to assist with some of the reports. It is our long-term plan to add to our team engineers and other suitably qualified people to expand on the suite of service we offer. This may include the proposed Merit Assessment Pathway

Our experience with related software includes products such as, NatHERS Accredited software Bers Pro, First Rate 5 and Hero. We also have provided reports essentially for Section J, JV3 compliance, using Design Builder and IES software.

I have been part of the residential building industry now for over 40 years. I hold formal qualifications in building and construction and thermal building performance. I have also successfully completed training and held accreditation in NABERS. Our submission should not be seen as a view of an accredited NatHERS Assessor, more so as a view from an experienced and qualified person from within the residential housing industry.

Frys Energywise extensive range of clients include the Masterton Group, Clarendon Group, McDonald Jones Group, Rawson Homes, Lend Lease and number of other top 20 project homes builders in NSW. Our client base also extends to a number Architects, designers and developers. In 2019 Frys Energywise was recognised by CSIRO as not only NSW largest accredited NatHERS assessor, but also Australia's Largest accredited assessor in Class 1 dwellings.



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Merit Assessment Pathway

We are supportive of identifying an alternative pathway to broaden the range of options available to meet sustainable and thermal compliance for residential homes in NSW. However, we do have concerns with the detail we have been provided with in the draft to allow proper evaluation.

The current draft proposal is relying on energy modelling software meeting the international technical standard, ASHRAE 140-2017. It is from our research and understanding that very few countries use software, meeting the above ASHRE Standard, for low rise residential construction. The software is traditionally used for high rise residential and commercial applications. A possible option for Class 2 dwellings, but not proven for Class 1 dwellings.

Thermal modelling, using the ASHRAE standard software, requires extensive training to ensure the outputs are both accurate and meet the required compliance. There has been no mention of any requirement to ensure suitable qualified persons are appropriately trained and hold accreditation in the various approved software. **What is proposed to train and accredit the suitably qualified persons in the software?**

The limited use of this software in Australia will mean there will be very few suitably qualified and trained personal to conduct the assessments required for the Merit Assessment pathway. Training resources will be critical

The modelling of air tightness and cross flow ventilation, using the Design Build, a proposed approved software, is not included in the modelling process. This will result in inconsistent outcomes and thermal performance when compared with the current NatHERS software. Air tightness specifically is critical to reduced energy consumption. Has this been identified and what provisions have been put in place to offset the lack of air tightness?

We already see a disconnect between the BASIX DIY pathway and NatHERS simulation where heating and cooling outcomes are totally out of sink and therefore dwellings using the NatHERS simulation are performing completely different to dwellings using the DIY pathway. Introducing a 3rd pathway without out proper due diligence, will only see the thermal quality of new builds in NSW further decline.

Quality of assessments will be critical. We have already addressed the need for proper training, what is in place to audit the software assessments? The draft states that Architects, Engineers and members of AIRAH will be bound by their code of conduct. Where in the codes of conduct does it require appropriate training in the approved software? Who will audit the software reports?

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There is already a lack of understanding using the NatHERS simulations pathway in BASIX with certifying authorities, resulting in dwellings falling well short of the required thermal performance. What is proposed for certifying authorities to be trained in the detail for a Merit Assessment Pathway to meet compliance?

As we have stated above, we are supportive of identifying and alternatives to meet thermal performance and sustainable design. However, we believe there are too many unanswered questions to proceed with this proposal now. **We would like to see the Merit Assessment Pathway delayed until further work is undertaken, with more information to be made available to industry so the proposed pathway can receive proper industry evaluation.**



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An Alternative to the Merit Assessment Pathway

It is our understanding that one of the key drivers to introduce an alternative to the NatHERS Assessment is being driven from Architects and Developers due to the stringency of NatHERS, especially for custom and bespoke designs. We would like to ask, are those concerns the stringency to meet thermal performance, or is it more the detail required by the NatHERS Technical Notes to ensure, external colour schemes, window schedules, floor coverings, wall heights, type of construction method etc are available before an assessment can be completed? From our experience and discussions we have with our clients, one of the frustrations, we hear from Architects and Developers, is it's the level of detail required by the NatHERS Technical Notes to complete a NatHERS assessment. Most Architects and Developers do not go to that detail on the Architectural plans for Development Approval. That level of detail is normally for the construction drawing set.

NatHERS is a nationwide rating scheme. NSW Planning is unique where energy and thermal performance modelling is required at Development Application stage, other states and territories assess the energy and thermal performance at Construction Stage, where more detailed plans, material selections, construction methods and colours are generally available.

We would propose a Commitment Stage Pathway be made available for large scale development applications, unit developments and bespoke home design, comprising of a series of commitments, similar to that used in the NABERS Rating System. These commitments could include, but limited to;

Level of improved glazing based on the percentage of glass to floor ratio.

- Shading based on orientation
- Total floor, wall, ceiling and roof structures to meet a total R Value, based on climate zone, orientation, conditioned spaces etc.
- Building sealing and air tightness
- Once the development application is approved and more detailed construction drawings are prepared a NatHERS, or a Merit Assessment Pathway, is completed to verify the commitments and complete a more detail thermal performance and energy modelling assessment. The benefits will include
- An easier approval process for Architects and Developers.
- Thermal modelling and energy assessment would be more accurate as the level of detail would be available and the likelihood that the assessment may require less improvement as assessor no longer needs to take the worst-case scenario due to limited detail being made available.
- Build costs are likely to be less due to the accuracy of the assessment.

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- Certifiers are not required to evaluate assessors' assumptions and completed projects are more likely to match the desired thermal performance.

Frys Energywise would welcome the opportunity to be involved in any future discussions relating the Merit Assessment Pathway and or the Commitment Stage Pathway.

Yours faithfully

Ian Fry

Director & Founder

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Submitted on Mon, 28/02/2022 - 17:50

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Darcy

Last name

Lechte

I would like my submission to remain confidential

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Suburb/Town & Postcode

Sydney, 2000

Please provide your view on the project

I support it

Submission file

[draft-urban-design-guide---goget-response.pdf](#)

Submission

Please find attached GoGet's response to the Draft Urban Design Guide.

Should you have any questions or wish to discuss further please don't hesitate to contact Darcy Lechte (darcy@goget.com.au).

Many thanks.

I agree to the above statement

Yes

Re: NSW Draft Urban Design Guide - Formal Response

GoGet welcomes the opportunity to provide feedback on the NSW Government's Draft Urban Design Guide.

We are pleased that the NSW Department of Planning, Industry and Environment recognises the importance of integrating carshare in urban design and commend them for aiming to "develop an integrated approach to parking in the development and reduce the need for parking overall" (NSW DPIE, Draft Urban Design Guide, p.42).

Recommendation 1

It is great to see that the Draft Urban Design Guide is encouraging carshare as a mechanism for reduced onsite parking provision for new developments and precincts going forward. However, GoGet suggests amending the wording of the recommendation of allocating "a minimum 2 per cent of all parking spaces provided for car share parking in high-density urban places".

As it is proven and accepted that generally one carshare vehicle removes 10 privately owned vehicles, the optimal carshare parking controls for new property developments are:

- one carshare vehicle for every every 10-15 units without a parking space (dependent on proximity to public transport and existing carshare network) AND;
- one carshare space for every 100 two-bedroom-plus units that only have one parking space

Reason: *in our experience, a ratio of carshare vehicles to the number of units without (or with reduced) parking spaces is a more reliable indicator of onsite demand compared to an overall percentage of parking spaces.*

Recommendation 2

The Urban Design Guide implores the consideration of "green travel plan strategies to minimise the amount of parking required". GoGet recommends that the requirements of all new GTPs for future developments are to be stored in a publicly accessible online database.

Reason: *to ensure carshare service providers are made aware of the requirements of onsite carsharing and can assist with the ongoing monitoring of of the green travel plan strategies*

If DPIE wishes to discuss our suggestions, please feel free to contact Darcy Lechte on 0427 713 625, or via darcy@goget.com.au.

All the best,

Darcy Lechte
Carshare Strategic Planner
GoGet Carshare

Re: NSW Draft Apartment Design Guide - Formal Response

GoGet welcomes the opportunity to provide feedback on the NSW Government's Draft Apartment Design Guide.

We are pleased that the NSW Department of Planning, Industry and Environment recognises the importance of integrating carshare in apartment design and commend them for encouraging the consideration of "providing parking for alternative forms of transport such as car share vehicles, motorcycles and bicycles, and opportunities to reduce the overall provision of car parking" (NSW DPIE, Draft Apartment Design Guide, p.36).

Recommendation 1

It is great to see that the Draft Apartment Design Guide is encouraging carshare as a mechanism for reduced onsite parking provision for new apartment developments going forward. However, GoGet suggests amending the wording of the recommendation that onsite parking can be reduced due to "multiple car share services and multiple transport modes with frequent services are available within 400 m walking distance of the primary building entry".

Recent Australian studies illustrate that car sharing within 400 metres of an apartment development was statistically significantly associated with lower car ownership¹, so we understand where this guideline came from. However, further analysis of this research outlines that even lower car ownership rates are exhibited in developments with carshare services within 100m (i.e. onsite).

Furthermore, there is a growing demand for on-street space within NSW communities. Less and less of this valuable space is being allocated to vehicle parking in favour of uses that are of greater benefit to the community (such as pedestrian/cycling infrastructure and on-street dining initiatives). Therefore, the on-street carshare network won't be able to grow in sufficient response to the future demand of the residents living in and around these apartment developments.

The optimal carshare parking controls for new property developments are:

- one carshare vehicle for every every 10-15 units without a parking space (dependent on proximity to public transport and existing carshare network) AND;
- one carshare space for every 100 two-bedroom-plus units that only have one parking space

Reason: *In order to present carsharing as a more convenient and flexible transport option than the private vehicle, it is imperative that carshare services are located onsite for the benefit of building occupants and the local community alike.*

¹ De Gruyter, C., Truong, L. T., & Taylor, E. J. (2020). Can high quality public transport support reduced car parking requirements for new residential apartments?. *Journal of Transport Geography*, 82, 102627.

Recommendation 2

There are currently no design guidelines for the location of carsharing vehicles onsite an apartment development in the NSW ADG. Whilst GoGet appreciates that all developments are unique and have different site constraints, there are some key considerations that influence the uptake of the onsite carshare services and ultimately can reduce the communal benefits if not adhered to.

GoGet recommends:

- Locating the carshare spaces in front of roller shutter/security gate - this removes the need for access control and helps facilitate 24/7 access of the service
- Ensure there is well-planned wayfinding and safe pedestrian access to the carshare spaces
- Mobile signal in the carshare spaces - this enables the carshare vehicles to stay connected to the booking platform (and is also an important aspect for safety reasons)

Reason: *in order to encourage the greatest uptake of carshare and reap the benefits of reduced private vehicle ownership, carsharing services need to be as conveniently accessible as possible for all carsharing users both onsite and within the local community*

Recommendation 3

It is important for carshare conditions to be enforceable to ensure that the Responsible Authority can verify that developers, and subsequent owners corporations, have entered into an agreement with a carshare operator to fulfil the requirement. As such, ideal conditions should state:

The use and operation of the carshare spaces must be managed by the owner or contracted by the owner to a carshare operator to the satisfaction of Council. The use and operation of the carshare space(s) must be accommodated in the titling and management of the Residential Development, including covenants, building or strata management statement, by laws and other instruments before the issue of an Occupancy Permit, and must provide for:

1. Free use of the carshare space(s);
2. Provision of spaces which are easily accessible and have adequate mobile phone reception
3. Access at all times to the carshare vehicle for all carshare members; and
4. Insurances, including public liability
5. Evidence of operation of carshare to Council/the Responsible Authority

Reason: *to ensure the provision of legal access to the designated off-street car parking space for carshare users/members from the day the development is launched. This means that future residents can move into these new development precincts without having to bring their private vehicles with them.*

If DPIE wishes to discuss our suggestions, please feel free to contact Darcy Lechte on 0427 713 623, or via darcy@goget.com.au.

All the best,

Darcy Lechte | Carshare Strategic Planner | GoGet Carshare

Submitted on Thu, 17/02/2022 - 07:39

Submitted by: Anonymous

Submitted values are:

Submission Type

I am making a personal submission

1 Name

First name

Jon

Last name

Hazelwood

I would like my submission to remain confidential

No

2 Info

Email

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Suburb/Town & Postcode

2000

Please provide your view on the project

I am just providing comments

Submission file

[220131_seppsubmissiondraft.pdf](#)

Submission

See attached submission for full details

I agree to the above statement

Yes

Draft Urban Design **RESPONSE TO DRAFT DESIGN AND PLACE SEPP**

For urban design and place principles in NSW
Draft for discussion 2021

INTRODUCTION

We welcome the opportunity to respond to the recently released Draft Design and Place SEPP.

The policy is a welcome and timely piece of work that will work to connect numerous agencies at State and local levels as well as practitioners such as ourselves and Clients we work with on a day to day basis.

We would like to commend the Department of Planning, Industry and Environment for the preparation of a comprehensive, engaging and importantly, useful set of documents that balances the aspirational with some quantitative metrics that can be used to measure progress.

As practitioners we understand the work and negotiation that goes into the preparation of such as document and Hassell have been proud of our inputs and work prepared for the Urban Design Guide. We are well aware of the many voices that must be consulted at each step in the preparation of a far reaching piece of work as this policy.

This document is primarily concerned with the need to take Urban Biodiversity and Urban Ecologies into account. This aspect is conspicuous by its absence through the documents.

None of the following comments and suggestions should be seen as an overarching criticism of the document, but rather a desire to see a number of areas expanded on and inspired by the cutting edge work that is being carried out globally, in particular in relation to biodiversity and the innate desire to connect to nature in the city.

The basis for much of this commentary is based on recent experience working with global academic expertise in the design, research and on going monitoring of complex novel ecologies -

Professor John Rayner - University of Melbourne - Burnley Campus

Professor Claire Farrell - University of Melbourne - Burnley Campus

Professor James Hitchmough - University of Sheffield (UK)

Professor Nigel Dunnett - University of Sheffield (UK)



Native Ground Cover Planting, NSW

URBAN BIODIVERSITY

"Efforts at mitigating global biodiversity loss have often focused on preserving large, intact natural habitats. However, preserving biodiversity should also be an important goal in the urban environment, especially in highly urbanized areas where little natural habitat remains. Increasingly, research at the city/county scale as well as at the landscape scale reveals that urban areas can contain relatively high levels of biodiversity."

Promoting and preserving biodiversity in the urban forest

December 2006, Alexis A. Alvey

Over the past few years extensive media attention and policy has been given, quite rightly, to increasing Tree Canopy coverage in NSW. This has resulted in programs such as Five Million Trees and other policies to increase tree canopy and cool our cities and towns.

However, this is not the whole story, particularly when it comes to Biodiversity.

The Melbourne study, "The Little Things That Run the City" demonstrated in 2015, that the mid-storey, i.e. the planting between lawn and tree canopy holds the greatest insect biodiversity -

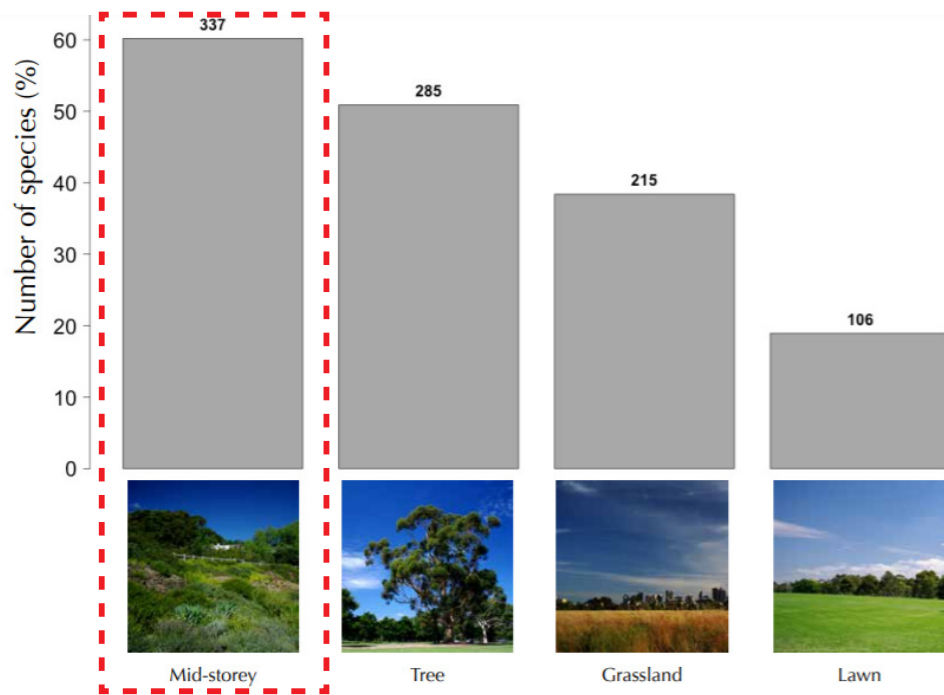
"As many as 127 species were recorded exclusively in mid-storey plots. The tree and grassland habitat types had 111 and 63 unique species, respectively. The habitat type with the least number of unique species was lawn (15 species)."

The Little Things that Run The City, 2015, Melbourne.

My observation of current NSW policy and the Draft SEPP is that they do not address this aspect of public open space.

There is a lack of detail regarding quantum and diversity of new public planting within documents such as the Urban Design Guide. I would argue that the level of detail presented for tree canopy should be replicated for groundcover and shrub layer planting to ensure urban biodiversity is increased and diverse under storey planting is increased across NSW.

The general language of the SEPP, in regards to urban biodiversity refers to 'enhancing' and 'preserving' existing ecological communities. This is of course is important, it however assumes that nature is 'over there' and does not encourage the creation of new novel ecological communities in our cities public open spaces.



The Little Things That Run Our City, 2015 - Number of insect species recorded in each habitat as a percentage for the total number of species recorded.

All too familiar outcomes to avoid.....



Dianella dying monoculture - Darling Drive.



Low density of replacement plants, monoculture - Goods Line



High maintenance, minimal biodiversity - Kent Street



Plant losses - Showground Metro Station

DIVERSITY

Global shifts in planting design

The research evidence is now clear that for vegetation to support more life and be more resilient, we need to encourage more and more diversity in urban places. Traditional blocks of single species of plants cannot do this.⁴

These changes are also been driven by growing awareness of how critical access to nature is for the well-being of urban citizens, and how this is in turn most powerfully promoted by florally attractive vegetation.

Most importantly, florally attractive multi species vegetation allows for the simultaneous maximisation of both human well-being and biodiversity support.

Many of the images to right could be seen as contributing to Plant Blindness, the "inability to recognise the importance of plants in ones own environment". This has been shown to lead to the "misguided, anthropocentric ranking of plants as inferior to animals leading to the erroneous conclusion that they are unworthy of human consideration"⁵

Learning from gardens

"Private gardens represent a substantial proportion of greenspace in low-density areas - e.g. almost 30% in Brisbane (Rupprecht & Byrne, 2014) and are believed to provide benefits similar to public greenspaces for suburban residents including ecosystem services and mitigating heat island effects (Shanahan et al.,2014). According to Cameron et al. (2012), private gardens contribute up to 36% of the total urban area depending on the age and location of cities."

A paper by Goddard et al (2009) "Scaling up from gardens: biodiversity conservation in urban environments"⁶ reflects how research shows very clearly how gardens are rich, often very rich in native fauna biodiversity and that the issue in cities is that urban public greenspace is often very poor (because it is spatially and taxonomically non-complex, rather than because it is not native enough).

To make cities better for biodiversity and ecosystem services in general the challenge is to make the designed urban fabric more like gardens or more like bushland, i.e. more spatially and taxonomically complex.

Support

Support for engaging, diverse and natural planting design is required in a policy at this level of government. Without this support, there is no incentive to move from the current status quo of maintenance and nursery driven solutions. Our urban landscapes are often dominated by mono-cultures of Lomandra, Philodendron, lawns and hedges, many being maintained by maintenance practices that have not evolved in decades. These mono-cultures have little resilience to climate and other changes, they are not regenerative and are limited in biodiversity.

Projects such as The High Line, or Sheffield's Grey to Green involve years of testing, and a coordinated approach that stitches together academia, the nursery industry, the gardening industry, local authorities and landscape architects.



Mixed native planting, NSW

COMMENTS

STATE ENVIRONMENTAL PLANNING POLICY (DESIGN AND PLACE) 2021

PAGE	CURRENT WORDING	PROPOSED CHANGE	COMMENTS
8	12 (1) (d) to deliver sustainable and greener places to ensure the well-being of people and the environment	to deliver sustainable, biodiverse and greener places to ensure the well-being of people and the environment,	Biodiversity is sufficiently different in meaning to Sustainable and the generic term "greener"
10	20 Design consideration - green infrastructure The consent authority must consider the following — (a) whether the development retains or improves existing green infrastructure and contributes to the restoration and regeneration of natural systems, (b) whether the development maximises tree canopy cover and provides sufficient deep soil to support the tree canopy, (c) whether new and existing green infrastructure will be appropriately managed and maintained during at least the first 12 months.	20 Design consideration - green infrastructure The consent authority must consider the following — (a) whether the development retains or improves existing green infrastructure and contributes to the restoration and regeneration of natural systems, (b) whether the development maximises tree canopy cover and provides sufficient deep soil to support the tree canopy, (c) whether the development demonstrates an increase in local biodiversity (c) whether new and existing green infrastructure will be appropriately managed and maintained during at least the first 12 months.	Nothing in this section suggests proponents should be demonstrating an ability to increase urban biodiversity / ecologies. It suggests retaining and improving existing natural systems, but corrals, for example, biodiversity into bushland but does not give equal weight to the biodiversity supported by the rest of the vegetated landscape of cities. Suggesting management is 12months minimum, suggests that landscape is somehow 'finished' after this period. Successful urban ecologies require on going management, just as a building requires managing.



State Environmental Planning Policy (Design and Place) 2021

under the
Environmental Planning and Assessment Act 1979

Her Excellency the Governor, with the advice of the Executive Council, has made the following
State environmental planning policy under the *Environmental Planning and Assessment Act 1979*.

Minister for Planning and Public Spaces

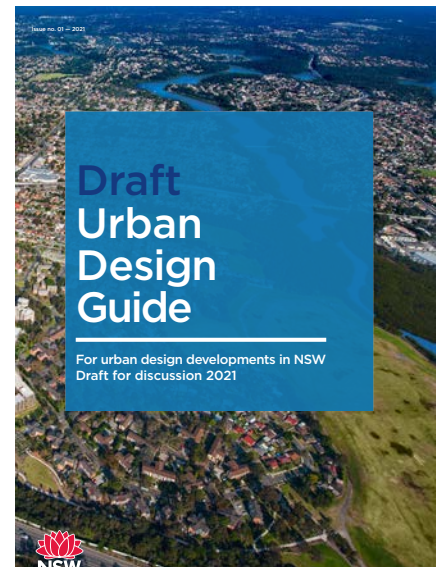
60221-100-010 1 December 2021

22	<p>Design consideration—resilience and adapting to change</p> <p>The consent authority must be satisfied that the development is resilient to natural hazards by —</p> <p>(a) incorporating measures to—</p> <p>(i) avoid or reduce exposure to natural hazards, and</p> <p>(ii) mitigate and adapt to the risks of natural hazards, including risks of climate change and compounding risks, and</p> <p>(b) mitigating the impact of expected natural hazards through the siting and design of the development.</p>	<p>Design consideration—resilience and adapting to change</p> <p>The consent authority must be satisfied that the development is resilient to natural hazards by —</p> <p>(a) incorporating measures to—</p> <p>(i) avoid or reduce exposure to natural hazards, and</p> <p>(ii) mitigate and adapt to the risks of natural hazards, including risks of climate change and compounding risks, and</p> <p>(b) mitigating the impact of expected natural hazards through the siting and design of the development.</p> <p>c) mitigate impact of climate change on tree and plant species choice through selection of species that demonstrate to projected climate in 50 yrs</p>	<p>Climate change has been demonstrated to be having significant on tree and plant selection. This has been demonstrated in detail by Macquarie University & UWS through their research entitled "Which Plant Where".</p> <p>Trees and plants should be selected to account for these changes in order to be resilient.</p> <p>Trees are our greatest legacy for the urban environment, and if species are selected that will be unsuitable in 30-50yrs (Lilly Pilly for instance), then it is a waste of time putting them in the ground.</p> <p>Likewise, groundcover and understory plants should be designed for long term benefits of complex ecologies, not "open day sales" benefits and as such, should also account for future climate change.</p>
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COMMENTS

DRAFT URBAN DESIGN GUIDE 2021

PAGE	CURRENT WORDING	PROPOSED CHANGE	COMMENTS
7	Who is the Urban Design Guide for?	Add - - developers, landowners and stakeholders	Our Clients need to be equally familiar with this guide as professionals and DRP members
11	<p>1.1</p> <p>Importance of place in urban design</p> <p>A concerted and strategic focus on our urban environments is imperative to enable NSW to respond to the contemporary pressures of population growth, rapid urbanisation, and climate change. The social, environmental, cultural and economic impacts of new development extend beyond the scope of a single project or site boundary.</p>	<p>1.1</p> <p>Importance of place in urban design</p> <p>A concerted and strategic focus on our urban environments is imperative to enable NSW to respond to the contemporary pressures of population growth, rapid urbanisation, biodiversity loss, and climate change. The social, environmental, cultural and economic impacts of new development extend beyond the scope of a single project or site boundary.</p>	<p><i>"loss of biodiversity is of critical concern, given that an increasing amount of research indicates that diversity plays an important role in long-term ecosystem functioning"</i></p> <p>Promoting and preserving biodiversity in the urban forest</p> <p>Alexis A. Alvey 2006</p>

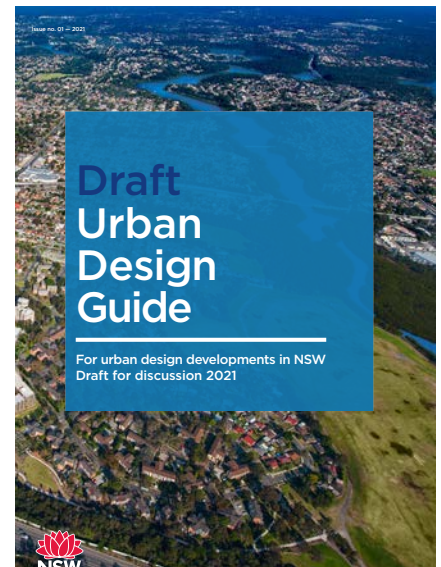


12	<p>- public open spaces: active and passive spaces including parks, gardens, playgrounds, public beaches, riverbanks and waterfronts, outdoor playing fields and courts, and publicly accessible bushland</p>	<p>- public open spaces: active and passive spaces including parks, public gardens, playgrounds, public beaches, riverbanks and waterfronts, outdoor playing fields and courts, and publicly accessible bushland</p> <p>- Private Gardens.</p>	<p>Private Gardens should be called out, is the word garden here referring to them?</p> <p><i>"Private gardens represent a substantial proportion of greenspace in low-density areas - e.g. almost 30% in Brisbane (Rupprecht & Byrne, 2014) and are believed to provide benefits similar to public greenspaces for suburban residents including ecosystem services and mitigating heat island effects (Shanahan et al., 2014). According to Cameron et al. (2012), private gardens contribute up to 36% of the total urban area depending on the age and location of cities."</i></p> <p><i>"Private residential land in Sydney provides 43% of foliage cover and 77% of Australian capital city residences have one or more trees in their private gardens (Kirkpatrick et al., 2011; Lin et al., 2015)"</i></p> <p>Private Gardens as Urban Greenspaces: Can They Compensate for Poor Greenspace Access in Lower Socioeconomic Neighbourhoods?</p> <p>Leila Mahmoudi Farahani^{1*}, Cecily Maller¹, Kath Phelan¹ - 2018</p>
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COMMENTS

DRAFT URBAN DESIGN GUIDE 2021

PAGE	CURRENT WORDING	PROPOSED CHANGE	COMMENTS
18	To provide scenic amenity and opportunities to restore, connect and enhance urban ecosystems.	To provide scenic amenity and opportunities to restore, connect and increase urban ecosystems.	There is a tendency for the document to rely on existing natural features and the enhancing of these. This is a commendable aspiration, but it has the tendency to corral biodiversity into 'over there', separate to public spaces. Emphasis on increasing and creating new ecologies within public space will increase human well being and urban biodiversity.
18	To ensure biodiversity, bushland and waterway regeneration.	To ensure the regeneration of bushland and waterways, and increase urban biodiversity	as above, or below suggestion
18	n/a	To increase urban biodiversity and ecologies	as above
18	n/a	Assessment Guidance - Urban Biodiversity has been demonstrably increased.	The only ecologically based assessment guidance is - "Areas of ecological importance and significant vegetation are retained, enhanced and connected." This suggests urban nature is only related to bush or existing areas of native vegetation. It does allow for the idea that urban ecologies can be novel ecologies created in the city.
20	n/a	Ensure biodiversity connections	

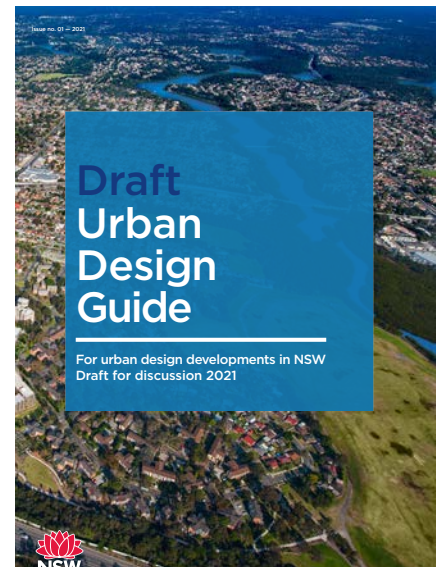


40	Maestro, Harold Park, Glebe Design: Eeles Trelease	Landscape Architect - Hassell	
47 & 48	Natural System section	<p>Why is this important add - To ensure increased urban biodiversity, increased fauna and healthy ecosystems</p> <p>Assessment Guidance add - The proposal demonstrates an increase in urban biodiversity</p> <p>Design Guidance add - Ensure planting proposals demonstrate diversity of species and densities sufficient enough to encourage native fauna and increase resilience.</p> <p>Suggest the section could go much further, as the Objective 10 has with trees, mandating % of planting in order to reduce water and resource heavy lawn. Potential to also mandate species / m2, otherwise monocultures of hybrid / clones will continue to dominate offering little in the way of urban biodiversity for local fauna.</p>	<p>Whilst biodiversity is referred to in 9 (<i>Landscape features and microclimates enhance human health and biodiversity.</i>) & 9.1 (<i>Use green infrastructure to improve human health and biodiversity</i>), there is no guidance or metrics to assist this being assessed. The only reference to Urban Ecologies and Biodiversity is in the proposed use of roof gardens and green walls (debatable). This is to the detriment of a desire for increased biodiversity at ground level, amongst the city dweller as they go about their daily lives.</p> <p>Whilst 'soundscapes' and 'scents' are important tools for connection to nature, diverse species and dense planting is equally important and not addressed</p> <p>Tree canopy has 6 pages of guidance and metrics, however there is no detail on the equally important understorey. This will suggest to users that it is less important and a "like to have"</p>

COMMENTS

DRAFT URBAN DESIGN GUIDE 2021

PAGE	CURRENT WORDING	PROPOSED CHANGE	COMMENTS
50	Tree Canopy	Requires description and guidance relating to Climate Change and species selection	<p>Work by University of Western Sydney and others has demonstrated that many tree species currently being specified may not be resilient to predicted Climate Change.</p> <p>Tree planting is a large investment, both financially but also in time. The benefits are often not felt for decades, and if these species fail, the investment has been worthless.</p>
90	— parklands and gardens		Does this refer to public or private gardens
91		Landscape Architect - Aspect	



CONCLUSION

Whilst the draft policy is an important step in the right direction, we would recommend that the importance of diverse, spatially complex and engaging planting is recognised as an important element within our urban landscapes and contributing to Urban Biodiversity.

We would recommend that the 'in-between places', the streets, private gardens and disturbed industrial areas all have a role to play in the biodiversity of our cities, beyond the tree canopy and bushland.

We would recommend that metrics are included in the UDG recognising the role of diverse and engaging planting as an important asset within our urban landscapes, of equal important to extensive tree canopy

We would recommend the document recognises climate change and the impact this will have on species selection and on going maintenance.



JON HAZELWOOD

Principal/Sector Leader - Public Realm

Jon is one of our most experienced urban design and landscape architecture professionals. Jon is also a prolific writer, regularly sharing his insights on how great design, planting design and access to nature enriches our lives.

Jon was instrumental in establishing Hassell in the United Kingdom, leading award-winning projects including the revitalising of Croydon High Street in London.

Jon's work fits seamlessly into its surrounding natural environment and urban context while also sparking conversations with imaginative details.

This approach is clear on his latest project – the burgeoning redevelopment of Melbourne's much-loved arts precinct.

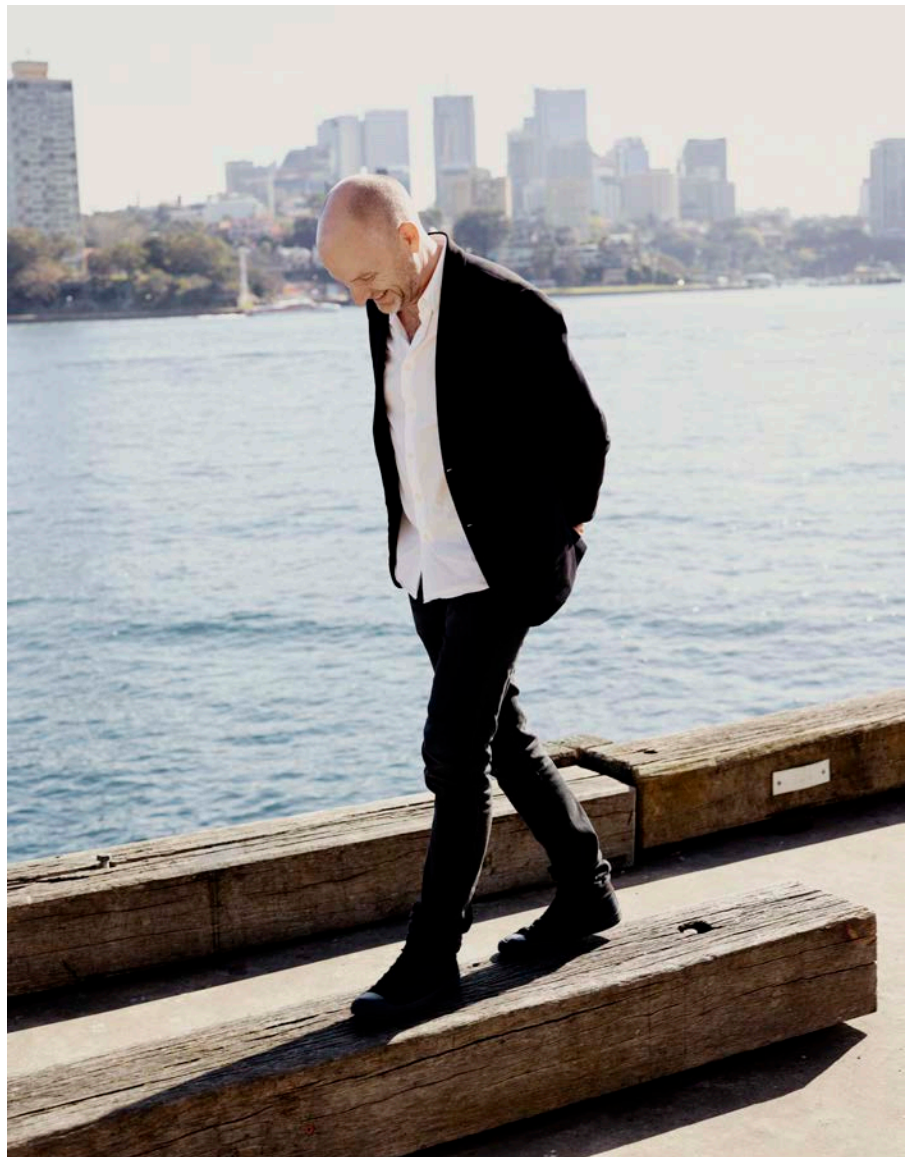
"Design that draws on different viewpoints – from clients, brand experts, horticulturists, community members – makes for more interesting places and more enriching experiences for people."

Qualifications

- BLA, Manchester Metropolitan University, United Kingdom
- BA Landscape Architecture, Manchester Metropolitan University, United Kingdom
- Chartered Member of the Landscape Institute, United Kingdom, #14536
- Registered Landscape Architect, Australian Institute of Landscape Architects, #3652

Key Projects

- Melbourne Arts Precinct, Australia
- Sydney Olympic Park Stadia Precinct Design Competition, Sydney, Australia
- Darling Harbour Public Realm, Sydney, Australia
- South Bank Riverside Open Space, Brisbane, Australia
- Huangpu East Bank Urban Forest, Shanghai, China
- City North Streetscapes and Spaces, Sydney, Australia
- Central Barangaroo, Sydney, Australia
- Croydon South End High Street, Croydon, UK



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Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 6:50 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 20220228-draft-design-and-place-sepp_ht-submission.pdf

Submitted on Mon, 28/02/2022 - 18:47

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Kerry

Last name

Hunter

I would like my submission to remain confidential

No

Info

Email

kerry.h@hillthalis.com.au

Suburb/Town & Postcode

Sydney

Please provide your view on the project

I support it

Submission file

[20220228-draft-design-and-place-sepp_ht-submission.pdf](#)

Submission

Please see attached:

20220228 Draft Design and Place SEPP_HT submission.pdf

I agree to the above statement

Yes

28TH February 2022
JOB NO 21.21

NSW Department of Planning, Industry and Environment
Online Submission

DRAFT SUBMISSION

Draft Design and Place SEPP Draft Apartment Design Guide - Revised Draft Urban Design Guide Submission in Response

We write in response to the public exhibition of the Draft Design and Place State Environmental Planning Policy (DP SEPP) and accompanying Draft Urban Design Guide and Draft Apartment Design Guide – Revised.

We wish to acknowledge the traditional custodians past, present and emerging of the Eora Nation, the lands of the Gadigal people upon which we have prepared this submission.

We acknowledge the imposition of a statutory planning framework upon these traditional lands that always was, always will be aboriginal lands, and offer our commitment to engage respectfully as guided by the traditional custodians.

A Introduction

The NSW Government Architect (GA) and Department of Planning Industry and Environment (DPIE) is to be congratulated for the commitment and immense work the team(s) have undertaken to introduce a Design and Place SEPP. The policy can become a centre-piece of NSW planning framework, with the potential to make significant cultural improvements over time that are intended to improve the design quality of our many and varied areas of settlement. A new perspective of more respectful development may emerge where it is understood that all human activities are on Country and activities and interventions become part of Country.

SEPP 65 and its associated design guides have undoubtedly been one of the most successful planning policies in recent decades in NSW, if not Australia. In introducing any new public policy, it is critical that the successes of existing policies are not undermined, but rather enhanced by the new policy.

Accordingly, it is important that the structure, drafting, and support of the policy is resourced and implemented effectively.

It is prescient to consider how a Principles-based SEPP can have effect within the NSW development culture. The fact is we have a legalistic, immature development culture absent of any sense of public obligation to city making in return for the privilege of development rights. Where decisions are in the hands of lawyers and planners the process results in design quality and spatial outcomes being relegated to the words in a legalistic process-focused planning system.

It may be necessary to introduce such a new policy in a way that provides more performance certainty rather than presenting a more sophisticated model that may function in other jurisdictions because

Nominated Architects	Philip Thalís	ARB #6780
	Sarah Hill	ARB #5285

NSW Design and Building Practitioners Act	#DEP0001821	
ARBV Registration	Philip Thalís	#800161
ARBV Approval	Hill Thalís	#600090

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there are existing very strong, long-standing public protections and understood obligations and responsibility in the social contract of city making.

The integrity of our public policies provides the community and all stakeholders with certainty and a degree of confidence and trust in the planning system.

The community expects our strategic State, Regional and Local environmental planning policies to be robust, well developed and that they are not undermined by a myriad of 'flexibility' provisions that have the intent and/or effect of private vested interests enjoying a further transfer of power away from the public interest. This undermines our ability in making cities, towns and suburbs as places for people, that are liveable and that prioritise public space and well designed, healthy place-based outcomes. Importantly such failures undermine public trust.

B Design and Place SEPP (DP SEPP)

The intent of the DP SEPP is positive, and the needed higher determination threshold for a consent is supported.

The intent of the Principles is likewise positive. However, they lack precision and are absent of the primacy of Country, which is the over-arching and interconnected weaving of the holistic intent of the Principles and Considerations. It is from here that the overarching primacy of public space (and all that is public) finds its place.

Public space is missing from the planning system. The public domain and all that it entails is not recognised in a statutory sense, yet it is at the heart of how we make our cities, and the extent to which they will be liveable, enjoyable, healthy, and fit for the future.

As proposed, both Country and public space/public domain are treated as elements that assumes a business-as-usual planning process and industry outcome. Therefore, a re-prioritising of Principles needs to be addressed in the final policy and reflected within a restructured document.

B.1 Certainty and ability for consistent interpretation and application

Vague principles lead to wasted expense, because uncertainty and an inability to apply any consistency needed by the NSW Land and Environment Court, consent authorities, design review panels, proponents, and the community. New policies need to avoid being at the mercy of subjective preferred interpretation.

If the SEPP is to rely on the Principles and Considerations, they must be well defined, well targeted, well-aligned, and enforceable.

For example, NSWLEC applies even demonstrably poor design outcomes as determining parameters if there is ambiguity, and/or misalignment of Objectives with the design performance criteria/standards. Using the experience of the repealed SEPP HSPD (replaced by SEPP Housing), the SEPP's objective required 'good design' yet the court accepted as 'good design' very poor outcomes resulting from deficient development standards. The reasoning being that because there was an objective for 'good design', it must follow that whatever the SEPP defined as its development standards, is 'good design' regardless of poor actual performance.

There is an ambiguous status or tension between the SEPP and the Guides, which on the one hand the SEPP appears to elevate the guides as clearly determinative (a positive outcome), while on the other hand the guides must be treated flexibly, which facilitates becoming left to the prerogative of proponents to interpret what they want as their own solution (a negative outcome). The SEPP must require a holistic superior performance outcome can be demonstrated. See associated amendments still required to clause 4.6 of the SILEP.

Effective measurable, evidence-based performance benchmarks are critical to the consistent application of the current planning system until such a time as the Environmental Planning and Assessment Act prioritises public outcomes for city making, and can elevate design quality as a spatial and environmental response to place and systems with accepted public expectations and obligations that are understood and accepted by all vested stakeholders.

The arrangement of the Draft SEPP is generally positive. It directly explains the Principles and clearly links them to the specific considerations.

However, the SEPP Principles themselves require further amendments.

This is particularly important in context of SEPP 65 proposed to be repealed.

C Urban Design Guide

The GANSW and DPIE are to be congratulated for attempting to introduce a much needed urban design guide.

However, it must follow a clear structure centred with Country and reflected throughout the guide. It must also be succinct and ensure numerical performance is based on evidence not on industry wishing to pursue business as usual because the current system is enabling unsustainable and very poor development outcomes.

Block size is a case in point and is too large. The Department has evidence of places with block sizes smaller than proposed. The danger is that introducing ineffective performance benchmarks will perpetuate existing urban frameworks of unwalkable neighbourhoods, and undermine opportunities for repair. We need to be courageous in addressing this now if cities are to become more efficient and liveable places for people that to enable less car dependency for basic day-to-day functions.

The proposed UDG document is too wordy, reminiscent of the existing Better Placed which has good intent, but is essentially unused and impractical.

All guides need all information to be identifiable by number for easy reference when cited by proponents, design review panels, consent authorities and NSWLEC. Without clear referencing, the documents will not have the status they need and has been a significant contributor to the lacklustre response to Better Placed.

Scale – a failure of the DP SEPP is the limiting of its application to scale as being over 1 ha, precincts, masterplans, and new growth areas (and excluding those that have not yet been built or had approvals which should be revised because of now demonstrably poor performance).

The loop hole is that applications will broken up into applications under the 1ha land area wherever possible to avoid 'perceived' improved public outcomes and/or qualitative performance. The solution is to apply the DP SEPP and UDG to all development because the principles and performance is universal, the scale of development will then automatically slot it into the applicable performance detail and will act as an educational tool so that industry and consent authorities start to understand the holistic nature of designing our cities and that outcomes must be holistic.

The limitations caused by the application of scale will enable business as usual to continue. Business as usual is unsustainable and would be a failure of the SEPP and the Urban Design Guide.

C.1 Definitions

Urban design development – there is no such thing as urban design 'development'. There are development types and their design response is an urban design response.

Urban design in some way applies to all development types. It is any response that is and/or occurs within the public domain (in all aspects of what constitutes public – spaces, natural systems, structures and infrastructure, movement systems etc), and/or if in the private domain, makes a positive contribution or negative impact or may be neutral in its relationship to what is public.

The urban design guide should apply to all development.

D Apartment Design Guide

Some of the proposed amendments are positive, such as more clarity for natural cross ventilation. However, the following need to be amended so that business as usual poor performance is addressed:

Building depth must be amended to a maximum of 12-16 metres.

Tower footprint – the EIE introduction of footprint limits for residential towers needs to be instated into the final SEPP. This will be a powerful fundamental tool that will help drive far better performing buildings over the long term and similar to a control for maximum building depths to be significantly lower than 18 metres, it will maximise positive environmental and resident amenity outcomes.

Alternative solutions to the ADG performance criteria and/or design guidance must demonstrate a superior outcome. Flexibility of alternative solutions cannot be used as a loophole to avoid achieving minimum performance benchmarks.

The loss of SEPP 65 specific objectives around design quality of apartment development needs to be clearly reinstated.

The revision of the following controls is strongly supported and addresses weaknesses and loopholes in the existing ADG;

- Deep soil - the crucial importance of more ambitious deep soil landscape targets. The provision that recognises local Council controls above the ADG where the performance benchmark is higher is welcomed. The ability for all local councils (or other tiers of government) to define specific deep soil requirements to their place is crucial to their ability to deliver their specific Local Character outcomes.

The amended Draft ADG provides for an improved one-size-fits-all that is helpful for Councils with inadequate expertise and/or ill-performing DCPs. However, the limitations of one-size-fits-all development standards by definition is in their antitheses to place-making.

- reduced car parking rates mandated in the SEPP, over-riding Council controls that require excessive number of cars on site.
- additional guidance on cross ventilation with clear diagrams is a very helpful inclusion that closes out current ADG ambiguities. See comments below for further amendments.

The following amendments proposed in the EIE need to be reinstated and or further amended:

- residential tower footprint controls - although from our analysis, the maximum footprint (as opposed to floor plate) for towers should be 650-700m². This is a needed tool that would improve both the urban environment and internal amenity particularly where the increased building separation provisions of the EIE have been deleted.
- increase in cross ventilation - from 60% to 70%. Retaining the existing ADG provisions at 60% facilitates the business-as-usual models of poor building typologies, unit typologies, and long-term building performance, and impact on resident amenity over the life cycle of apartment development.
- reduce maximum building depth from 18m to 12-16m. Excessive building depth of 18metres (which invariably becomes 26-36metres in practice) facilitates the same poor long-term design and as-built performance outcomes of, and in combination with, natural cross ventilation with a low 60% requirement. This is the single mechanism that will improve natural ventilation and apartment typologies so passive environmental performance, resident amenity, resident health are maximised and long term building performance costs are kept low for the life-cycle of buildings.
- reduce the number of units per core to 4-6 units due to the combination of inadequate natural cross ventilation benchmarks and excessive building depth provisions.
- retain existing ADG solar amenity - the inclusion of the additional hour should not be adopted. A sliding scale of less than 2hrs solar amenity under the current definition should be introduced to avoid excessive numbers of poorly designed units that effectively have no solar amenity. Currently it is too easy to demonstrate one segment of 15 minutes of 1m² of fleeting sunshine to be considered 'some solar amenity'. The existing definition of solar amenity sets a very low bar

that does not deliver meaningful solar amenity that is functionally enjoyed by a resident. Further advice should clarify that <1 hour of solar amenity is considered no solar amenity.

- The cross-ventilation loophole for buildings above 9 storeys should be removed so that far more dual aspect unit types are delivered as this ensures adequate air flow movement deep into apartments and improved daylight.
- Acoustic comfort and natural ventilation. While the intent for consistency with SEPP Infrastructure (ISEPP) regarding development on noisy roads or rail corridors is practical, the DP SEPP and ADG needs to make clear that reliance on 24 hr/7-days a week air-conditioning is not an appropriate first order design response for residential development impacted by noise. Provision of A/C should be understood as the last of a long list of fundamental design responses – appropriate building typologies and unit typologies and passive systems – that minimise such reliance. As currently occurs, ISEPP provisions are used as a loophole to facilitate poor fundamental design decisions and poor site analysis and response to place.

The ADG standards would be better framed to more specifically apply to varying densities and urban / suburban situations. For example, controls should usefully distinguish between;

- suburban 3 / 5 storey types
- mixed use main street / town centre types between 4 and 9 storeys
- higher density, mixed use tower and/or podium types in major centres

E Environmental Planning and Assessment Act

Amendments to clause 4.15 are necessary to ensure cumulative impacts of development are considered and provisions for flexibility have an obligation that superior holistic outcomes are demonstrated.

F Environmental Planning and Assessment Regulation

The proposed amendments that strengthen the statutory line of sight between the site analyses, synthesis of information and interpretation to be demonstrated in the design response as being appropriate to the place is strongly supported.

This mechanism will provide far better line of sight between the place and design response and provides an essential fundamental tool for design review panels to strengthen the line of sight towards an approval.

The strengthened mechanism will provide industry with a clear process and gradually change the business-as-usual model so that outcomes for the built and natural environments have far more stable foundations and developers can take pride in the work they undertake as making positive contributions to city making that recognises the public obligation in what they do.

The clearer line of sight from site analysis, synthesis of information and its interpretation to the design response will also provide a valuable tool for developer to guide better decision-making when carrying out feasibilities so they are site specific rather than on-paper crude levers of generic maximum permitted FSR and height.

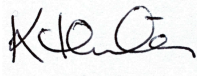
G Standard Instrument Local Environment Plan (SILEP)

Amendments to clause 4.6 of SILEP are required so that a true merit assessment can be made commensurate with the test for the line of sight from the site analysis through to the design response. The current cl 4.6 test is legalistic and words-based. It has no provision for a demonstrated positive and superior design outcome being required compared to a fully compliant development. The privilege of development flexibility must be associated with public responsibilities and obligations for a demonstrated superior outcome compared to a fully compliant development and clear place specific reasons justifying any variation.

Amendments to cl 4.6 will enable a clear line of sight from the site analysis to the design response that is merit-based and evidence-based that will provide design review panels with the tools necessary at preDA stage to guide proponents before they have expended resources particularly where redesign is required.

These amendments do not appear to be proposed with the EP&A Act and EP&A Regulation amendments and appears is a critical omission.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Kerry Hunter', is placed over a light grey rectangular background.

Kerry Hunter
Hill Thalis Architecture + Urban Projects

draft

APPENDIX 1 Design and Place SEPP - Document

1.0 Structure of Document

- Overall clear
- However, the SEPP needs to apply to all development - infrastructure, all major projects, down to the small-scale.
The exclusions at clause 8 (2) need to be reconsidered. Cumulative impacts from many of these excluded development types are significant. Therefore, all development needs to be captured for the DP SEPP to succeed.

1.1 Aims of the Policy

- Objective (i)
To recognise the importance of Country to Aboriginal people and to incorporate local Aboriginal Knowledge, culture and tradition into development

This should be the first Objective because all development becomes part of Country and the process of design and development occurs on Country.

The objective placed as the last of a list becomes a relegated item of a checklist consideration and is fundamentally inconsistent with the concept of Country as being everything. As the first principle it provides a structural recognition of the reality of the SEPP as an imposed overlay on what is and always was Country that existed before colonisation became a 'layer' that by definition will always be in tension.

From a non-Aboriginal experience, cognoscente of a planning system in inherent tension, the objective should be in the hands of Aboriginal people who are the community with the knowledge to guide how the Objective is incorporated and is done so to be culturally appropriate and safe.

The proposed order of the draft DP SEPP also serves as a conceptual undermining of the extraordinary work of GANSW in developing the *Connecting with Country Draft Framework*. The proposed DP SEPP needs to far better reflect Country as being interwoven for consistency with the Department's own policy framework.

- Objective (e)
To recognise the economic, environmental, cultural and social benefits of high quality design

The wording 'to recognise' is passive and has no requirement to deliver any of these benefits.

- Objective (h)
To achieve better form and aesthetics of buildings, streetscapes and public spaces

'Better' than what? What does better mean? Reword to be:

'to ensure the response to place for all development improves the design quality of all public spaces and streetscapes, and ensures building form and solutions that demonstrate high levels of amenity, and aesthetics and environmental performance'

1.1.1 Repeal of SEPP 65

The title of SEPP 65 is *Design Quality of Apartment Development*. This was a whole specific SEPP that was aimed at improving design quality of all apartment development. None of the clause 3 Aims of the Policy or clause 12 Design Principles and Design Considerations include an aim to improve the design quality of how we make our cities and places.

Amenity

There are no Design Principles that adequately require high amenity as performance. This results in a lesser outcome than is achieved under the existing SEPP 65 and will undermine the past two decades of improvements to fundamental liveability for apartment development in NSW.

1.2 Design Principles

The design principles are positive, but very general. The reference to amenity relates to a sense of belonging for people. If tested, there is no requirement for amenity to demonstrate well-being, health, day-to-day functionality outcomes.

The Principle 1(a) becomes one that will apply more to external visual appearance not the fundamental holistic design response and real life performance making places and buildings holistically liveable.

Clause 13 is supported as being a clearer and higher test than for SEPP 65. This is a good outcome that will provide certainty for a clear line of sight from the place to the design response via Design Review Panels and through to the consent authority(s).

Clauses 14 to 23 are clearly structured. However, clause 16 Design consideration – culture, character and heritage is essentially business as usual treating Aboriginal heritage as a tick-box next to a preconceived development expectation, not the holistic interwoven foundation for the policy it needs to be.

Likewise clause 17 Design consideration-public spaces and public life should be about creating public space through positive obligations and incentives rather than 'not detracting from' the existing urban frameworks. Impacts should be a test but not the driver.

The SEPP needs to give weight so that Councils, public institutions, and state landholders are encouraged to plan, acquire, or mandate through linked development incentives the creation of genuine, dedicated public spaces. The simulacra of easements and covenants is a proven failure – ownership in perpetuity by the public authority is the only trusted mechanism for new public spaces.

1.3 Assessment of Development

1.3.1 Urban Design Guide

Clause 24 (3)(b):

Consider the objectives of the Urban Design Guide only in relation to the particular development application.

For a DP SEPP to be successful, this clause needs to be reworded so there is provision within the SEPP that requires cumulative impacts to be considered in context of the subject development application.

It is current failing of the Environmental Planning and Assessment Act at clause 4.15, and both the Act Evaluation and DP SEPP should be considering cumulative impacts so development is understood and assessed as part of a continuum balancing natural resources, public assets and amenity, and place making over time.

1.3.2 BASIX

The improved provisions are generally supported in much needed enforceable environmental performance and policy that starts to more meaningfully address carbon emissions and embodied carbon.

However, there needs provision to ensure the as-built performance matches the approval and a mechanism for monitoring performance post-construction to inform future reviews with evidence-based data.

It is disappointing to see the continuation of the limiting clauses that prevent more progressive councils or entities from a pathway that can hasten their own zero emissions policies particularly where successive governments have been weak in implement more than greenwashing tick-box environmental and energy performance. The failure is writ large with the huge contribution the built environment and construction sector contributes to emissions.

Closed systems like Passivhaus may be appropriate for certain areas such as the Snowy, but should not be given dispensations in more temperate and coastal parts of the state.

BASIX should concentrate on the permanent elements of the building fabric, and should not allow trade-offs for incidental and replaceable elements such as fixtures, fittings and appliances.

The inclusion of embodied carbon into BASIX is likely to be resisted by industry, but it is crucial it remain for there to be any meaningful industry and design practice change needed for the NSW State government to meet its own emissions policy targets.

The drafting of the new SEPP and its Guides will have a direct impact on the qualities of our cities and towns, and their expanding public spaces. The SEPP must require high standards of the many new apartment buildings that will be built over the coming decades. These are fundamental public interest considerations, as they will impact on the environmental performance and amenity of our urban environments.

1.3.3 Apartment Design Guide

Clause 30 (3)(b):

consider the objectives of the Apartment Design Guide only in relation to the particular development application.

For a DP SEPP to be successful, this clause needs to be reworded so there is provision within the SEPP that requires cumulative impacts to be considered in context of the subject development application. Solar amenity for example needs to consider impacts from future permitted development or know future strategic policy outcomes that may impact the site or development in any way.

It is current failing of the Environmental Planning and Assessment Act at clause 4.15, and both the Act Evaluation and DP SEPP should be considering cumulative impacts so development is understood and assessed as part of a continuum balancing natural resources, public assets and amenity, and place making over time.

1.4 Design Review

Greater consistency and clear guidance for Design Review Panels are welcome initiatives.

The elevation of advice from such Panels that provides a clear process for the advice to be given weight during the pre-DA as well as in the approval stage is strongly supported. This will help address the current deficiencies where Panels' advisory role to planning assessments that can ignore the cumulative experience and judgement of panel members, which is often superior to those of assessing planners or consent authorities' areas of expertise.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 1:05 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: iaca-dp-sepp-draft-submission-response-final.pdf

Submitted on Fri, 25/02/2022 - 12:59

Submitted by: Anonymous

Submitted values are:

Submission Type

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Last name

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I would like my submission to remain confidential

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Suburb/Town & Postcode

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Please provide your view on the project

I support it

Submission file

[iaca-dp-sepp-draft-submission-response-final.pdf](#)

Submission

On behalf of the Institute of Australian Consulting Arboriculturists (IACA) we would like to congratulate DPIE of the formulation of this Draft Design and Place SEPP.

The aims and objectives of IACA include the protection, development and expansion of the Urban Forest as well as promoting the benefits of trees and therefore are closely aligned with the objectives of the DP SEPP, particularly Design Principle 4.

We would like to provide the attached document with our suggestions of areas where the SEPP may be strengthened or improved.

Please feel free to contact me if we are able to contribute further.

I agree to the above statement

Yes

From: noreply@feedback.planningportal.nsw.gov.au
To: [PDPS DRDE Design and Place SEPP Mailbox](#)
Cc: [DPE PS ePlanning Exhibitions Mailbox](#)
Subject: Webform submission from: The Design and Place SEPP 2021
Date: Friday, 4 February 2022 3:07:38 PM
Attachments: [draft-design-and-place-sepp-letter.pdf](#)

Submitted on Fri, 04/02/2022 - 15:06

Submitted by: Anonymous

Submitted values are:

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Last name

Brown

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Suburb/Town & Postcode

2251

Please provide your view on the project

I am just providing comments

Submission file

[draft-design-and-place-sepp-letter.pdf](#)

Submission

see attached

I agree to the above statement

Yes

5 February 2022

DPIE

By email

Dear Sir/Madam

RE: draft Design and Place SEPP

We refer to the above provide the following comments

Draft SEPP

Application

The exclusions from application of the SEPP in cl 4 appear to be limited. Part 2 Design Principles and Design Considerations does not appear to have any exclusions and so does this mean that this Part applies to every DA (not excluded by Cl 4)? This seems excessive given the very large number of minor DA's this would apply to. There needs to be more exclusions to ensure that minor development is excluded from having to address the 31 separate matters noted in Sections clauses 14-23.

Development control plans cannot be inconsistent with Apartment Design Guide

The first matter relates to visual privacy. In regard to the previous version of the ADG this was not an issue as the relevant Design Criteria (ie setbacks to side and rear boundaries) were strictly related to visual privacy. However under the draft this Design Criteria now falls under the heading of 1.2 Built form and siting which relates to a much wider range of considerations. The current arrangement works as privacy is a broadly applicable issue whereas the following objectives of this section of the ADG very much relate to the specific context of a site and therefore one would expect different setbacks response in different locations.

OBJECTIVES

1.2.1 The built form responds to the historic, cultural, and planning context, streetscape and open spaces with appropriate building height, bulk, setbacks, and separation.

1.2.2 Minimise built form impact on neighbouring sites and properties, limit overshadowing in winter, and protect the privacy of adjacent properties.

This problem is exacerbated by the provisions of Clause 30(2) of the draft SEPP that states the objectives can be taken as satisfied if the Design Criteria are met. The Design

Criteria here relates only to visual privacy yet the objectives relate to contextual considerations including overshadowing.

As in the past, the ADG should not be prescriptive in relation to matters that are contextually related including side setbacks (where they relate to issues other than visual privacy). It is acknowledged that some people have previously argued that the side and rear setbacks requirements in the ADG are about more than just visual privacy. However this should not be the case as because, side and rear setbacks not related to visual privacy, are a contextual issue that should be determined according to the setting of each site and therefore more appropriately dealt with by Council's specific controls.

The change in the structure of the ADG outlined above is confusing and inappropriate for the reasons noted and the current differentiation between universal standards such as visual privacy should not be muddled with contextual considerations.

Draft ADG

As noted above there is an issue with the structure and operation of Section 1.2.

Also, Figure 1.2.2 indicates that a 6m setback does not have to be increased where an adjoining existing development is not setback in accordance with the ADG. The text in this section needs to be amended to clearly acknowledge this principle. There is also no reference to this figure generally in the text.

In relation to 1.5 there should be an alternate solution for this Design Criteria as in the vast majority of cases, Council's controls permit 100% site cover in commercial and mixed use areas. The ADG needs to acknowledge this and recommend alternative methods of providing adequate 'greening'.

In relation to Section 2.2 Communal Spaces, it is not always possible or appropriate to provide larger areas of communal open space (ie up to 25% of site). There needs to be alternative solutions such as those referred to in the current version of the ADG including the provision of larger areas of POS.

In 2.6 there are formatting issues in the first 2 sentences. It should be made clearer that the Design Criteria applies also to the impacts of overshadowing on neighbouring apartment development, as implied in the Orientation section.



If you wish to discuss please contact the undersigned.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'B. Brown', with a long, sweeping horizontal line extending to the right.

BRETT BROWN
INGHAM PLANNING PTY LTD

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 11:24 AM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: isnsw-sepp-28022022.pdf

Submitted on Mon, 28/02/2022 - 11:21

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

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SURRY HILLS, NSW, 2010

Please provide your view on the project

I am just providing comments

Submission file

[isnsw-sepp-28022022.pdf](#)

Submission

28 February 2022

Our Ref: SEPP/MH/AL

NSW Department of Planning, Industry and Development
4 Paramatta Square
12 Darcy Street
Paramatta NSW 2150

Dear Sir,

RE: PROPOSED DESIGN AND PLACE SEPP 2021

Submission by Institution of Surveyors NSW

The Institution of Surveyors NSW (ISNSW) is a 130-year-old organisation representing over 1,000 professional and graduate

surveyors. Our membership work in the private sector (small private to large international firms), public sector (both in state and local government) and the tertiary education sector. The Institution works closely with government, academia and industry to ensure the people of NSW enjoy affordable housing, a quality-built environment, economic prosperity, a healthy environment and equitable opportunities.

Most professional surveyors are registered land surveyors under the requirements of the NSW Surveying and Spatial Information Act 2002. Surveyors seeking registration are assessed by the NSW Board of Surveying and Spatial Information (BOSSI) for their competency in five areas of practice: civil engineering design, urban cadastral surveying, strata subdivision, rural cadastral surveying and town planning. The Institution supports surveyors seeking registration by running workshops and mentoring sessions..

As a prerequisite, surveyors seeking registration must have completed a university degree that includes town planning and land development subjects.

In addition to completing their degree, surveyors are additionally assessed by the Board in the five areas of practice as stated above via submission of appropriate projects and examinations by registered surveyors who are expertised in that particular area of surveying. Details of the required competencies for surveyors seeking registration may be found in the NSW BOSSI publication Examination Determination (2021). Section 9.1 Town Planning details the specific requirements for the Town Planning assessment. An extract is attached to this submission. In achieving competency in this exam, Registered Land Surveyors are required to demonstrate the skill set of an experienced Town Planner.

The state of NSW has a long-standing requirement for registered land surveyors to be competent in town planning with the requirement first appearing in Clause 20(3)(b) of the Surveying Examinations Regulations 1953. Surveyors are often the first professional person consulted by landowners seeking to subdivide land. Competency assessments have been in place since the 1830s. The various versions of the Surveyors Board were and continue to be responsible for the efficient and proficient development of land in NSW. Over many decades, as for many professions, the competency fields have expanded and continue to do so e.g. civil engineering (1930s), strata (1990s) and spatial information (2000s). In addition, the content within each field has grown substantially. Though a Certificate of Competency is issued, completion of the full suite of competency assessments is deemed equivalent to a master's level qualification under the Australian Qualifications Framework.

It is with the above in mind that the Institution believes the public is well served by having registered land surveyors providing competent advice in all aspects of land development. It is important to note that registered land surveyors do not purport to have expertise or any competency in architecture or engineering as it relates to structures, electrical, mechanical or geotechnical.

With respect to the proposed Design and Place SEPP 2021, we make the following comments.

A significant number of our members act on behalf of land developers to develop greenfield and brownfield sites into affordable housing estates. These members are spread throughout NSW with the numbers in each location reflecting the state's population density.

The Institution welcomes the intent of the proposed Design and Place SEPP, however the Institution believes the design goals may be compromised if registered land surveyors are prevented from undertaking urban design. The Institution believes the inclusion of registered land surveyors will enhance design quality outcome goals.

The stated aim of the SEPP is to provide affordable housing. The Institution's view is that the proposed SEPP will not achieve this aim should registered land surveyors not be included as approved "Urban Designers". The restriction on a surveyor's ability to undertake estate planning will choke the growth of the regional centres and exacerbate the current housing shortage. This is exacerbated in the regions that are currently suffering a shortage of skilled professionals in both the private and public sectors. In many regional towns, the local registered land surveyor and the council planning officer are the only planning professionals in the local government area.

It is the Institution's view the Design Review Panel Manual is an excellent initiative. It can be enhanced through the addition of a recommendation that a registered land surveyor be included as a panel member.. As a design professional, a registered land surveyor will bring their cross-disciplinary expertise in planning, engineering, cadastral boundary creation and management to the table thereby increasing the likelihood of a quality outcome.

Bearing in mind the difficulty of applying this proposed SEPP across the entire state, if it does proceed as proposed, we recommend that Clause 3 Definitions of the proposed Environmental Planning and Assessment Amendment (Design and Place) Regulation 2021 be rectified through the addition of an additional subclause (d). The remedied definition would be as follows:

Urban Designer means the following—

- (a) a qualified town planner with at least 5 years' experience in precinct or master planning
- (b) a landscape architect with at least 5 years' experience in precinct or master planning,
- (c) an architect with at least 5 years' experience in precinct or master planning,
- (d) a registered land surveyor with at least 5 years' experience in precinct or master planning.

This amendment would ensure that all available design professionals are available to the development industry and to local government. Specifically, it would ensure surveyors, who being professionally intimately associated with planning and land development, are available.

This leads to a request for the amendment of Clause 286C(3) Membership of Design Panel of the regulation to include registered land surveyor for membership of the panel.

We note that former Minister Stokes states in his foreword in the Department document "What We Heard" (July 2021) a need to "... recognise our most experienced built environment professionals across a range of skills." Further on page 21 of the document; "Many in industry suggested that the proposed list of suitably qualified professionals may currently be too narrow, potentially excluding other experienced professionals, and should be expanded to include more such as building designers and land surveyors."

We believe that registered land surveyors should be more widely included in discussions with the Department, particularly as the surveyor often has to negotiate the NSW planning system's compliance labyrinth. As an essential professional body that can help government deliver government policy aims, the Institution believes there should be enhanced communication.. Our final recommendation is for regularly scheduled meetings on a consistent basis. We hope more interaction with the Department will assist the NSW government in achieving its affordable housing goals.

Thank you for the opportunity to offer this submission. We would welcome any opportunity to meet with you to discuss this matter further. Please contact ISNSW CEO Amy Lowe on 0459 969 277 or via email at amy.lowe@surveyors.org.au.

Yours faithfully,

William Hamer Amy Lowe

President Chief Executive Officer

I agree to the above statement

Yes

Patron
Her Excellency the Honourable Margaret Beazley AO QC
Governor of New South Wales

28 February 2022

Our Ref: SEPP/MH/AL

NSW Department of Planning, Industry and Development

4 Paramatta Square
12 Darcy Street
Paramatta NSW 2150

Dear Sir,

RE: PROPOSED DESIGN AND PLACE SEPP 2021
Submission by Institution of Surveyors NSW

The Institution of Surveyors NSW (ISNSW) is a 130-year-old organisation representing over 1,000 professional and graduate surveyors. Our membership work in the private sector (small private to large international firms), public sector (both in state and local government) and the tertiary education sector. The Institution works closely with government, academia and industry to ensure the people of NSW enjoy affordable housing, a quality-built environment, economic prosperity, a healthy environment and equitable opportunities.

Most professional surveyors are registered land surveyors under the requirements of the NSW Surveying and Spatial Information Act 2002. Surveyors seeking registration are assessed by the NSW Board of Surveying and Spatial Information (BOSSI) for their competency in five areas of practice: civil engineering design, urban cadastral surveying, strata subdivision, rural cadastral surveying and town planning. The Institution supports surveyors seeking registration by running workshops and mentoring sessions.

As a prerequisite, surveyors seeking registration must have completed a university degree that includes town planning and land development subjects.

In addition to completing their degree, surveyors are additionally assessed by the Board in the five areas of practice as stated above via submission of appropriate projects and

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Level 4, 162 Goulburn Street, Surry Hills NSW 2010
All correspondence to be sent to:
PO Box 104, Darlinghurst NSW 1300

Phone: (02) 9264 2076
Fax: (02) 9261 8102
Email: isnsw@surveyors.org.au
Web: www.surveyors.org.au

examinations by registered surveyors who are expertised in that particular area of surveying. Details of the required competencies for surveyors seeking registration may be found in the NSW BOSSI publication *Examination Determination (2021)*. Section 9.1 *Town Planning* details the specific requirements for the Town Planning assessment. An extract is attached to this submission. In achieving competency in this exam, Registered Land Surveyors are required to demonstrate the skill set of an experienced Town Planner.

The state of NSW has a long-standing requirement for registered land surveyors to be competent in town planning with the requirement first appearing in Clause 20(3)(b) of the Surveying Examinations Regulations 1953. Surveyors are often the first professional person consulted by landowners seeking to subdivide land. Competency assessments have been in place since the 1830s. The various versions of the Surveyors Board were and continue to be responsible for the efficient and proficient development of land in NSW. Over many decades, as for many professions, the competency fields have expanded and continue to do so e.g. civil engineering (1930s), strata (1990s) and spatial information (2000s). In addition, the content within each field has grown substantially. Though a Certificate of Competency is issued, completion of the full suite of competency assessments is deemed equivalent to a master's level qualification under the Australian Qualifications Framework.

It is with the above in mind that the Institution believes the public is well served by having registered land surveyors providing competent advice in all aspects of land development. It is important to note that registered land surveyors do not purport to have expertise or any competency in architecture or engineering as it relates to structures, electrical, mechanical or geotechnical.

With respect to the proposed Design and Place SEPP 2021, we make the following comments.

A significant number of our members act on behalf of land developers to develop greenfield and brownfield sites into affordable housing estates. These members are spread throughout NSW with the numbers in each location reflecting the state's population density.

The Institution welcomes the intent of the proposed Design and Place SEPP, however the Institution believes the design goals may be compromised if registered land surveyors are prevented from undertaking urban design. The Institution believes the inclusion of registered land surveyors will enhance design quality outcome goals.

The stated aim of the SEPP is to provide affordable housing. The Institution's view is that the proposed SEPP will not achieve this aim should registered land surveyors not be included as approved "Urban Designers". The restriction on a surveyor's ability to undertake estate planning will choke the growth of the regional centres and exacerbate the current housing shortage. This is exacerbated in the regions that are currently suffering a shortage of skilled

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professionals in both the private and public sectors. In many regional towns, the local registered land surveyor and the council planning officer are the only planning professionals in the local government area.

It is the Institution's view the Design Review Panel Manual is an excellent initiative. It can be enhanced through the addition of a recommendation that a registered land surveyor be included as a panel member. As a design professional, a registered land surveyor will bring their cross-disciplinary expertise in planning, engineering, cadastral boundary creation and management to the table thereby increasing the likelihood of a quality outcome.

Bearing in mind the difficulty of applying this proposed SEPP across the entire state, if it does proceed as proposed, we recommend that Clause 3 *Definitions* of the proposed Environmental Planning and Assessment Amendment (Design and Place) Regulation 2021 be rectified through the addition of an additional subclause (d). The remedied definition would be as follows:

Urban Designer means the following—

- (a) a qualified town planner with at least 5 years' experience in precinct or master planning
- (b) a landscape architect with at least 5 years' experience in precinct or master planning,
- (c) an architect with at least 5 years' experience in precinct or master planning,
- (d) a registered land surveyor with at least 5 years' experience in precinct or master planning.

This amendment would ensure that all available design professionals are available to the development industry and to local government. Specifically, it would ensure surveyors, who being professionally intimately associated with planning and land development, are available.

This leads to a request for the amendment of Clause 286C(3) *Membership of Design Panel* of the regulation to include registered land surveyor for membership of the panel.

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Thank you for the opportunity to offer this submission. We would welcome any opportunity to meet with you to discuss this matter further. Please contact ISNSW CEO Amy Lowe on 0459 969 277 or via email at amy.lowe@surveyors.org.au.

Yours faithfully,



William Hamer
President



Amy Lowe
Chief Executive Officer

"Serving the profession for over 130 years."



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Phone: (02) 9264 2076
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Email: isnsw@surveyors.org.au
Web: www.surveyors.org.au

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 3:44 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: designplacesepp_submission.pdf

Submitted on Fri, 25/02/2022 - 15:43

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Erika

Last name

Dawson

I would like my submission to remain confidential

No

Info

Email

erika@integratedconsulting.com.au

Suburb/Town & Postcode

Bathurst 2795

Please provide your view on the project

I object to it

Submission file

[designplacesepp_submission.pdf](#)

Submission

as per attached submission.

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 3:46 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: designplacesepp_submission.pdf

Submitted on Fri, 25/02/2022 - 15:45

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Shannon

Last name

Dawson

I would like my submission to remain confidential

No

Info

Email

shannon@integratedconsulting.com.au

Suburb/Town & Postcode

Bathurst 2795

Please provide your view on the project

I object to it

Submission file

[designplacesepp_submission.pdf](#)

Submission

as per attached submission

I agree to the above statement

Yes

NSW Department of Planning & Environment
Locked Bag 5022
Parramatta NSW 2124

25 February 2022

Dear Sir or Madam

PUBLIC SUBMISSION ON THE DESIGN AND PLACE SEPP – PUBLIC EXHIBITION

We refer to the draft *Design and Place State Environmental Planning Policy (DP SEPP) 2021* (draft SEPP) and associated proposed changes to the *Environment and Planning Assessment Regulation 2021 (EPA Regulation)* (Regulation) that are currently on public exhibition.

We commend the Department of Planning & Environment (DPE/the department) on extending the planning controls aiming to achieve well-designed places as part of this draft SEPP and associated Regulations. Working predominantly in regional areas west of the Great Dividing Range, we are only too aware of how important well designed and sustainable communities are.

In reviewing the exhibited documents, it has become apparent that the draft SEPP will have substantial ramifications for development in the regional areas of NSW. In particular our concerns relate to:

- The low thresholds for ‘urban design development’ (i.e. subdivisions of >1ha of land) requiring a design verification statement from an urban designer.
- The low thresholds for development of public or common space (i.e. an open space lot >1,000m²) requiring a design verification statement from a Landscape Architect.
- The omission of Registered Land Surveyors from within the definition of an urban designer within the Draft SEPP.

Each of these concerns is further articulated below.

Urban Design Development Thresholds

The draft SEPP applies essentially to all urban zoned land. It is noted that it is explicitly not applicable to the erection of up to 24 dwellings (i.e. class 1a buildings).

The draft SEPP intends to establish, amongst other things, the requirement for submission of a Design Verification Statement, prepared by an Urban Designer, for ‘Urban Design Development’ as part of a Development Application (DA). ‘Urban Design Development’ includes (but is not limited to) any development (including the subdivision of land) on any land (apart from land zoned industrial) that has an area of greater than 1 hectare.

As an example, the result of this requirement is that if someone has a 1 hectare block of land within a residential, commercial or village zone and they want to subdivide it into two lots they will need to have the subdivision designed/overseen by an Urban Designer, and a Design Verification Statement prepared by the Urban Designer lodged with the DA.

This requirement is really inappropriate for such small-scale development and will add substantial costs to development with no tangible urban design outcome. Therefore the thresholds which trigger the need for a Design Verification Statement need to be reviewed for the Regions to one which will provide a tangible benefit in terms of urban design outcomes.

Consideration needs to be careful surrounding possible alternative thresholds. For example, even with the existing exclusion of construction up to 24 dwellings, an applicant may simply lodge multiple DAs of 24 or less dwellings which has the potential to result in development outcomes completely contrary to the intent

of the draft SEPP. Furthermore, regional towns often see a handful of lots being created per year, which results in quite an ad hoc approach to development by virtue of the nature of the local market. As a result these subdivisions are often quite organic in nature being added to a bit at a time rather than having a good overall masterplan design. Therefore, it may be better placed to require the urban designer's input at the strategic planning stage for subdivisions to set the overall form as opposed to individual developments at the DA stage.

Public/Common Space Thresholds

The draft SEPP intends to require 'development involving public or common space of more than 1,000m²' to be designed/overseen by a Landscape Architect and a Design Verification Statement prepared by the Landscape Architect, lodged with the DA. This requirement would apply to any sized subdivision that includes an open space lot or a drainage basin on a lot that is more than 1,000m² in area. This means that if a development requires a drainage basin on a lot with an area of more than 1,000m² in area, a landscape architect would need to be employed. Such drainage basins are often just a grassed basin. In our experience, Councils do not necessarily want additional vegetation or infrastructure in such areas. Consequentially it would be unnecessary to involve a Landscape Architect in such developments as it would provide no tangible urban design benefit.

Therefore the thresholds which trigger the need for a Design Verification Statement from a Landscape Architect need to be reviewed for the Regions to one which will provide a tangible benefit in terms of urban design outcomes.

The requirement for the Design Verification Statement prepared by the Landscape Architect is in addition to the Design Verification Statement prepared by the Urban Designer or Architect as required by clauses 57(1) (a) and (b) of the draft Regulation. The need for multiple Design Verification Statements for a single project, particularly small-scale projects, would have the effect of making many cost prohibitive.

Urban Designer Definition

Urban Designer is defined by the draft Regulation as:

- (a) *a qualified town planner with at least 5 years' experience in precinct or master planning,*
- (b) *a landscape architect with at least 5 years' experience in precinct or master planning,*
- (c) *an architect with at least 5 years' experience in precinct or masterplanning.*

It is understood that the draft SEPP and associated draft Regulation are aiming to improve the design outcomes of development. The definition of Urban Designer is quite narrow which is understandably to ensure that it identifies professions with the appropriate skillsets for the task.

Registered Land Surveyors should be included in the definition of Urban Designer. Apart from their academic surveying qualifications, in order to become a Registered Land Surveyor, they also need to demonstrate competency to the NSW Board of Surveying and Spatial Information (BOSSI) in a number of areas including Town Planning. This registration process includes training and understanding of the requirements for good urban design in terms of subdivision. Registered Land Surveyors actually have the skills to ensure the design of a subdivision is good and is actually functional/achievable through their practical experience.

Like the other professions listed in the definition, the Registered Land Surveyors should also be caveated with the "at least 5 years' experience in precinct or master planning".

Recommendations

Having previously worked in large metropolitan centres such as London, Sydney and Perth we recognise that the thresholds outlined in the first two points may be appropriate for such metropolitan locations. The characteristics of the Regions, however, are vastly different from the metropolitan area and warrant different requirements. This is already recognised in many SEPPs including the Inland Code of the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

Furthermore, Architects, Landscape Architects and Urban Designers with the required experience to fulfil the proposed legislated roles are often not locally available in the Regions or are in very limited supply. Apart from the direct additional cost of employing such consultants, costs are higher for the regions due to the large travel distances from the metropolitan areas where they are predominantly based. These suitably qualified people often have little rural/regional experience or appreciation for the local environment, and consequentially design outcomes may be inappropriate for the local context.

We therefore respectfully request that you reconsider the provisions of the draft SEPP/draft Regulation to:

- Provide a different threshold for the Regions for the requirement for a Design Verification Statement for 'Urban Design Development' that will ensure it is only required where there will be a tangible urban design benefit for the development.
- Provide a different threshold for the Regions for the requirement for a Design Verification Statement for 'development involving public or common space of more than 1,000 square metres' that will ensure it is only required where there will be a tangible urban design benefit for the development.
- Enable the provision of one Design Verification Statement for smaller scale development in the Regions where more than one is individually required under clause 57 of the draft Regulation.
- Include 'a Registered Land Surveyor with at least 5 years' experience in precinct or master planning' in the definition of Urban Designer.

If you have any questions regarding this submission or wish to discuss further, please contact the undersigned on 0400 940 482 (Erika) or 0407 364 406 (Shannon).

Yours sincerely

Erika Dawson

Registered Planner PIA | BPAD Level 3
Accredited Practitioner (NSW & WA)

Shannon Dawson

Registered Land Surveyor

cc. Hon. Paul Toole MP

NSW Department of Planning & Environment
Locked Bag 5022
Parramatta NSW 2124

25 February 2022

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Yours sincerely

Erika Dawson

Registered Planner PIA | BPAD Level 3
Accredited Practitioner (NSW & WA)

Shannon Dawson

Registered Land Surveyor

cc. Hon. Paul Toole MP

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 5:36 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: jemena-sepp-dp-submission-20220228.pdf

Submitted on Mon, 28/02/2022 - 17:35

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

John

Last name

Cheong-Holdaway

I would like my submission to remain confidential

No

Info

Email

john.cheong-holdaway@jemena.com.au

Suburb/Town & Postcode

Sydney, 2000

Please provide your view on the project

I am just providing comments

Submission file

[jemena-sepp-dp-submission-20220228.pdf](#)

Submission

Jemena's views on SEPP DP are detailed in the attached document.

I agree to the above statement

Yes

Via internet upload

28 February 2021

Re: Jemena Submission to Department of Planning and Environment: State Environmental Planning Policy (Design and Place) 2021

Jemena welcomes the opportunity to provide feedback into the NSW Department of Planning and Environment's (DPE) *State Environmental Planning Policy (Design and Place) 2021* (SEPP DP).

Jemena owns and operates a diverse portfolio of energy assets across northern Australia and Australia's east coast. With more than \$11 billion worth of major utility infrastructure, including some critical gas assets which form part of NSW's energy system. We own the Jemena Gas Network which distributes 90 petajoules of natural gas per year to over 1.5 million residential, business, and industrial sites across Greater Sydney and Regional NSW.

Jemena has a firm commitment to sustainability and has developed its own ambition for net-zero by 2050. We are currently investing more than \$30 million in partnership with the Australian Renewable Energy Agency on renewable gas projects. These investments include Australia's most comprehensive hydrogen project, the Western Sydney Green Hydrogen Hub – the first step in decarbonising Jemena's gas network.

We welcome the strong focus by DPE to put sustainability, resilience, and quality of places at the forefront of development and to support the development of energy and cost-efficient homes.

We understand the role of gas in Australia's and NSW's net-zero future is contested, with a range of views about its efficient role. However, we were concerned to see DPE include in its draft SEPP DP a number of statements that seem to seek to reduce gas use as a desired outcome of policy, rather than focusing on desired outcomes of improved amenity for NSW residents.

We firmly believe in the ability of gas and gas infrastructure to deliver the services that meet the needs of NSW residents, while enabling Australia's and NSW's least-cost, fastest and most stable transition to net zero emissions. We believe that by focusing on inputs (reducing gas use) rather than desired outcomes (reducing cost and carbon emissions) in the proposed draft of SEPP DP, DPE has the potential to create perverse outcomes that undermine its aim.

This submission will cover:

- Jemena's work and that of the broader gas industry enabling the energy transition
- The basis of our belief that gas infrastructure unlocks NSW's least-cost transition to net zero emissions

- How policy-driven electrification can result in increased emissions for NSW, and harm customer choice
- Our recommendations on how SEPP DP could better achieve its aims

Gas is a fuel in transition, not just a transition fuel, and Jemena is working to realise this

At Jemena, we see gas as a fuel in transition, not just a transition fuel. Today we use Australia's abundant reserves of natural gas, but in the future gas can be primarily sourced from renewable sources such as biomethane or hydrogen from electrolysis. We firmly believe that gaseous fuels and gas infrastructure will play a critical role in Australia's transition to net zero emissions and will continue to do so once we arrive at the destination.

Australia's gas transition is well underway, with increasing numbers of renewable gas projects delivering decarbonised fuels to customers in Australia. Jemena's own Malabar Biomethane Project with Sydney Water will begin delivering zero-carbon biomethane later this year and play an important role in GreenPower's Renewable Gas Certification Pilot¹. The first stage of the Malabar Biomethane Project is expected to reduce NSW's carbon emissions by at least 5,000 tonnes per annum. The Western Sydney Green Hydrogen Hub (WSGHH) has already started injecting green hydrogen into the gas network. 23,500 residential homes are expected to use some amount of hydrogen produced from the WSGHH.

Beyond immediate investment in projects, the gas industry is also actively investing in research and development through the Future Fuels Cooperative Research Centre (FFCRC) to better understand and enable a net zero emissions future. The FFCRC brings together industry and government to co-invest \$90 million in funding in collaboration with universities such as the University of Melbourne, RMIT, Deakin University, and other critical stakeholders such as Energy Safe Victoria. The workstreams of the FFCRC and their focus include:

- **Future Fuel Technologies, Systems and Markets:** Understanding the technical, commercial, market barriers and opportunities for the use of future fuels
- **Social Acceptance, Public Safety and Security of Supply:** Studying the social and policy context of the technology and infrastructure associated with future fuels, including public acceptance and safety
- **Network Lifecycle Management:** Vital components of the energy transfer infrastructure are studied from concept to end of life to safely introduce low carbon fuels

Promoting electrification will increase the cost of NSW's pathway to net zero emissions

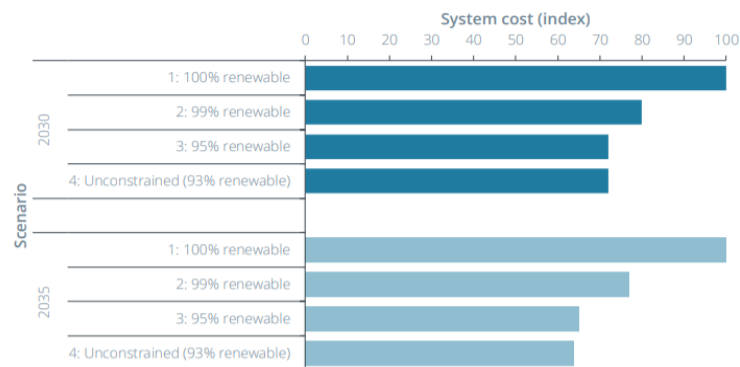
If the SEPP DP changes have the effect of driving households away from the use of gas, research suggests that this will increase the cost of NSW's transition to net zero emissions.

¹ GreenPower pilot aims to enable network-connected gas customers to buy certificates to match their gas use with renewable gas that is added to the network on their behalf.
<https://www.greenpower.gov.au/documents/renewable-gas-certification-pilot-consultation-paperdocx>

The gas industry has commissioned a range of research to understand the least-cost pathways to net zero emissions including *Potential for Gas-Powered Generation to support renewables*² prepared for the Australian Pipeline and Gas Association (APGA), and *Gas Vision 2050*³.

The APGA report showed how gas-powered generation (GPG) can deliver a net-zero emissions electricity system at dramatically lower cost than a 100% renewable system, while Gas Vision 2050 found that decarbonising gas supply can be done at half the cost of full electrification (see Figure 1 and Figure 2 below). Together, these studies suggest that continued utilisation of gas infrastructure unlocks **least cost** and **most efficient** pathways to net zero emissions.

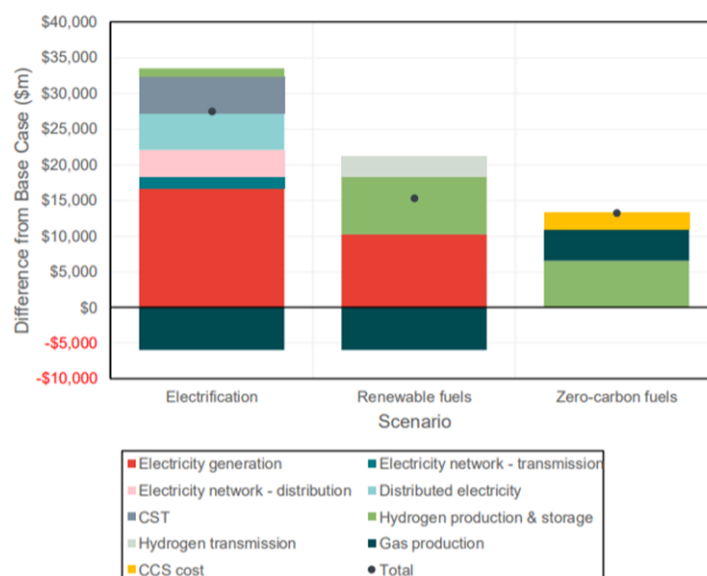
Figure 1: Indexed electricity system costs for South Australia in 2030 and 2035



Source: APGA (2021),

² https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/210219_potential_for_gpg_to_support_renewables_-_final_report_0.pdf
³ <https://www.energynetworks.com.au/projects/gas-vision-2050/>

Figure 2: Cost benefit analysis of Australian net zero energy futures enabled by electrification gas versus zero carbon gas pathways



Source: Energy Networks Australia (2020), Gas Vision 2050

These findings, arising from research conducted by the gas industry, are being independently verified by multiple studies.

AEMO's Draft 2022 ISP⁴ identified GPG as playing a "crucial role" as it will "complement battery and pumped hydro generation to support periods of peak demand, particularly during long 'dark and still' weather periods, as well as provide power system services to provide grid security and stability." The Grattan Institute's report from April 2021 *Go for net zero: A practical plan for reliable, affordable, low-emissions electricity*⁵ similarly identified GPG as a critical element in a least-cost net-zero electricity fleet "As the proportion of renewables grows from 90 per cent to 100 per cent, the physical and economic challenge of balancing the system during rare, sustained periods of high demand, low wind, and cloudy skies becomes too big".

While the role of GPG may seem of limited relevance to policies concerning the role of gas in the built environment, GPG can currently deliver the peaking capacity that it can as and when required due to the scale and the liquidity of the overall gas market. If gas demand from households reduces dramatically it has the potential to undermine the ability of GPG to deliver the capacity required to keep the system stable.

The Victorian government is currently undertaking a significant modelling exercise investigating the role of gas in their transition to net zero emissions. We would encourage the NSW government to do similar analysis to understand the potential implications for its economy before seeking to adopt electrification as a policy aim in certain sectors that will have large impacts on the system as a whole.

⁴ <https://aemo.com.au/-/media/files/major-publications/isp/2022/draft-2022-integrated-system-plan.pdf?la=en>

⁵ <https://grattan.edu.au/report/go-for-net-zero/>

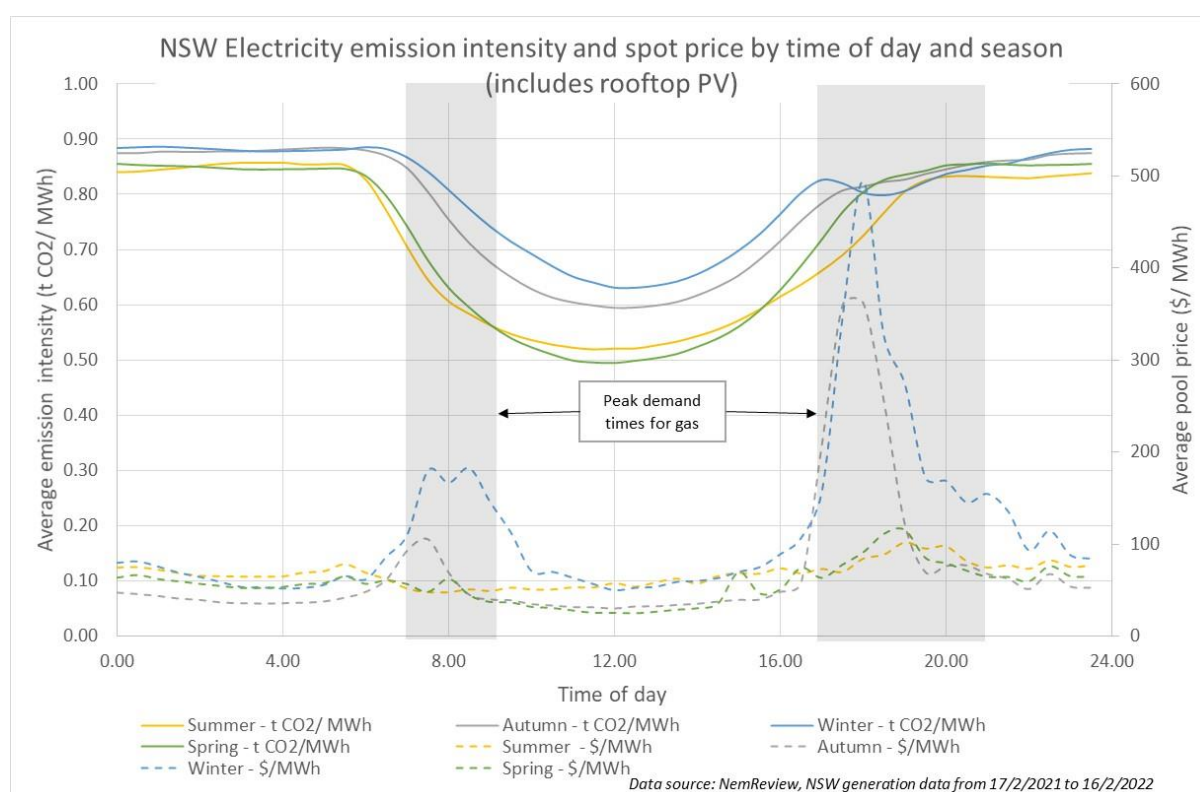
Incentivising electrification will increase emissions

Under the proposed changes to the SEPP DP, households are required to install roof top solar if a gas appliance is installed. This effectively incentivises electrification, as it adds a significant cost burden to those households that may otherwise choose to install a gas appliance, whether or not it reduces emissions overall.

By seeking to reduce gas use as a proxy for reducing emissions, policies that end up promoting electrification may have the reverse impact by underestimating the emissions from electricity today, and failing to consider the decarbonisation pathway of gas.

Figure 3 below demonstrates how much electricity emissions varied with season and time of day from 2021 to 2022.

Figure 3: NSW Grid Electricity vs Gas Emission Intensity by time of day and season



Source: *Energy Networks Australia (2022)*

This graph demonstrates how times of peak gas use coincide with the times of highest emissions intensity, reflecting the fact that gas consumption disproportionately occurs at times when solar generation is not operating and wind may not be, meanwhile gas has a constant emissions intensity 0.0514 kilograms CO₂/GJ, which equates to 0.185 tonnes of CO₂/MWh⁶.

Some electric appliances are more efficient than their gas counterparts. For example, electric heat pumps for space heating are among the appliances with the largest advantage as they are 300% efficient, while gas heaters are 88% efficient. This difference means that electricity needs to be less than 3.4 times as emissions-intensive as gas, or to have an

⁶ <https://www.industry.gov.au/data-and-publications/national-greenhouse-accounts-factors>

emissions intensity of approximately 0.629 tonnes of CO₂/MWh for electrification of heating to reduce emissions. The graph above shows that NSW's electricity emissions intensity mostly remains above 0.629 tonnes of CO₂/MWh, especially at times of peak gas use. This suggests that—even for the most efficient electric appliances, electrification would be likely to increase emissions in NSW today.

This analysis also illustrates how adding solar panels to a house will not reduce emissions from electrification of gas load as the time of peak gas use does not coincide with that solar production.

The simple emissions factor also fails to account for the decarbonisation journey of gas. Jemena has been advocating for the adoption of a Renewable Gas Target of at least 10% by 2030, which we believe is a no regrets measure and would demonstrate the viability of the full decarbonisation of gas infrastructure⁷. This call has been taken up by organisations as diverse as the Clean Energy Council⁸ and the Business Council of Australia

Electrification reduces customer choice and pushes cost onto those least able to bear it

Gas is used throughout NSW in a wide range of applications ranging from heating water in a home, cooking food in industrial ovens, as an input into a chemical processes, and for GPG to name but a few. Some of these users choose to use gas because they like the services it delivers, but others have less ability to switch fuels.

Through our engagement in preparation for our latest Jemena Gas Network Access Arrangement 2020-2025, our NSW gas customers told us that they like to use gas and expect Jemena to continue supplying it, while enabling Australia's transition to a lower carbon future. In a study commissioned by Energy Networks Australia in 2020, 82% of respondents living in natural gas households believed a gas connection was at least somewhat important.

While some of these users would electrify if pushed to by policy, this would have negative impacts on those users that have less ability to electrify, pushing the costs of sustaining the gas network onto those less mobile, including renters and other lower income households, and heavy industry.

Renters and other lower-income households may not have the ability to replace their appliances in response to economic incentives, so may find themselves worse off if they are left on the network as other households electrify.

Heavy industry will also be impacted if forced to pay an increasing share of network charges. In response to this cost increase, these users may choose to shut down, or relocate to other jurisdictions with more favourable policy settings.

The NSW government should consider the preferences and potential distributional impacts of electrification before adopting policies that incentivise it.

⁷ <https://jemena.com.au/about/newsroom/media-release/2021/jemena-calls-for-renewable-gas-target>

⁸ <https://assets.cleanenergycouncil.org.au/documents/advocacy-initiatives/federal-election/roadmap-for-a-renewable-energy-future-federal-election-policy-recommendations.pdf>

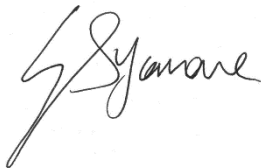
Focusing on desired outcomes rather than inputs is first-best policy

Jemena makes the following recommendations which we believe would improve the ability of SEPP DP to achieve its aims, while preserving customer choice, and enabling NSW's transition to net-zero emissions at lowest cost.

- In the draft *State Environmental Planning Policy (Design and Place) 2021*, delete item 21.(a), as the desired outcome of minimising greenhouse gas emissions is already covered in 21.(c).
- In the *Draft Apartment Design Guide*, delete the section titled All-electric building from Page 86.
- Delete or otherwise modify any other wording that has the effect of reducing gas use directly as a desired input, and ensure that the attributes of gas use in the SEPP DP are considered on their merits when seeking to achieve a desired outcome.

If you would like further information on Jemena's views about this issue, please contact John Cheong-Holdaway at john.cheong-holdaway@jemena.com.au

Yours sincerely,

A handwritten signature in black ink, appearing to read 'G Sycamore', with a stylized flourish at the end.

Gabrielle Sycamore

General Manager – Renewable Gas

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au on behalf of Planning Portal - Department of Planning and Environment
<noreply@feedback.planningportal.nsw.gov.au>
Sent: Friday, 10 December 2021 3:30 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: jindee-masterplan-and-rear-loaded-project-home-designs-for-reference_design-and-place-sepp.pdf

Submitted on Fri, 10/12/2021 - 15:25

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Jack

Last name

Dods

I would like my submission to remain confidential

No

Info

Email

jackdods@gmail.com

Suburb/Town & Postcode

Byron Bay

Please provide your view on the project

I support it

Submission file

[jindee-masterplan-and-rear-loaded-project-home-designs-for-reference_design-and-place-sepp.pdf](#)

Submission

As an urban design firm, we strongly support the Draft Urban Design Guide.

We recommend however, that the Guide be strengthened where it comes to new neighbourhoods, and specifically greenfield developments.

We proposed the Guide to more strongly encourage better urban design outcomes relating to the 'Neighbourhood Density' Design Criteria.

Specifically, where the 30 dwellings per hectare rule applies, the Guide should require lots have 2 frontages, with rear-loaded laneway access for vehicles. This reduces the dominance of cars on the primary street frontages, and helps to create safe, active, social places.

The guide should also encourage an increase in 'articulation zones' as stipulated in many DCPs. These currently are mostly 1.5m, which results in useless 'entry feature' style articulations. A deeper articulation zone, that encourages and permits front verandahs

and porches should be included in the guide. This helps to activate life on the street, community interaction, and social cohesion. Dwellings where the 'neighbourhood density criteria' applies should also be encouraged to orient the primary living areas to the street. This ensures that the principles and values in this SEPP are enacted in new developments. This approach is being taken in new developments in Western Australia (such as Jindee), and forms a crucial component of making active, safe, social streets and neighbourhoods.

This approach can easily be adopted by project home builders, and comes at no extra cost to consumers. The current approach to 90% new homes in new developments positions the garage, and usually the master bedroom to the street. This removes all daily household activity from the street, and creates isolated environments where there is little surveillance or interaction on the street. Healthy and active streets will be key to the success of this SEPP. As such, this recommendation should be strongly considered. Front verandahs and porches, that are directly linked to primary living spaces will foster strong, connected, social streets, and enhance amenity, creating greatly improved outcomes than the current model.

These recommendations strongly align with several objectives of the Urban Design Guide.

Examples of encouraged house layouts from Jindee, WA are attached for reference.

I agree to the above statement





Yes

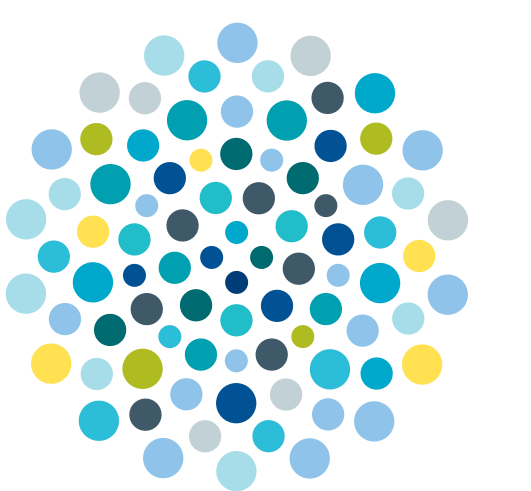
THE VISION

-  COMMUNITY ENTRANCE
-  DISPLAY VILLAGE
-  SALES OFFICE
-  FUTURE PRIMARY SCHOOL
-  COASTAL VILLAGE
-  NATURAL RESERVES
-  COMMUNITY PARK
-  GREEN SPACES
-  COASTAL PATHWAYS
-  PLAYING FIELDS
-  LOOK OUT

— STAGE 1 BOUNDARY

TRANSECTS (URBAN EXPERIENCES)

-  T2 - NATURAL LIVING
-  T3 - SUB URBAN
-  T4 - GENERAL URBAN
-  T5 - URBAN CENTER
-  T6 - URBAN CORE



JINDEE

Where life meets the ocean



THE MAPLE

House price from \$499,000*



Artist impression*

4 3 2

HOUSE AREA
310m²

FRONTAGE
10m

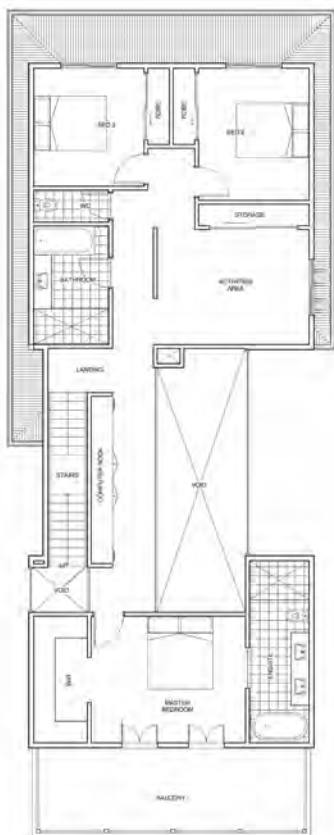
LOT TYPE
T4



PRIDE HOMES
& DEVELOPMENTS



Artist Impression



PRIDE HOMES
& DEVELOPMENTS

THE MAPLE FEATURES

- Feature internal balcony to second storey and hand crafted timber feature staircase.
- Double glazing and 2.7m high ceilings as standard throughout.
- Complete with the *Pride Luxury Inclusions Package* including colonial architraves, skirting and window boards as standard.
- Includes fully personalised design consultation with every home.

House price from \$499,000*

Want more information?

Contact: Nicola from Jindee on 0437 602 109

Visit: our Sales Office – corner of Marmion & Oceania Ave, Jindalee (JINDEE)



jindee.com.au

1300JINDEE

JINDEE

Illustrations and perspectives of homes are indicative only and may be subject to change to achieve planning approval. Buyers are required to lodge a full application for formal approval with the Jindee Town Architects Office. Produced May 2021 *Prices are correct at time of printing and are subject to change (including increase) without notice. Above pricing includes the base home price only. Site works are not included and can be provided separately after a formal survey of the lot by the purchasers' chosen builder – all costs related to the survey of the lot are the responsibility of the purchasers. This flyer contains information only and does not constitute an offer capable of acceptance by a prospective purchaser.



THE COVE

House price from \$301,795*



Artist impression*



3



2



2

HOUSE AREA
204.86m²

FRONTAGE
10m

LOT TYPE
T4

Plunkett
Homes



THE COVE FEATURES

- This 3 bedroom, 2 bathroom home is the epitome of coastal elegance, with statement stairs and return verandah ready to be adorned with your favourite vine.
- Create a perfect first impression with the formal entry, leading to the open plan living, dining and kitchen that flows to the large central alfresco, ideal for entertaining friends and family.
- The spacious living and dining with luxuriously high ceilings opens to the front verandah, creating a large and inviting space.
- Relax in the master suite with walk in robe and en-suite, ideally situated at the rear of the home for privacy and garden views.
- This spectacular home was designed with modern family living in mind, maximising light and space throughout.

House price from \$301,795

Want more information?

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Visit: our Sales Office - corner of Marmion & Oceania Ave, Jindalee (JINDEE)

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THE COASTAL COTTAGE

House price from \$230,000*



Artist impression*



3



2



2

HOUSE AREA
209m²

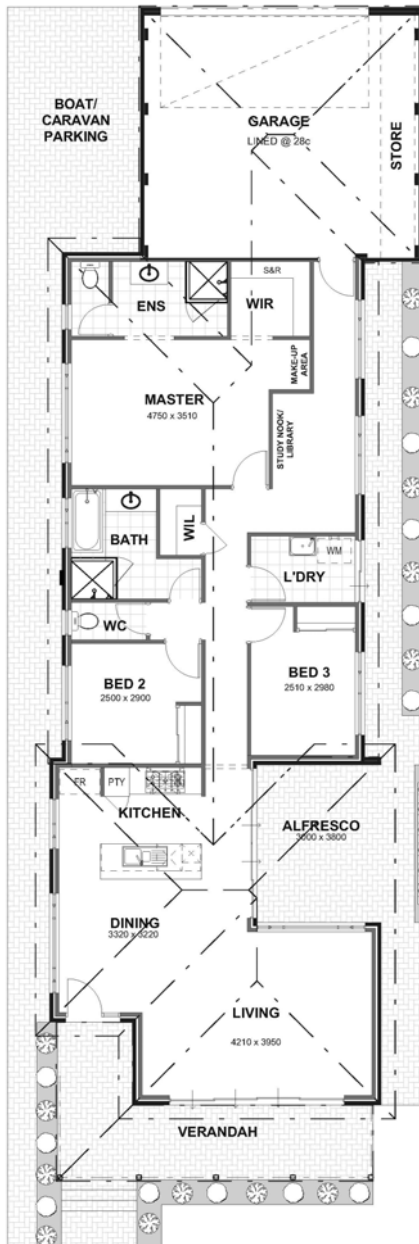
FRONTAGE
10m

LOT TYPE
T4





Artist impression



THE COASTAL COTTAGE

FEATURES

- This 3 bedroom, 2 bathroom home is a stunner with this traditional elevation including, balustrade, fretwork and feature entry door.
- Kitchen, living and dining boast 35 course ceiling heights and connect seamlessly to the outdoor alfresco and front verandah through stackable sliding doors.
- Large, open plan kitchen featuring 900mm European stainless steel appliances and 20mm Caesarstone benchtops.
- Master suite is secluded to the rear of the home.
- Room for boat or caravan parking.

House price from \$230,000*

Want more information?

Contact: Nicola from Jindee on 0437 602 109

Visit: our Sales Office – corner of Marmion & Oceania Ave, Jindalee (JINDEE)



jindee.com.au

1300JINDEE

JINDEE



THE SOLSTICE

House price from \$330,738*



Artist Impression*



HOUSE AREA
214.62 m²

FRONTAGE
10m

LOT TYPE
T4

BH
BROADWAY
HOMES



Artist impression



THE SOLSTICE FEATURES

- This 3 bedroom, 2 bathroom home is the ideal coastal abode.
- Impressive gourmet kitchen with breakfast bar bench and large scullery.
- Generous master suite with spacious built-in robe and en-suite is privately secluded to the rear of the home.
- Integrated indoor/outdoor living with private alfresco.
- Secluded to the rear of the home is a separate sitting area, the perfect place for reading a book or enjoying a glass of wine.
- Beautiful elevation designed specifically for the Jindee lifestyle.

House price from \$330,738*

Want more information?

Contact: Nicola from Jindee on 0437 602 109

Visit: our Sales Office – corner of Marmion & Oceania Ave, Jindalee (JINDEE)



jindee.com.au

1300JINDEE

JINDEE

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Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 3:04 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 2021_005_submission.pdf

Submitted on Mon, 28/02/2022 - 15:02

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Matt

Last name

Cooper

I would like my submission to remain confidential

No

Info

Email

matt@landmetrics.net.au

Suburb/Town & Postcode

CORINDI BEACH

Please provide your view on the project

I object to it

Submission file

[2021_005_submission.pdf](#)

Submission

Please refer to the attached submission prepared by Land Metrics Pty Ltd dated 28/02/2022.

I agree to the above statement

Yes

28 February 2022

PO Box 6511
Corindi Beach, NSW 2456

Our Ref: 2021_005_Submission

NSW Department of Planning, Industry and Development
4 Paramatta Square,
12 Darcy Street,
Paramatta NSW 2150**RE: SUBMISSION TO PROPOSED DESIGN AND PLACE SEPP 2021
PREPARED BY LAND METRICS PTY LTD**

I refer to the abovementioned mentioned matter in connection with the Department's exhibition of the draft Design and Place Planning policy and the proposed changes to the Environmental Planning and Assessment Regulation 2021.

This submission is made having regard to the draft policy requirements for "urban design development" and the omission of "Registered Land Surveyor" from the definition of "urban designer" in the Draft Environmental Planning and Assessment Amendment (Design in Place) Regulation 2021.

As a 'Registered Land Surveyor', I have had a keen interest in the development of land, particularly in relation to land subdivision development. My interest has been ongoing since the early 1990's having worked with larger surveying and town planning organisations in Sydney, Brisbane and since 2005, on the north coast of NSW.

In this time, as a 'Registered Land Surveyor' I have developed a clear understanding of the complexities which are involved in the planning, approval, construction and titling of varying scales of development from subdivisions of a single parcel into two lots, up to multi staged subdivision development incorporating more than five hundred lots. As a Registered Land Surveyor my expertise extends to the concept design of subdivision development and consultation with a wide range of organisations (i.e. government & non government) to ensure that:-

- the design is cognisant of the environmental constraints that apply to the land and that all environmental impacts have been properly considered,
- that the design is cognisant of the approval authorities design standards and design objectives,
- that the design is cognisant of other authorities/organisations design standards and design objectives.

Notably, my experience is not uncommon in the surveying profession.

Whilst my expertise has been developed over a significant period of time, the foundation for my approach (and all other registered land surveyors) has been the education which I received during my undergraduate and post graduate studies (in surveying) as well as continuing professional development over the subsequent years. It is paramount (and a requirement) that 'Registered Land Surveyors' undertake and demonstrate continuing professional development during the years they wish to retain their qualification as a "Registered Land Surveyor" as defined under the Surveying and Spatial Information Act 2002 No. 83.

Land development, inclusive of the design of subdivision development (urban, rural, industrial etc) and the preparation of development applications is a core business component of Land Metrics Pty Ltd as is the case with other land surveying company's across metropolitan and regional New South Wales. Historically, land surveying businesses have been established and prospered because of their design skill, their understanding of the land and the complexities applied by environmental and





legislative constraints.

Fundamentally, registered land surveyors understand land. They know how to design subdivision development which not only has regard to design requirements, standards or guidelines applied by government, but is done so with an economic, social and environmental mindset.

In terms of the draft policy and accompanying regulations, Land Metrics Pty Ltd believes the exclusion of 'Registered Land Surveyor' from the definition of 'Urban Designer' is a grave oversight and should be altered to be inclusive of same. The implications for excluding "Registered Land Surveyor" from this policy will otherwise be significant for the timely planning, development and release of land subdivision development in NSW. This impact will likely be exacerbated in the regional areas of NSW where a suitably qualified Town Planner, Architect or Landscape Architect with 5 years of precinct or master planning experience is very rare if nonexistent.

Given the experience and qualification that are required to qualify as 'Registered Land Surveyor' along with the encompassing requirements of the draft policy which include:

- a) urban subdivision development to achieve the objectives and design principles of the proposed Urban Design Guide,
- b) the powers of the consent authority to influence good urban design outcomes via the implementation of well prepared development control documentation;
- c) the power of the consent authority to influence good urban design outcomes during the development assessment phase,

it is appropriate that "Registered Land Surveyor" be incorporated into the definition of "Urban Designer" under the Draft Environmental Planning and Assessment Amendment (Design in Place) Regulation 2021.

I trust that this submission will be received by the Department and the matters raised herein will be considered during the subsequent review process. I welcome and would appreciate any further involvement/consultation should the Department require.

Notwithstanding the above, I strongly encourage direct consultation with the representative bodies for Registered Land Surveyors in NSW being the Institution of Surveyors NSW, Country Surveyors NSW as well as the representative body for land surveying businesses, Consulting Surveyors NSW.

Should Council wish to discuss this matter further clarification, please do not hesitate to contact me on 0422 697 846 or via email matt@landmetrics.net.au.

Yours faithfully,

LAND METRICS PTY LTD

Matt Cooper
Director



**Submission to
Government Architect NSW and DPE
Draft Design & Place State Environmental Planning Policy
021**

23rd March 2022

PO Box 78 Balwyn North VIC 3104 | 10/828 High Street Kew East VIC 3102
P (03) 9859 5000 **F** (03) 9859 6077

www.lfra.com.au

ACN 131 555 612 ABN 31 131 555 612

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1. Introduction

This submission has been prepared by the Large Format Retail Association (LFRA) with the assistance of Ethos Urban in response to the call for feedback on the draft Design and Place State Environmental Planning Policy (DP SEPP) 2021 by the Government Architect NSW (GANSW) and NSW Department of Planning & Environment (DPE).

We welcome the opportunity to provide feedback to the GANSW and DPE on the Large Retail Format's experience with the NSW Planning Framework to date and provide our feedback on the proposed framework.

The LFRA has proactively engaged over the last 6 years with various NSW State Government bodies, including the DPE, the Greater Sydney Commission, various Local Councils, the NSW Retail Expert Advisory Committee (REAC), and both the NSW and Federal Productivity Commissions to voice its concerns regarding the current NSW planning system and the associated land use zoning controls that restrict the Large Format Retail industry's ability to find suitable sites and invest in NSW.

Our experience is such that finding a suitable site that meets our members requirements is a significant problem. The LFRA has welcomed and supported the DPE's Employment Zone Reform and the recent changes to State *Environmental Planning Policy (Exempt and Complying Designment Codes) 2008* (Codes SEPP), as well as the Greater Sydney Commission's review of the Industrial Lands Policy.

A key theme in all the submissions that have been prepared in response to various NSW Government documents over the last 5 - 6 years is that the Large Format Retail sector is constantly evolving, existing retailers are becoming more innovative and wishing to adapt to ensure that future expansion of their business. However, the NSW Planning System fails to recognise the Large Format Retail sector as a significant employment generating sector, and it fails to proactively plan to meet the significant demand for additional Large Format Retail floorspace.

The above-mentioned significant amendments to NSW planning policy in the form of the Employment Zone Reform and the changes to the Codes SEPP have been long overdue and are anticipated to introduce increased flexibility and potentially open up more land.

The LFRA's vision is clarity, consistency and certainty of the various laws and government regulations that relate to the Large Format Retail industry in Australia. The LFRA's policy agenda encourages investment and employment growth and opportunities. Good urban planning, smart competition policy and cheaper energy underpin our agenda.

However, *the draft DP SEPP will introduce a new level of complexity, opportunities for inconsistency and significantly less certainty to our sector at both a strategic and statutory planning level. This is at a time when it appeared like NSW planning policy was just starting to reduce red tape and acknowledge the NSW Productivity Commission's comment in its 'White Paper' titled 'Rebooting the Economy' that "...overly prescriptive and complex planning regulation stifle business competition and housing supply..."*.

2. Large Format Retail Association and Sector Overview

The LFRA is Australia's peak industry body which supports and advocates for Australia's Large Format Retail sector. Our membership base comprises of large format retailers, investors, owners, developers and service suppliers. The LFRA's policy agenda strongly encourages investment and employment growth and opportunities. Issues such as good urban planning, smart competition policy, renewable and cheaper energy, and sustainability underpin our agenda. Our vision is clarity, consistency and certainty of the various laws and government regulations that relate to the Large Format Retail industry in Australia.

The LFRA's Retail members include some of Australia's largest and most respected Large Format Retailers including the 67 individual business brands listed in the following table:

ABS Automotive Service Centres	Fantastic Furniture	Original Mattress Factory
Adairs	Focus on Furniture	OZ Design Furniture
Adairs Kids	Freedom	Petbarn
Amart Furniture	Harris Scarfe	PETstock
Anaconda	Harris Scarfe Home	Pillow Talk
Animates	Harvey Norman	Pivot
Autopro	House	Planet Fitness
Autobarn	House Bed & Bath	Provincial Home Living
Baby Bunting	IKEA	Rebel
Barbeques Galore	James Lane	Reece
BCF	Jaycar Electronics Group	RoadTech Marine
Beacon Lighting	JB Hi-Fi	Robins Kitchen
Beaumont Tiles	JB Hi-Fi Home	Sleepys
Bedshed	Joyce Mayne	Snooze
Bunnings	Kitchen Warehouse	SPACE
Bursons	Lincraft	Spotlight
Chemist Warehouse	Macpac	Supercheap Auto
City Farmers	Midas Auto Service Experts	The Good Guys
Clark Rubber	Mocka	The Sleeping Giant
Costco	Mountain Designs	Tool Kit Depot
Decathlon	Oakland Mowers	Total Tools
Domayne	Officeworks	Urban Home Republic
Early Settler		

The LFRA is supported by its Patron, PwC, and the following 78 Associate members that comprise of Large Format Retail developers, investors, owners and service suppliers:

Acure Asset Management	CV Media & Signage	Morgans Financial Limited
ADCO Constructions	Deep End Services	MPG Funds Management
Advent Security Services	Deluca	Moray & Agnew Lawyers
Arise Developments	DOMÉ Property Group	National Storage
AsheMorgan	Edgewise Insurance Brokers	Newmark Capital Limited
Arkadia	Ethos Urban	Norman Asset Delivery
Aventus Group	Re Grow Development Group	Paidright
AXIMA Logistics	FTI Consulting	Planning Solutions
AXIOM Properties Limited	Gazcorp	Primewest
Baycrown Property Group	Gibb Group	Properties and Pathways
Bayleys	Geon Property	QIC
Bill Identity	Grosvenor Engineering Group	Realmark Commercial
Birdsong Legal	HLC Constructions	Re Ventured
Blackmont	Home Co.	Sentinel Group Australia
Blueprint	Humich Group	Signify
Buchan	Investore	Solar Edge
Burgess Rawson	Jape Group Australia	Terrace Tower Group
BWP Trust	JVL Investment Group	TK Maxx
CBRE	Knapp Property Group	Transact Capital
Charter Hall	Leedwell Property	Transcend Property
Cherry Energy Solutions	Leffler Simes Architects	Troon Group
Citinova	Lester Group	Tutch
Colliers International	Lumi Lighting	Upstream Energy
Complete Colour	Mainbrace Constructions	Vend Property
Coombes Property Group	Major Media	Walker Corporation
COVA Group	Market Lane Developments	Wrkr

Australian's love affair with Large Format Retail has been on full display during the pandemic, with sales on track to increase by almost 13% during the 2020-21 financial year despite the COVID-19 restrictions. In simple terms, the trading performance of the Large Format Retail sector has been buoyed by the following key factors:

- The much-needed economic boost by the Federal Government in the form of Jobseeker and Jobkeeper payments;
- Reactionary purchases by the population due to the various Government restrictions such as work from home requirements and the closure of gymnasiums;
- The take-up of DIY projects;
- The desire by many to transform their homes into an oasis; and
- The spatial element of the Large Format Retail sector (i.e. large car parks, large floorplates that automatically aid social distancing, the limited numbers of spacious internal shopping malls, and ease of access for 'click and collect' and 'drive and collect' services.

Demand assessment economists, Deep End Services, estimate the following approximate key industry metrics for both Australia and New South Wales for the year ending 30th June 2021:

Key Industry Metrics	Australia	New South Wales
Total retail sales	\$ 361.9 billion	\$ 115.3 billion
Large Format Retail percentage of total retail sales	26.4%	26.5%
Large Format Retail sales	\$ 92.4 billion	\$ 30.5 billion
Number of direct employees in Large Format Retail	199,144	60,196
Number of indirect employees in Large Format Retail	247,337	74,763
Total number of employees both directly and indirectly in Large Format Retail	446,481	134,959
Large Format Retail floor space	20,184,699 million square metres which equates to 35% of all retail floor space	

The LFRA has also seen a broader trend in that there has been a rise in the take-up of floorspace within established homemaker centres by uses other than traditional Large Format centre uses, these include:

- Allied medical/ health and wellness (dental, radiology, blood donation centres);
- Automotive sales and servicing (sales, servicing, tyres, car washes);
- Business premises (financial services, government agencies, training services); and
- Entertainment and recreation centres (play centres, bowling, climbing, gymnasiums)

2.1 Significant Large Format Retail Floorspace Demand

Floorspace demand within the Large Format Retail sector was specifically identified in the 2016 Deep End Services report – ‘Sydney Retail Demand and Supply Consultancy’ prepared for the then DP&E in association with the Greater Sydney Commission (GSC). The report confirmed that between 1.74 and 2.2 million square metres of Large Format Retail floorspace will be required over the period 2011 to 2031 which accounts for approximately 40% of retail demand.

The Deep End Services report also acknowledged that the Large Format Retail sector has experienced a 2.3% growth per annum between 1992 and 2015, which is the second highest growth rate out of all other identified retail sub-markets. Growth between 2015 and 2031 is, however, expected to slow to 1.1% per annum, which was attributed in part to:

- The past trend of redeveloping industrial land in inner suburban locations for retail development is unlikely to occur to such an extent in the future; and

- Regulatory reform that in the past fuelled growth (e.g. removal of weekend trading restrictions) is unlikely to occur to such an extent in the future.

Deep End Services estimated that the Large Format Retail floorspace supply within the Sydney Metropolitan Area in 2015 was 2.9 million square metres which represents 27% of the retail distribution. Using the same methodology in its calculations, Deep End Services estimated that by 2031, Large Format Retail floorspace supply within the Sydney Metropolitan Area will account for 4.5 million square metres; this equates to an increase in supply of 1.6 million square metres, and a forecast demand requirement of between 1.7 and 2.2 million square metres outstrips the supply level.

The Large Format Retail sector is therefore forecast to have significant surplus floorspace demand at 2031 which will not be met by estimated supply levels. It has been a common experience for LFRA members over the past few years that due to the restrictive planning and zoning controls within NSW there has been and continues to be a lack of appropriately zoned, sized and configured land to support new Large Format Retail development.

This challenge to the Large Format Retail Sector has been further acknowledged in the 'REAC Report': "...it can be difficult for large format retailers to establish within the existing urban fabric where either land is not appropriately zoned or where zoned land comprises small lots...". This has resulted in the sector becoming "...unnecessarily constrained, resulting in further distortions in the locations of such facilities and their market performance...".

Furthermore, the LFRA, in conjunction with Deep End Services, produced the latest and 13th annual edition of the Large Format Retail Directory – Australia and New Zealand. Data from the Directories show that Large Format Retail vacancy rates have largely declined over this period as shown in the following table:

<i>Large Format Retail Directory Year of Publication</i>	<i>Vacancy Rate</i>
2012/13	7.9%
2013/14	5.1%
2014/15	4.6%
2015/16	4.3%
2016/17	3.7%
2017/18	3.6%
2018/19	5.0%
2019/20	6.2%
2020/21	5.0%

2.2 The LFRA's Involvement in NSW Planning Reform

In May 2021 the New South Wales Government released the NSW Productivity Commissioner's 'White Paper' titled 'Rebooting the Economy'. Within the report, sixty (60) opportunities were highlighted as ways to improve productivity including several recommendations to improve the NSW planning system.

It is noted that the 'White Paper' requested a review of the 'Apartment Design Guide' amongst the proposed Design and Place SEPP to make certain the benefits of good design are highlighted within the SEPP, and the LFRA supports this recommendation along with all of the others.

However, the NSW Productivity Commission also highlighted that *"...the volume of regulation in NSW Wales is, however growing faster than ever. Twice as many regulations were created between 2010 and 2019 than in the preceding decade (NSW Treasury 2020e). More regulations mean more time spent for businesses understanding and complying with rules, and less flexibility for businesses to innovate and adapt.*

Growth in regulation may be human nature. Scientific research suggests that humans have a bias towards solving problems through adding new things instead of stripping back what is already there – a tendency that applies equally to designing regulations as it does to designing engineering solutions, writing or cooking (Adams et al 2021). All the more reason to look at the regulations we already have to ensure they are meeting their policy objective with a minimum economic burden and as new regulatory problems arise to first think about what we may be able to alter or remove, rather than adding new regulations..."

It is the LFRA's view, that the draft DP SEPP and supporting documentation introduces more complexity into both the statutory and strategic planning systems, which will invariably make it even harder for our industry to supply development to meet the levels of demand it already faces.

3. Response to the Draft DP SEPP

In response to the draft DP SEPP, the position of the LFRA is that it has a number of concerns, namely:

- That the application of the DP SEPP applies to any land that has a site area greater than 1 hectare;
- That many Large Format Retail developments would not be able to comply with the design principles and design considerations, leading to an increase in refusals and court cases;
- That the Urban Design Guide is not drafted to be relevant to Large Format Retail development, but the legislation requires such development to demonstrate compliance with it;
- That developments with a site area over 1 hectare are required to go through a Design Review Panel process which adds an unnecessary layer of complexity, particularly for Large Format Retail developments; and
- That the DP SEPP is applied to planning proposals, which would likely stifle investment and competition by speculative and new entrants to the market.

These positions are explained in further detail below.

3.1 Concerned That The Application Of The DP SEPP To Any Land That Has A Site Area Greater Than 1 Hectare

Nearly all of the centres that are owned by our members exceed 1 hectare in site area and in many cases, new Large Format Retail centres generally have a minimum site area requirement of 1 hectare or more. Accordingly, most new '*Specialised Retail Premises*' development would be classified as '*Urban Design Development*' under the DP SEPP.

The LFRA are concerned that if any new Large Format Retail developments are proposed, either at planning proposal stage or at development application stage, they will be caught up by the provisions of the SEPP and will likely be refused.

Whilst on face value the LFRA supports the delivery of sustainable and resilient places and the delivery of good design, as discussed in Section 3.2 – 3.6 below, the provisions within the DP SEPP are problematic for our sector and just as the DPE is making changes to the NSW Planning System to help support and open up land for the Large Format Retail sector, the DP SEPP would stop development for our sector in its tracks.

We strongly recommend that the DPE and GANSW reconsider the application of the DP SEPP to '*Specialised Retail Premises*' and other forms of urban development on sites over 1ha and industrial development on sites over 1ha and over \$30 million as it will undoubtedly stifle the delivery of new development to meet the significant demand for Large Format Retail floorspace that currently exists, as identified in Section 2.1.

3.2 Concerned That Many Large Format Retail Developments Would Not Be Able To Comply With The Design Principles And Design Considerations, Leading To An Increase In Refusals And Court Cases

The introduction of a principles-based approach is welcomed by the LFRA as it has the potential for flexibility and the merits of a development to be considered. However, given the DP SEPP would now apply to the specialised retail premises and the large format retail sector, the LFRA is concerned that new large format retail developments may not be able to demonstrate that they ‘comply’ with the design principles and design considerations.

The wording of Part 2, sections 13(1) and 13(2) are clear in that ***‘development consent must not be granted for development unless a consent authority is satisfied that the development is ‘consistent with’ the design principles’*** and that in determining whether development is ‘consistent’ with the design principles, a consent authority is required to ‘take into account the design considerations’ for each design principle.

The LFRA is concerned that the design principals are highly subjective in their wording, and are likely to cause significant variance in how consent authorities consider whether they are satisfied. We question whether a large format retail warehouse can deliver ‘beauty’ and ‘inviting public spaces’ without it turning into a form of development that it is not.

In addition, the LFRA are concerned that the design considerations will be used simply as a checklist by consent authorities and where compliance with a design consideration cannot be met for any particular reason, then the consent authority may not have the ability to grant development consent.

For example, Part 2, section 19 sets out the design considerations for sustainable transport and walkability, and requires the consent authority to consider whether the development:

- (a) *contributes to minimizing car trips and car travel distances by –*
 - i. *supporting access to public transport, and*
 - ii. *minimizing private car parking, and*
- (b) *minimises the impact of car parking on public space, and*
- (c) *supports increased opportunities for walking and cycling by integrating with, or improving connections to existing walking and cycling networks, and*
- (d) *provides bicycle parking and end of trip facilities, and*
- (e) *supports the installation of infrastructure for charging electric vehicles.*

Following advocacy from the LFRA over a number of years, in August 2018 the ‘Specialised Retail Premises’ land use definition was introduced into the ‘Standard Instrument Local Environmental Plans) Order 2006’ to better reflect the changing nature of retail and the types of products that are being sold in Large Format Retail stores. This new definition replaced the old definition of ‘Bulky Goods Premises’.

The ‘*Specialised Retail Premises*’ land use definition is as follows:

“...*Specialised Retail Premises* means a building or place the principal purpose of which is the sale, hire or display of goods that are of a size, weight or quantity, that requires:

- (a) a large area for handling, display or storage, or
- (b) **direct vehicular access to the site of the building or place by member of the public for the purpose of loading or unloading such goods into or from their vehicles after purchase or hire, but does not include a building or place used for the sale of foodstuffs or clothing unless their sale is ancillary to those goods being sold, hired or displayed.**

Note: Examples of goods that may be sold at specialised retail premises include automotive parts, and accessories, household appliances and fittings, furniture, homewares, office equipment, outdoor and recreation equipment, pet supplies and party supplies...”

There are two (2) key differences between the definition of ‘*Specialised Retail Premises*’ and the old, problematic definition of ‘*Bulky Goods Premises*’:

1. The new definition includes the word ‘*quantity*’ in addition to ‘*size*’ or ‘*weight*’.

Retailers that stock a large quantity or volume of products may be characterised as ‘*Specialised Retail Premises*’ even if those products are not large or heavy, but the quantity or volume of goods requires a large area for handling, display and storage or direct vehicular access to loading facilities for members of the public.

2. Only one requirement within the definition is needed to be met as the word ‘*or*’ replaced the word ‘*and*’ in the new definition.

Previously parts (a) and (b) of the definition both needed to be met for premises to qualify as ‘*Bulky Goods Premises*’, whereas under the ‘*Specialised Retail Premises*’ definition only one of (a) or (b) is required.

The amendments to the definition of ‘*Specialised Retail Premises*’ overcame significant problems and barriers to delivering Large Format Retail developments and provided a clear, consistent and certain definition which supported the sector.

Whilst the design considerations set out in Section 19 of the DP SEPP are aspirational and provide good guidance in terms of seeking to achieve higher quality design throughout all development types, they appear to be in direct conflict with the ‘*Specialised Retail Premises*’ land use definition and the general characterisation of such developments. **Table 2** below, provides a summary of the general characteristics of a ‘*Specialised Retail Premises*’ development:

Specialised Retail Premises Characteristics	
Location	<ul style="list-style-type: none"> Close proximity to activity centres generally on the edge or outside of activity centres sure to permissibility of bulky goods showrooms in lower priority land zonings. Generally located on major arterial roads due to exposure to passing traffic, accessibility for customers by car and public transport.
Merchandise	<ul style="list-style-type: none"> Generally large items in terms of size, shape and weight.
Products	<ul style="list-style-type: none"> Generally 'homemaker' products including furniture, electrical, furnishings, bedding, building materials, household fixtures and fittings.
Display Requirements	<ul style="list-style-type: none"> Large floor plates required for the storage, handling and display of bulky items. Typical tenancy area of 1,000 – 3,500 m² for major tenants and 300 - 500m² for minor tenants. Typical ceiling height of 4.5 to 6.0 m for storage and display of products in industrial racking.
Customer Visitation	<ul style="list-style-type: none"> Infrequent/destination trip. Considered capital investment. Low volume of average customers per day. Generally short period of stay for sole purpose of acquiring goods.
Trading Patterns	<ul style="list-style-type: none"> Generally higher ticket value per average sale than core retailing. Low average turnover per m² of floor area.
Built Form	<ul style="list-style-type: none"> Large floor plates Non-active frontages due to large floorplates and course-grain subdivision pattern. Primary outdoor environment for public circulation.
Loading & Goods Handling Requirements	<ul style="list-style-type: none"> Deliveries to majority of tenants by semi-trailers and large trucks Direct access to rear of tenancy for unloading of bulky goods and storage within tenancy Direct access for collection of bulky goods after purchase by customers for loading into their vehicles.
Car Parking	<ul style="list-style-type: none"> 3 - 5 car spaces per 100 m² of floor area

Notably, a development can be defined as a '*Specialised Retail Premises*' based upon its requirement for direct vehicular access for the purpose of loading goods into customers vehicles after they have purchased or hired a good or piece of equipment. Therefore, by their very nature, a '*Specialised Retail Premises*' development cannot not seek to minimise private car parking, as the provision of private car parking is integral to its business model and the sector as a whole.

Furthermore, the '*Specialised Retail Premises*' definition also makes it clear that such development sells, hires or displays goods which are of a size, weight or quantity that requires a large area for handling, display or storage or direct access to car parking.

Examples of such goods include automotive parts, household accessories and fittings, furniture, homewares, outdoor and recreation equipment etc. Therefore, the nature of the goods that are sold in *'Specialised Retail Premises'* developments are not generally conducive to walking and cycling.

Accordingly, an applicant seeking development consent for a *'Specialised Retail Premises'* development, is unlikely to be able to demonstrate that they can 'comply' with each of the *'tests'* under Part 2, section 19 of the DP SEPP.

Whilst the above only demonstrates how the design considerations in Part 2, Section 19 are problematic for the Large Format Retail sector, overall, the LFRA is concerned that a significant number of the design considerations would also not be able to be met in development applications for Large Format Retail development and for that matter associated industrial developments, such as warehouse and distribution facilities.

The design considerations do not take into consideration the varying nature of forms of development that do not necessarily *'fit'* within a centre and are more appropriately located on the edge or outside of a *'centre'*.

Given that the wording of Part 2 Section 13(1) specifies that *"...Development consent must not be granted for development to which this Policy applies unless the consent authority is satisfied that the development is consistent with the design principles..."* the LFRA consider that the wording doesn't allow *'general consistency'* or *'consideration of'* the design principles and design considerations. Therefore, a consent authority is not provided any degree of flexibility in its consideration of whether (or not) the design principles and design considerations are applicable to the specific development it is considering.

Such strict application of the design principles and design considerations will lead to a significant volume of refusals for *'Specialised Retail Premises'* development and an increase in court appeals.

Noting that the newly appointed Planning Minister Anthony Roberts has discontinued the Minister's Planning Principles introduced by Minister Stokes in December 2021, we therefore request that at a minimum, the wording of Part 2 Section 13, the rest of the draft SEPP and the other exhibition documents is scaled back to enable development consent to be granted for development if the consent authority is satisfied that *'consideration'* has been given to the design principles, as relevant.

Ultimately, we do not consider that the DP SEPP should apply to large format retail developments.

3.3 Concerned That The Urban Design Guide Is Not Drafted To Be Relevant To Large Format Retail Development But The Legislation Requires Such Development To Demonstrate Compliance With It

In addition to the design considerations, Part 3 Section 24(1) of the DP SEPP prevents development consent being granted to urban design development unless the consent authority is satisfied that the development meets the 19 objectives of the Urban Design Guide (UDG).

The UDG has a focus on public space and liveability, and prioritises compact, walkable, diverse and connected neighbourhoods. The LFRA are once again concerned that the majority of the objectives do not relate to the development of Large Format Retail development on sites that are outside of centres and neighbourhoods.

The UDG is clearly written as a form of '*guidance*', but language in Section 24(1) does not provide any flexibility for a consent authority and/or applicant to use its own judgement as to whether the objectives apply to the type of development which is being proposed.

Therefore, any new development that is not for residential-led development will find it difficult to demonstrate that the objectives, design criteria and universal requirements set out within the UDG have been or can be met.

Furthermore, the requirement of a stand-alone design verification statement to demonstrate the compliance with the principles and objectives is unnecessary and onerous, it would be much better placed in a Statement of Environmental Effects.

3.4 Concerned That Developments With A Site Area Over 1 Hectare Are Required To Go Through A Design Review Panel Process

As noted above in Section 3.1 above, nearly all of the Large Format Retail centres that are owned by our members exceed 1 hectare in site area and in many cases, new large format retail centres generally have a minimum site area requirement of 1 hectare or more.

Part 4, Section 35(1) of the DP SEPP requires all development with a site area over 1 hectare to be reviewed by a design review panel (DRP). A mid-scale large format retail development, that proposes 5 - 6,000 m² '*Specialised Retail Premises*' floorspace GFA plus car parking would be caught up by these provisions. It therefore seems unreasonable for such a development to be required to go to a DRP Panel, particularly when the availability of DPR appointments are often limited.

We agree that the DRP process offers valuable feedback on certain forms of development, however where a retailer is simply seeking to construct a Large Format Retail warehouse on an appropriately zoned site that is in keeping with surrounding Large Format Retail warehouses, we would question the value that a DRP would add to

the design and context. In many cases we anticipate the DRP would simply add a layer of unnecessary complexity.

Furthermore, should all forms of development (as defined in Part 4, Section 34) are required to go to a design review panel, then we anticipate a backlog in reviews and extensive assessment timeframes, therefore resulting in extensive timeframes for gaining development consent. This goes against the DPE's quest to cut red tape and streamline the planning process.

3.5 Concerned That The DP SEPP Is Applied To Planning Proposals

It has been the experience of LFRA members that have emerged into the Large Format Retail Sector in NSW in recent years, that the NSW planning system discourages competition, does not promote speculative investment and growth by retailers and retail manufacturers and does not promote dynamic change. Given the NSW planning system requires 'spot rezonings' on an individual basis to foster developments and the rollout of new forms of retail, such as Costco, the LFRA is very concerned that the DP SEPP provisions are to be applied to planning proposal and rezoning applications through the proposed Section 9.1 Direction.

This requirement would further stifle investment and competition by speculative and new entrants to the market and reduce the productivity of NSW further.

4. Conclusion

The LFRA welcomes this opportunity to provide its feedback in regard to the draft Design & Place SEPP and the other exhibition documents.

As explained within this submission, the Large Format Retail sector faces many challenges when it comes to the supply of available land which is suitable for our members. The LFRA has welcomed and supported the DPE's Employment Zone Reform and the recent changes to the State 'Environmental Planning Policy (Exempt and Complying Designation Codes) 2008' (Codes SEPP), as well as the Greater Sydney Commission's review of the Industrial Lands Policy.

However, the draft DP SEPP will undoubtedly introduce a new level of complexity, opportunities for inconsistency and significant less certainty to our sector at both a strategic and statutory planning level.

The LFRA's vision is clarity, consistency and certainty of the various laws and government regulations that relate to the Large Format Retail industry in Australia.

The LFRA do not consider that the DP SEPP should apply to Large Format Retail developments as the site area threshold of 1 hectare is too low and many of the design principles, design considerations and objectives within the UDG are not generally relevant to Large Format Retail development. However, as a minimum, we request that less prescriptive terminology is introduced throughout the exhibition documents to refer to '*consideration*' and '*guidance*' rather than '*compliance*'.

The LFRA would be happy to meet with the DPE and GA NSW to discuss this submission.

Please contact the LFRA's Chief Executive Officer, Philippa Kelly on 03 9859 5000 or pkelly@lfra.com.au should you wish to discuss any aspect of this submission.

Submitted on Thu, 24/02/2022 - 12:36

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

First name

Carla

Last name

Mamaril

I would like my submission to remain confidential

No

2 Info

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Suburb/Town & Postcode

2027

Please provide your view on the project

I support it

Submission file

[2022-02-24-dpe-submission-draft-dp-sepp---lfa-pacific-pty-ltd.pdf](#)

Submission

LFA is supportive of the DP SEPP, subject to proposed amendments to the definition of 'urban designer'. Please see attached submission letter.

I agree to the above statement

Yes



24 February 2022

NSW Department of Planning & Environment

Via: NSW Planning Portal

Dear Sir/Madam,

Planning Submission to the Draft Design and Place SEPP 2021

This letter has been prepared in response to the NSW Department of Planning and Environment's invitation for public submissions on the Draft Design and Place SEPP.

LFA is an award-winning boutique practice that has successfully completed urban design, planning, architecture and landscape projects throughout Australia since 1977.

We have considerable experience in precinct planning and master planning, having completed large scale greenfield master planning projects within the Sydney Region Growth Areas; urban renewal projects including Green Square, ACI site in Waterloo, Victoria Park in Zetland; and numerous greenfield and urban renewal town centre projects across New South Wales. LFA has also been involved in major urban development projects in Victoria, Queensland and the Northern Territory.

We welcome the introduction of the Design and Place SEPP and strongly support the aims of the policy. We generally support the processes and guidance set out in the planning package to improve the design quality, sustainability, resilience of the built environment in NSW and its connection with Country.

However, concern is raised regarding the manner in which the Design and Place SEPP seeks to define appropriately qualified designers, specifically urban designers. The proposed amendment to the Regulations under Clause 3, Definitions states:

urban designer means the following—

(a) a qualified town planner with at least 5 years' experience in precinct or master planning,

(b) a landscape architect with at least 5 years' experience in precinct or master planning,

(c) an architect with at least 5 years' experience in precinct or master planning.

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It is understood that the purpose of defining an 'urban designer' is to clarify the appropriate qualifications and design skills required for a design professional to sign off on design verification statements and design review reports for 'urban design development' (also a defined term in the DR SEPP and which is discussed later in this submission).



We remain concerned that the above definition:

- does not recognise formal urban design qualifications
- limits the breadth of urban design professionals to those who are either registered design professionals or have qualifications in 'town planning'
- specifies a timeframe for years' experience without reference to the relevance of that experience.

Defining Urban Design and Urban Designers

The complexity of defining an 'urban designer' stems from the fact that 'urban design' is not well defined in theory or in practice. Alexander Cuthbert's 2007 paper 'Urban design: requiem for an era – review and critique of the last 50 years' puts forward a compelling critique which argues that definitions of urban design are largely insubstantial. Neither a science, nor an art, most definitions of what urban design is are tautological and axiomatic, and any legitimisation it does have is stitched together by imagination in academic life and regulation in practice (Cuthbert, 2007). Without its own substantial theoretical grounding, our understanding of urban design continues to depend on architecture and planning, largely due to the historical relation of urban design to these two professions. (Cuthbert 2007). It is noted that this lack of a reliable definition is reflected in the fact that there is no definition of 'urban design' in the DR SEPP nor the Draft Urban Design Guide.

The lack of an adequate definition of the discipline has consequences for defining 'urban designers'. Cuthbert's point that urban design is heavily reliant on architecture and planning is clearly demonstrated in the manner that the DR SEPP seeks to define 'urban designers' – either as town planners, architects or landscape architects. This has a number of consequences, as discussed below.

Urban Design Qualifications

The DR SEPP definition of 'urban designer' has the effect of pigeonholing urban design qualifications in terms of either town planning, architecture or landscape architecture, although it is acknowledged that urban designers typically have qualifications from either of these professions (or a combination). Each of these professions have a statutory authority or peak professional body that provides a pathway to becoming a recognized professional via a rigorous registration process, e.g., NSW Architects Registration Board. For architects in particular, registration is a legal requirement to sign off on design work.

In the absence of a statutory authority or formally recognized peak professional body for urban designers, and the assumption that urban designers are either town planners, architects and landscape architects, it is understandable why the definition of 'urban designers' in the DR SEPP is so, considering the purpose is to assign qualifications to urban designers. It is further noted that while formal registrations recognise aptitude in the relevant professions (i.e., town planning, architecture, landscape architecture), they do not validate competency in urban design.

Urban design qualifications exist in their own right. Urban design qualifications have been (and are) attainable through post-graduate programs across several universities in Australia and overseas, including The University of Sydney (Master of Urban Design), University of Technology Sydney (Master of Urban Design), and (until recently) the University of New South Wales (Master of Urban Development and Design), to name just a few. These programs provide for theoretical grounding, practical experience and analytical and creative skills required to undertake urban design projects. They provide for critical and creative thinking beyond the bounds of the client-consultant relationship, current industry practice and

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government policy and therefore are important platforms for the progression of urban design as a field.

If the definition of an urban designer is to ensure that work under the DP SEPP is undertaken by a qualified design professional, then it is arguable that tertiary qualifications specifically in urban design should be recognized and form part of the definition an 'urban designer'.

It is noted that graduates of urban design Masters degrees can come from complementary fields such as environmental design, fine arts, sustainable development, geography, geographic information systems, property economics, community development, environmental science, and engineering and so forth. Therefore, in considering professionals with urban design master degrees, it becomes important to more adequately define 'experience' (this matter is discussed later in this submission).

Limitations to defining urban designers as 'architects' and providing flexibility to a broader range of urban design professionals

The use of the term 'architect' to define an urban designer practically excludes all non-registered architectural design professionals who currently practice as urban designers. It is not uncommon for an architectural designer to pursue a career in urban design without undertaking the registration process to become an architect. And not all unregistered architectural designers practicing as urban designers commit to undertaking an urban design postgraduate degree.

The DR SEPP definition of 'urban designer' should have the flexibility to recognise unregistered professionals who are practicing as urban designers, provided they have adequate and demonstrable experience in 'urban design development'.

This flexibility could extend to other professionals who currently practice as urban designers, but whom are not strictly qualified in 'town planning', 'landscape architecture' or 'urban design'. Urban designers can come from a range of complementary fields that also include environmental design, fine arts, sustainable development, urban geography, geographic information systems, property economics, community development, environmental science, and engineering and so forth.

For the purposes of the DR SEPP, the ability for such professionals to be able to sign off on 'urban design development' should be based on whether they have a suitable level of experience. The Design Verification Statement Template contained in Appendix 1 of the UDG requires the urban designer to submit a brief statement outlining their qualifications and relevant experience, which is linked to the criteria stated in the definition as '5 years' experience in precinct or master planning'.

The need to better define 'experience'

The definition of an 'urban designer' infers that 5 years' experience is adequate for a designer to have the ability to sign off on design verification statements and design review reports as having designed, or directed, an 'urban development'. It does not factor the relevance of experience, nor does the number of years guarantee competency.

In LFA's experience, an urban designer of 5 years' experience is considered mid-level. The responsibility of designing (or directing the design of) an 'urban design development' is usually reserved for more senior staff, say with at least 8 years' experience.

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Edgecliff NSW 2027

NOMINATED ARCHITECTS
ALF LESTER NO.2128
STEPHEN ANDERS NO.5764

ABN 92 830 134 905



In the absence of a registration body to verify the competency of an urban designer to undertake precinct or master planning, it is recommended that the minimum years' experience be increased to at least 8 years.

As noted above, the Design Verification Statement Template requires the urban designer to submit a brief statement outlining their qualifications and relevant experience. It is particularly important to ensure that urban designers have relevant experience in the projects which they sign off on, given the nuances of different types of urban design development, e.g., experience in coastal residential subdivision master planning is not necessarily applicable to station precinct master planning; health / educational campus master planning experience is not necessarily applicable to greenfield master planning, and so forth. Therefore, it would be of benefit for the regulation to specify the need for relevant experience to ensure the appropriate urban designer is signing off on the project. This suggestion is not dissimilar to requirements under the Design and Building Practitioners Act 2020, where it has been necessary to demonstrate experience across specific projects and over a specific period of time to gain registration.

Recommended definition of an 'urban designer'

Based on the above, LFA recommends the following definition of an 'urban designer' (or words to that effect):

***urban designer** means any of the following, with at least 8 years' experience in relevant precinct or master planning projects:*

(a) a professional with tertiary qualifications in urban design; or

(b) a professional with demonstrated experience in precinct or master planning.

It is our view that the above definition will enable a more diverse cohort of urban design professionals, whom are suitably experienced and qualified, to undertake and verify 'urban design development' in NSW under the DP SEPP.

Urban Design Development

It is noted the drafting of the meaning of 'urban design development' in Clause 6 of the DR SEPP requires refinement as the three subclauses are without conjunction or application of the sub clauses:

Meaning of 'urban design development'

(1) In this Policy, urban design development means the following development—

(a) development on land that is not in an industrial zone that has a site area greater than 1 hectare,

(b) development on land in an industrial zone that has—

(i) a capital investment value of \$30 million or more, and

(ii) a site area greater than 1 hectare.

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ABN 92 830 134 905



(c) development in relation to which an environmental planning instrument requires a development control plan or master plan to be prepared for the land before development consent may be granted for the development.

Specifically, clarification is sought as to whether clause (a) or (b) must be satisfied as part (c) or vice versa. Otherwise, the word 'or' should be included at the end of clause 1(a) and 1(b)(ii).

Conclusion

LFA is concerned that the current definition of 'urban designer' referred to in the DR SEPP does not adequately reflect the diverse range of professionals that currently practice as urban designers in NSW.

Implementation of the current definition would effectively exclude non-registered designers as well as experienced professionals who are not qualified in the disciplines of planning, architecture and landscape architecture but who have post graduate qualifications in urban design (e.g., Master of Urban Design).

The current definition also specifies 5 years' experience, which we are of the view should be increased to 8 years to reflect senior level experience, particularly given that the urban designer is to have 'designed or directed, an 'urban design development'. That experience must also be relevant to the type of urban design development project which is being signed off on, which would be demonstrated as part of the Design Verification Statement.

We recommend that the definition of 'urban designer' be amended to reflect professionals with 8 years' of relevant experience in precinct or master planning projects and professionals with qualifications in urban design. The recommended amendments seek to enable a more diverse cohort of urban design professionals, whom are suitably experienced and qualified, to undertake and verify 'urban design development' in NSW under the DP SEPP.

It is further noted that the definition of 'urban design development' requires further refinement to more clearly distinguish the various types described in the sub clauses.

We consider the above to be a critical matter which DPE should give due consideration to prior to finalising the DP SEPP.

Should you wish to discuss the above matter further, please do not hesitate to contact the undersigned.

Yours sincerely,

LFA (Pacific) Pty Ltd


Carla Mamaril
Director

**LFA (PACIFIC)
PTY LTD**

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lfa@lfa.com.au
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ABN 92 830 134 905

References

Cuthbert, A 2007, Urban design: requiem for an era – review and critique of the last 50 years, Urban Design International, No. 12, pp. 177–223

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:48 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 2022-02-28-sepp-submission-1.pdf

Submitted on Mon, 28/02/2022 - 16:40

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Troy

Last name

Bryant

I would like my submission to remain confidential

No

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jcooper@urbis.com.au

Suburb/Town & Postcode

2000

Please provide your view on the project

I am just providing comments

Submission file

[2022-02-28-sepp-submission-1.pdf](#)

Submission

Please find attached

I agree to the above statement

Yes

28 February 2022

Department of Planning and Environment
via the NSW Planning Portal

RE: SUBMISSION TO DRAFT STATE ENVIRONMENTAL PLANNING POLICY (DESIGN AND PLACE) 2021

Dear Sir / Madam,

This submission is prepared in response to the public exhibition of Draft State Environmental Planning Policy (Design and Place) 2021 ('the draft DP SEPP').

LOGOS is supportive of good design and recognises the importance of providing a consistent approach across NSW to facilitate the delivery of high-quality buildings. The proposed design principles and design considerations are considered appropriate to guide both proponents and decision makers. However, concerns are raised regarding the more detailed elements of the draft DP SEPP and how it will impact upon the delivery of employment-generating development within NSW.

It is evident from the past two years that the freight and logistics sector is critical to a functional and robust economy within NSW. Accordingly, it is essential for the NSW planning framework facilitate the delivery of development that supports the local supply chain, from international trade gateways through to large-scale warehouse operations and last-mile delivery operators.

LOGOS request that further consideration be given to the following matters to ensure the final DP SEPP achieves its intended objectives, while avoiding unintended consequences that may discourage the delivery of large-scale employment generating development within NSW.

Urban Design Guide

The meaning of 'urban design development' captures most State Significant Development ('SSD') under Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011 ('the SRD SEPP'), including 'warehouse or distribution centres' with a capital investment value ('CIV') over \$30 million under the temporary provisions until 31 May 2023. This mean that most large-scale warehouse developments will need to be assessed in accordance with the Urban Design Guide ('UDG'), adding an extra layer of complexity to the assessment process.

Under this framework SSD applications will require the preparation of detailed compliance assessment tables addressing each of the objectives and design guidance for relatively straightforward development proposals. While the draft UDG states the objectives are not prescriptive controls, this has typically been required to support residential apartment developments in accordance with the Apartment Design Guide ('ADG'). Even where detailed compliance tables are not required, proponents will still be required to review 120 pages of detailed design guidance, much of which is not relevant to the preparation or

assessment of SSD applications for warehouse or distribution centres, particularly for in-fill development within established industrial precincts.

Further concern is raised regarding the potential conflicts between existing (or draft) Development Control Plans ('DCPs') and the UDG where the design guidance is already addressed in detail within the DCP. For example, the draft Phase 2 DCP which was recently exhibited for the Western Sydney Aerotropolis already addresses many of the matters which are detailed within the draft UDG.

Design Reviews

The current provisions in clause 34 of the draft DP SEPP result in all SSDs being captured under Part 4, regardless of the building typology or site context.

This means most large-scale warehouse developments will be required to be referred to a State Design Review Panel ('SDRP') for review prior to lodgement, regardless of its context or potential visual impacts. Concern is raised regarding this 'blanket' approach, particularly regarding in-fill industrial development within an established industrial precinct with no sensitive interfaces.

The draft provisions would result in significant delays to the delivery of employment-generating development and significant economic investment within NSW. There are already significant waiting times for SSD applications to be considered at the next available SDRP meeting. Concern is raised regarding the potential costs of this approach, noting the potential benefits are likely to be marginal within an industrial context and the risks of losing development opportunities to Victoria or Queensland are already significant.

It is understood a more nuanced approach to design excellence is likely to be adopted for the Western Sydney Aerotropolis in response to significant concerns raised by the property industry. It is considered a similar nuanced approach should be adopted for the draft DP SEPP, recognising the significant differences between an established industrial precinct and a greenfield location.

As a minimum, the State government must invest substantial additional resources to ensure the SDRP assessment process is improved, including a reduction in current wait times for available meeting times and allowing for a major increase in matters being referred for their consideration.

Tree Canopy Provisions

Concern is raised regarding the potential implications of the draft UDG provisions on the development potential of industrial land. For example, the minimum 35% tree canopy coverage requirements for industrial zoned land (refer page 50) would result in major impacts to the redevelopment and revitalisation of inner-ring employment land.

The draft provisions would not only restrict potential building envelopes but would have a major impact on service vehicle movements. Service vehicles require access which is unencumbered by overhanging trees, including driveways, loading and unloading areas and other hardstand areas which are required to accommodate swept path movements. The proposed 35% minimum target would have a disproportionate impact on the development potential of industrial land when each of these matters is considered.

There also appears to be inconsistencies between the various tree canopy coverage requirements, with a separate target of 25% tree canopy cover for industrial lots on page 51. Regardless, the targets for industrial land are too high, noting these are higher than some residential dwelling typologies.

Further consideration should be given to the delivery trees within the public domain, including road reserves, public open spaces and other public-owned land, to reduce the potential impacts on employment-generating development.

Savings Provisions for State Significant Development

The draft DP SEPP provisions currently read –

- (1) *This Policy does not apply to the following—*
 - (a) *a development application lodged but not finally determined before the commencement date,*
 - (b) *a development application that is part of a concept development application if the development application is lodged within 2 years after development consent was granted to the concept development application,*
 - (c) *an application for modification of a development consent under the Act, section 4.55 or 4.56 that is—*
 - (i) *lodged but not finally determined before the commencement date,*

or

 - (ii) *lodged within 2 years after the original development consent was granted, regardless of when the development application for the original development consent was lodged or determined.*
- (2) *In this section— commencement date means the date on which this Policy commences.*

We understand it is currently proposed to finalise and release the SEPP with a six-month transitional period to provide proponents with sufficient time to incorporate the final provisions within their detailed design and project programmes. However, concern is raised regarding the adequacy of this timeframe to meet the needs of major development proposals, including SSD applications.

It is requested the savings provisions be updated so they capture SSD applications in a similar manner to the Housing SEPP which states the following in Schedule 7, section 2:

- (e) *an environmental impact statement prepared in compliance with an environmental assessment requirement that is—*
 - (i) *issued by the Planning Secretary on or before the commencement date, and*
 - (ii) *in force when the statement is prepared.*

This will be critical if there is any proposal to remove or reduce the transitional period, similar to the implementation of the Housing SEPP immediately upon its gazettal.

Overview

In summary, LOGOS is generally supportive of the design principles and design considerations within the draft DP SEPP. However, concerns are raised regarding the more detailed elements of the draft DP SEPP including:

- Increasing complexity and potential conflicts associated with the draft UDG and the way in would be applied to employment-generating development.
- Potential delays associated with the SDRP meetings and impacts on lodgement programmes and delivery of critical population-serving development.
- Potential costs associated with the draft sustainability provisions and impacts on delivery of employment floorspace.

It is considered critical that the savings provisions are updated to capture SSD applications in a consistent manner as provided within the Housing SEPP.

We would welcome the opportunity to clarify any of the matters raised within our submission. Please do not hesitate to contact me should you wish to discuss.

Kind regards

A handwritten signature in black ink, appearing to read 'Troy Bryant', with a large loop at the start and a horizontal line at the end.

Troy Bryant
Head of Development

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 4:11 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: misc-dpie-250222.pdf

Submitted on Fri, 25/02/2022 - 16:10

Submitted by: Anonymous

Submitted values are:

Submission Type

I am making a personal submission

Name

First name

PHILLIP

Last name

LIDBURY

I would like my submission to remain confidential

No

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phillip@lswsurveyors.com.au

Suburb/Town & Postcode

Forster 2428

Please provide your view on the project

I object to it

Submission file

[misc-dpie-250222.pdf](#)

Submission

See attached submission.

I agree to the above statement

Yes

Registered Surveyors

P. J. Lidbury B.Surv.(Hons.) B.Civ.Eng.(Hons.) M.I.S. MIEAust

S. P. Whiteman B. Surv. M.I.S.

Civil Engineers

P. J. Lidbury B.Surv.(Hons.) B.Civ.Eng.(Hons.) M.I.S. MIEAust.

Your Ref:

Our Ref:

Document Ref: Misc DPIE 250222

Date: 25th February 2022

NSW Department of Planning, Industry and Development
4 Paramatta Square
12 Darcy Street
Paramatta NSW 2150

RE: PROPOSED DESIGN AND PLACE SEPP 2021

Dear Sir,

We refer to the proposed Design and Place SEPP 2021 currently on exhibition.

We object to the definition of *Urban Designer* within the proposed regulation, and object to the definition of *Urban Design Development* within the SEPP, and areas of application.

In regards to the definition of *Urban Designer* in the proposed regulation, a **registered surveyor** should be added to the definition.

A registered surveyor is the only qualified professional in land use planning which is registered under an Act (the Surveying and Spatial Information Act (2002)). As part of the registration process, the Board of Surveying and Spatial Information (BOSSI) under the NSW Surveyor General, undertake competency assessment examinations in five areas which include cadastral surveys, civil engineering and town planning. Candidates must undertake minimum experience requirements to achieve their competency.

Registered Surveyors must also possess a bachelor's degree from a university course approved by BOSSI, and maintain continuing professional development requirements.

The proposal to include architects as an urban designer is laughable, it appears to be a push from the NSW Government Architect (the author of the Urban Design Guide) to exclude more qualified land use professionals, and create 'jobs for the boys'. Practically in our dealings with Architects, they are inexperienced in any matter outside the built form. They have no expertise in surveying, servicing or civil engineering matters. The use of an Architect in these matters would only increase the costs in producing land, something that the NSW Government should be considering heavily at this time. I suggest that Architects should be excluded from the definition of *Urban Designer* in regards to *Urban Design Development*.

Personally our firm has designed and created many rural and residential land subdivisions over 40 years, from simple 2 lot subdivisions to estates covering thousands of lots. Other professions do not have the expertise to bring together the required disciplines of surveying, civil engineering, town planning, service coordination, landscaping and local government liaison to create a land development project.

In regards to the definition of *Urban Design Development* within the SEPP, and areas of application, the current proposal to apply to land greater than 1 hectare is absurd in regional areas. It appears to be another Sydney centric policy, which has no regard for regional NSW. If the author of the draft SEPP ever left their Sydney office, they may realise that lot sizes in regional NSW exceed 300m². The definition of 'urban' in regional areas is not the same as in metro areas. We have varying lot sizes in residential and rural residential zones in our LGA. The current wording of the draft SEPP would mean a very simple subdivision of an RU5 zoned property, or a small Residential zoned holding exceeding 1ha would now require;



1. Overseeing by a person required to possess master planning experience.
2. A design verification statement.
3. Referral to a design review panel.

Again, this is just more 'red tape' for regional areas, and only adds to the already extensive time and costs to release land, at a time when land supply is in shortfall. This compounded with recent time and cost delays caused by the introduction of the NSW Planning Portal and the Biodiversity Conservation Act (which applied to our regional area 18 months before applying to metro areas).

Local Government is more than capable of assessing development applications for urban development as they apply to their LEP's, without the need for more useless documentation and cost. Council's have DCP's, technical guidelines and standards based on Australian Standards and recognised planning publications (remember AMCORD) that provide requirements for land development which the Urban Design Guide has attempted to reproduce, with the usual Sydney spin.

We suggest the minimum area requirement is deleted entirely from the definition of *Urban Design Development* within the SEPP.

We further recommend that the *Urban Design Development* definition and area of application (Clause 8 of the draft SEPP) exclude regional LGA's. The Urban Design Guide has no relevance to the vast majority of regional land subdivisions.

I believe that if the proposed SEPP is adopted in its current form, it will have a significant impact on regional development. This should be avoided, given the current land shortage across NSW, and the cost increases this type of policy would create in an already overheated sector.

Please contact me if you require any further information.

Yours faithfully,



PHILLIP J. LIDBURY

Director

Registered Surveyor/ Civil Engineer

B.Surv. (Hons.) B.Civ. Eng. (Hons.) MIS MIEAUST



Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:41 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 28-feb-g-crisp-28022022164909.pdf

Submitted on Mon, 28/02/2022 - 16:39

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

GREG

Last name

CRISP

I would like my submission to remain confidential

No

Info

Email

admin@mcglashancrisp.com.au

Suburb/Town & Postcode

Taree 2430

Please provide your view on the project

I object to it

Submission file

[28-feb-g-crisp-28022022164909.pdf](#)

Submission

Please read the attached letter outlining our submission.

I agree to the above statement

Yes



McGlashan & Crisp

SURVEYORS

117 Victoria Street
Taree NSW 2430
Ph: (02) 6552 1566
A.B.N. 15 061 028 019
Email: admin@mcglashancrisp.com.au

28 February 2022

NSW Department of Planning, Industry and Development
4 Paramatta Square
12 Darcy Street
PARAMATTA NSW 2150

Re:PROPOSED DESIGN AND PLACE SEPP 2021

We wish to submit comments in relation to this proposed SEPP and in particular our objection to the narrow and restrictive definition of an "Urban Designer".

McGlashan & Crisp is a regional surveying, engineering and planning consultancy and have been practicing around the Manning Valley since 1850. Our practice and business is based on providing consultancy services to land developers from strategy releases, to town planning and zoning, to DA approvals, SWC approval, supervision of construction and survey of the new titles, from small scale rural and residential subdivisions to large scale residential (500 lots). Our Registered Surveyor, Greg Crisp project managers all these aspects to deliver a one stop shop service to our clients, thereby ensuring a detailed co-ordinated design.

Our Registered Surveyors, Planners and Civil Engineers provide the expertise to carry out these housing projects and deliver the product in accordance with the States LEP's, Councils DCP's etc. The design and place criteria is already controlled by the various (numerous) SEPP's, DCP's, LEP's etc, but applying good urban and rural design, market demand and good consultation with all the authorities, well planned housing estates are delivered.

As Consulting Surveyors and Registered Surveyors we have been trained in Town Planning, Civil Engineering and Surveying through both our university degrees and especially as part of the rigorous requirements of BOSSI (Board of Surveyors), where major projects and experience in subdivision and town planning design is a requirement to gain Registration. This is combined with requirements to have experience in design of roads, drainage, sewerage, water supply, earthworks, pavement design etc to enable Council's DCP's and standards are applied.

We are the professionals that developers contact in the first instance, knowing that we have and can deliver quality housing estate design and construction.

As a country/regional practice we also design rural subdivisions for the purpose of agricultural based industries and being surveyors we have the knowledge of landform to ensure the best outcomes for viable farming and lifestyle agriculture development.

SURVEYORS

Greg Crisp

B.App.Sc(Surv.)
M.I.S (NSW)

Julian Calver

B.Surv.
M.I.S (NSW)

Rod Thomson

B. Surv.

CONSULTANT

Brian Crisp M.I.S. (NSW)



CONSULTANTS IN SURVEYING
ENGINEERING & PLANNING

At the moment we have been designing and constructing about 900 lots in the past 12 months with support and approval from our Council.

We therefore request that the definition of 'Urban Designer' includes Registered Surveyors. If Registered Surveyors are excluded then this would greatly impact on the viability of our consultancy business, and I mean greatly to the point of being a restrictive trade issue.

Please call Greg Crisp if further discussion is required.

Yours faithfully
McGLASHAN & CRISP Pty Ltd
per



SURVEYORS

Greg Crisp

B.App.Sc(Surv.)
M.I.S (NSW)

Julian Calver

B.Surv.
M.I.S (NSW)

Rod Thomson

B. Surv.

CONSULTANT

Brian Crisp

M.I.S. (NSW)



CONSULTANTS IN SURVEYING
ENGINEERING & PLANNING

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Wednesday, 23 February 2022 10:37 AM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021

Follow Up Flag: Follow up
Flag Status: Completed

Submitted on Wed, 23/02/2022 - 10:37

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Jamie

Last name

Russell

I would like my submission to remain confidential

No

Info

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jamie@metiri.com.au

Suburb/Town & Postcode

Toronto 2283

Please provide your view on the project

I object to it

Submission

To whom it may concern,

I am writing this submission on behalf of my surveying and engineering consultancy located in Lake Macquarie.

In reviewing the Draft Design & Place SEPP 2021 there is a glaringly obvious omission of land surveyors and civil engineers under the definition of an "urban designer" that may have significant impacts on regional development and small to medium sized businesses such as ours. In most regional areas, businesses like ours are relied on to develop land. The SEPP in its current form will force many developers to source the defined "urban designer" from metro areas that have little knowledge of the local area and environment.

Our key staff have decades of combined experience in subdivision developments, from master planning through to registration. We typically act as the principal consultant on these projects and manage several other consultants; this includes landscape architects who interestingly enough would be considered urban designers under this SEPP.

We trust this omission will be rectified in the final development of the SEPP.

I agree to the above statement

Yes

7 March 2022

Ms Abbie Galvin
NSW Government Architect
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Ms Galvin,

Mirvac Submission in Response to Draft Design & Place State Environmental Planning Policy (DP SEPP) 2021

Mirvac is one of Australia's leading and most innovative property groups. For 50 years Mirvac has partnered with Government and played a vital role in the evolution of our cities to create places that enrich the home, work, and social lives of thousands of Australians.

We have a significant investment across NSW, including \$9.4b in properties and \$15.3b in current and future projects, a long standing commitment to future investment in the State. We have a 50 year history designing, developing and constructing in NSW, and our passion for good design and sustainability is at the forefront of what we do.

We welcome the opportunity to make a submission to the Draft Design & Place State Environmental Planning Policy 2021 (DP SEPP) and contribute towards shaping the strategic direction and planning framework of NSW.

Mirvac supports the Government's continued work on creating well designed places and recognises the critical role great places have in ensuring the success and sustainable growth of our urban areas. We consider several aspects of the DP SEPP such as a revised ADG, expanded non-discretionary standards, and a guidance document for design review panels to have the potential to deliver improved design outcomes across NSW.

However, we do not support the implementation of the DP SEPP in its current form and recommend amendments prior to implementation in order to deliver on its intended outcomes. We have made detailed comments in our submission, but we would like to highlight three key points:

- The drafting of the DP SEPP introduces significant subjectivity through the legislation, regulation and supporting documentation. This will only increase uncertainty for the development industry.
- The current drafting of the DP SEPP will lead to increased project timelines and costs across developments in NSW. This will reduce new housing supply and increase housing unaffordability across the state.
- The current planning and assessment system would require a significant increase in resourcing from the design sector through to the assessment authorities, in order to successfully implement the SEPP as it is intended.

This submission provides detailed feedback on the draft DP SEPP and proposes a path forward implementing a revised DP SEPP in the short, medium and long term. The following pages provide a concise summary of our critical concerns and feedback, with appendices providing more detail where relevant. We welcome the opportunity to discuss this with you further. Our contact for your office is Stephanie James, Senior Manager Government Relations and Stakeholder Engagement (stephanie.james@mirvac.com; 0438 329 762).

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Toby Long', with a stylized flourish at the end.

Toby Long
General Manager, Residential Development NSW

Summary of Concerns and Feedback

The current SEPP 65 design policy, particularly the ADG, is typically treated by consent authorities as a rigid development checklist, which in many cases detracts from the ability to deliver site-specific, high-quality design outcomes. We support policy reform in this area, and we welcome the Department's intention to simplify the existing design policy framework and improve flexibility.

Mirvac understands that the need for good design is economically well-founded, and we consider several aspects of the DP SEPP such as a revised ADG, expanded non-discretionary standards, and a guidance document for design review panels have the potential to deliver improved design outcomes across NSW. However, to deliver on its intended objectives, we have made recommendations to amend each aspect prior to its implementation throughout this submission.

To date, the ADG has been through a rigorous review process with industry stakeholders. And with some further refinements (refer to **Appendix B**) this document could be adopted under SEPP 65 - ahead of the wider DP SEPP framework. However, we believe the wider DP SEPP framework requires a more careful review and more significant amendment before it can be supported.

It follows, that in its current form we do not support the DP SEPP on the following grounds;

- **Increased Time:** We have completed an assessment of the impact of the DP SEPP in its current form on project time frames. It is estimated that the DP SEPP will increase timeframes for planning applications as follows:
 - Planning Proposals **+ 7 months (minimum)**
 - Development Applications **+ 4 months (minimum)**

We estimate there will be a significant increase in the timeframes to prepare a Planning Proposal due to the detailed (DA level) documentation required as well as assessment and revisions through the Design Review Panels and Planning Proposal process.

In addition to the above, for DAs there will be additional time preparing for and attending Design Review Panels and refining the design prior to lodgement. This would be followed by increases in assessment timeframes to allow for refinement to the design due to Council planning feedback and returning to the Review Panel for final confirmation.

- **Increased Costs** Fundamentally, the DP SEPP will result in significant additional up-front costs to proponents. This will arise from increased and ongoing referrals to design review panels, through the expanded list of deliverables and consultant expertise required for lodgement, and through the protracted determination timeframes that the DP SEPP will give rise to.
- **Increased Uncertainty:** The subjectivity of the Principles and Considerations, and sheer number of additional points of assessment is potentially problematic. With the increase in the number of considerations (from 22 in SEPP 65 to 51 in the draft DP SEPP), the extensive subjectivity of the language and phrasing used, alongside the variability of DRP opinions and inputs, present difficulty for developers in predicting how planning assessment will progress for projects. The removal of the weight afforded to the five principles, and a rationalised version of the considerations and sub-clauses would be sufficient in providing a simplified planning framework, without diluting the aims and objectives of the framework. The DP SEPP uses strong terminology which is not conducive to allowing proponents and consent authorities to benefit from the flexibility and merits-based assessment that the DP SEPP aims to provide.
- **Housing Supply:** The three issues identified above are the three fundamental factors that businesses assess when determining the certainty of the development process. Unlocking a diverse range of housing supply with the right connecting infrastructure is critical for the people of NSW, so we can ensure adequate access to housing in the future. Any measures that will lead to a

delay in the release of this supply should be carefully considered, given the acute undersupply that already exists across our State.

- **Affordability:** We are supportive of good design and sustainability principles, and already incorporate these into our projects without impacting affordability for our customers. Based on our review, the proposed planning process will not only be more expensive and take longer (noting that time taken to currently run the planning process in NSW is the single biggest factor informing project feasibility), it will also introduce uncertainty. These factors contribute to the housing supply and new business growth equation across all asset classes, which together with cost implications will correlate with a further reduction in the affordability of development, and importantly, further impacts to housing affordability.
- **Urban Design Guide (UDG):** This document requires further consideration and ongoing consultation with industry stakeholders. This document introduces a further 19 objectives and requires stand-alone Design Verification Statements (DVS) which will add further delays and uncertainty to the planning process, despite the fact that the UDG is intended to have a role as a 'guide'. We also note that the UDG has only undergone minor engagement with direct stakeholders and unlike the revised ADG (which went through an early round of review via the EIE process) has not been subject to extended useful industry input, review and refinement. Whilst well written and structured in principle, it needs further development industry consultation and engagement, and refinement before adoption.
- **Design Review Panel Manual (DRP):** We welcome a guide to provide consistency between DRP experiences. However, the Manual along with the DP SEPP drafting places disproportionate weight on the role of DRPs. We believe that amendments should be made to ensure DRP reviews and written feedback are carried out within strictly applied time limits, do not conflict with proponent's rights to lodge development applications, and are carried out in an independent manner. The latter being vital to the integrity of panels and their role in the determination process.
- **Sustainability:** There is a distinct lack of detail in the sustainability documents on exhibition. The lack of detail available prevents the ability to fully engage with exhibition materials, and to provide submissions on the following aspects of the proposed DP SEPP: BASIX Sandbox tool for apartments, materials index, design for resilience and alternative pathways.

For the above reasons, we cannot support the DP SEPP in its current draft form. However, we highlight that the retention of the existing planning framework comprising SEPP 65 and the existing ADG is also undesirable. We therefore suggest that as an interim solution, the ADG be further refined based on our feedback in the below appendix to enable it to be progressed and adopted under the existing SEPP 65 framework (as an important first step in reforming design in the apartment industry). This will then allow for sufficient consideration and substantial amendment of the wider DP SEPP framework before progressing to adoption and avoid the potential significant pitfalls of it being enacted in its current form.

This submission builds upon the previous submission dated 28 April 2021 to the Explanation of Intended Effect. It provides our feedback on the exhibited Draft Design & Place SEPP 2021 (DP SEPP), and should be read in connection with the detailed commentary following appendices:

- Appendix A: Legislation and Regulation
- Appendix B: Apartment Design Guide
- Appendix C: Urban Design Guide
- Appendix D: Design Review Panel
- Appendix E: Sustainability
- Appendix F: Cost benefit Analysis

Appendix A: Legislation & Regulation

1.1 Role of the DP SEPP

The DP SEPP policy framework is structured to prevail over Consent authority DCP provisions. This, coupled with the subjectivity of the five principles (**Table 1**), and the ability for consent authorities to exercise discretion at this level creates an environment for uncertainty. We recommend that the current five principles are removed in favour of elevating a more condensed version of the ten considerations and sub-considerations, resulting in a simplified framework with fewer points of assessment. Additionally, a more refined balance should be struck between overarching considerations, and the minimum requirements and design alternatives in the supporting guidance documents.

Table 1: Commentary on Five Principles

Principle	Comment
1. Deliver beauty and amenity to create a sense of belonging for people.	The use of the word 'beauty' is both subjective and qualitative. The level of subjectivity is such that it will be difficult to demonstrate in development submissions and at the Land and Environment Court. We highlight that beauty and amenity don't necessarily correlate with creating a 'sense of belonging'. This aspect of the principle appears dissociated from the intention to deliver beauty and amenity.
2. Deliver inviting public spaces and enhanced public life to create engaged communities.	We support the intention of this principle and recommend that this could be simplified (without diluting intent) as follows: <i>'Deliver inviting public spaces and enhanced public life to create engaged communities'</i>
3. Promote productive and connected places to enable communities to thrive	We support the intention of this principle but highlight that the wording is too subjective. It will be difficult to demonstrate whether a proposal leads to a community that will 'thrive'.
4. Deliver sustainable and greener places to ensure the well-being of people and the environment.	We support the intention of this principle however we highlight that the wording is too subjective <i>"the well-being of people"</i> will be difficult to demonstrate in development proposals.
5. Deliver resilient, diverse places for enduring communities.	Deliver resilient, diverse places for enduring communities.

1.2 The Applicability of the DP SEPP

Part 1, Clause 6.1(a) of the DP SEPP sets out that the DP SEPP applies to Urban Design Development, including a 1ha threshold for land that is not within an industrial zone. Our view is that a capital value threshold should be introduced in addition to the 1ha site requirement in order to avoid small scale developments that sit on larger parcels being unnecessarily captured by the provisions of the DP SEPP. This should also be amended in the Ministerial direction.

We recommend that Part 3, Clause 25 of the DP SEPP be amended to clarify that the DP SEPP itself does not require a site specific DCP and so does not trigger section 6(a)(c) of the DP SEPP.

The Ministerial direction applies to planning proposals, which will therefore be required to provide a high level of resolved design, with no improved certainty over the outcome. Clause 5 of the Ministerial direction should be amended to recognise the role of Planning Proposals, and to allow greater flexibility for planning proposals to "take into account, the potential to demonstrate consideration the principles and considerations".

The DP SEPP applies to ‘residential apartment development’, the definition of which includes “*substantial redevelopment or refurbishment of an existing building*”. Whilst we acknowledge the aim to uplift residential design across both existing and proposed developments, the application of the DP SEPP to existing residential buildings will be problematic, particularly where buildings pre-date the existing ADG or have heritage significance. It does not appear that sufficient consideration has been given to these constraints which results in uncertainty for the planning process. We recommend that the definition of residential apartment development be amended to remove the reference to refurbishment of an existing building.

1.2.1 Savings and Transitional Provisions

Section 38 of the DP SEPP provides for savings and transitional provisions. We strongly support the need for transitional provisions as part of the DP SEPP in order to provide certainty for projects that have already been lodged, and masterplanned precincts where the masterplan has been activated.

Transitional arrangement should ensure that large-scale urban regeneration schemes (with multiple stages) or with masterplans or site specific DCPs already in place, can continue to be designed and approved in accordance with the relevant existing controls including SEPP 65 and the current ADG in order to avoid project delivery stalling.

We therefore request that clause 38(1)(b) is amended to delete the two-year cut-off timeframe for existing approved concept plans. This cut-off is too short considering the adjustment that would need to be made to concepts that already include detailing such as lot layouts and infrastructure. Should removal of the two-year cut off not be supported, we recommend that the cut off timeframe be increased to at least five years.

1.3 The Five Principles and Ten Considerations

Part 12 of the DP SEPP provides five overarching principles, each with two design considerations, and a number of sub-considerations as identified in **Table 5** below. Cumulatively, this results in a total of 51 new points of assessment when proposals are being determined. By comparison, SEPP 65 currently contain nine principles with 22 points of assessment. The number of new points of assessment does not meet the Department’s aim to “*simplify and consolidate*” the delivery of good design in NSW, and we recommend that these are consolidated.

The principles are broad and lend themselves to a degree of flexibility which is welcomed. However, clause 13 sets out:

- “(1) Development consent **must not be granted** for development to which this Policy applies unless the consent authority is satisfied that the development **is consistent** with the design principles
(2) In determining whether development **is consistent** with the design principles, the consent authority **must** take into account the design considerations for each design principle.” [our emphasis added].

The strong terminology in clause 13 conflicts with the flexible intent of the broad, highly subjective principles. This wording has significantly more impetus than the current wording of SEPP 65, and has potential to enable consent authorities to apply the design principles more rigidly than they are intended, and in isolation from the aims of the DP SEPP. We recommend that clauses 13(1) and 13(2) be amended to read; “the consent authority is satisfied that the development ***has taken into consideration*** the design principles ***and DP SEPP aims***” [our emphasis added].

Similarly each of the ten considerations is prefaced by a requirement for the consent authority for example;

- ‘The consent authority ***must consider*** whether overall—’; and
- ‘The consent authority ***must be satisfied*** of the following—’

In practice, design considerations may be competing and the ability to satisfy all may be fraught. We therefore recommend that the terminology surrounding the considerations should be amended as the nomenclature “design considerations” suggests. Rather than strict requirements such as the phrase “*must be satisfied*”, we recommend the standard should be “take into consideration”.

The onus here is on consent authorities to fully consider all of the relevant points of assessment – of a possible 51. We raise concern that the sheer number of additional points for assessment, along with the proposed wording emphasising the consent authorities’ role, may lead to an increase in the number of judicial reviews. This in itself would appear to reduce certainty in the planning process. We recommend that consolidating the points of assessment would contribute significantly to reducing the risk of judicial review. It also has the obvious benefits of reducing time and costs associated with the already lengthy approvals process.

Table 2 DP SEPP Principles and Considerations

Design Principle	Design Considerations	Comments
To deliver beauty and amenity to create a sense of belonging for people.	<p>[14] Overall design quality</p> <p>The consent authority must consider whether overall:</p> <ul style="list-style-type: none"> (a) the scale, massing and siting of the building respond appropriately to the desired character of the surrounding area, and (b) the layout and connections of the development respond appropriately to the surrounding area, and (c) the detailing of the buildings and spaces respond to the appropriate visual distance at which the buildings and spaces are observed and experienced, and (d) the development represents an effective and economical use of space that responds to the constraints of the site, and (e) the articulation of the building is proportionate to the scale and massing of the building. 	<p>Clauses 14(a) and (b) could easily and logically be consolidated. We highlight that these clauses should reference the ‘future’ desired character of the surrounding area’.</p> <p>We recommend that clause 14(c) is deleted. Its current drafting refers to “appropriate visual distance at which buildings and spaces are observed and experienced”. [our emphasis added] which is unclear. The intent of this clause overlaps considerably with clause 14(a) and with clause 14(e), and we recommend that clause 14(c) could be removed.</p> <p>Regarding point 14(e) we highlight that building articulation is often ‘borrowed’ from surrounding context. We recommend that this clause be integrated into 14(a) in recognition of this.</p> <p>Clause 14(d) is welcomed and should apply to all considerations not just the first design principle or clause 14.</p>
	<p>[15] Comfortable, inclusive and healthy places.</p> <p>The consent authority must consider whether:</p> <ul style="list-style-type: none"> (a) the layout and design of the development maximises passive heating and cooling and minimises adverse impacts on residents and public amenity, and (b) the development incorporates inclusive design measures that are appropriate for the purpose of the development, and (c) for development that includes open space—the open space is accessible, comfortable and enables pedestrian circulation 	<p>15(a) requires consent authorities to consider whether development “minimises adverse impacts on residents and public amenity”. This places the onus on proponents to demonstrate through detailed design development studies, that the selected design of passive heating and cooling has <i>minimised</i> the impact of development- regardless of whether the consent authority may have otherwise assessed the proposed impact as being acceptable or not. Within the remit of environmental planning, sometimes not all impacts can be minimised and in many instances impacts needs to be <i>balanced</i>. The wording therefore needs to be softened to recognise the practical application of assessing impacts amongst at times competing interests.</p> <p>We recommend that this clause is amended to replace the word ‘minimises’ with either; ‘addresses’ or ‘considers’ or ‘as reasonably feasible’.</p> <p>Clarification should be provided regarding clause 15(b), and what is intended to be considered as “<i>inclusive design measures</i>”</p> <p>Clause 15(c) would be more logically placed under the design consideration for public spaces and public life (clause 17), and the word ‘<i>comfortable</i>’ should be removed from this clause as it introduces unnecessary ambiguity.</p>

Design Principle	Design Considerations	Comments
<i>To deliver inviting public spaces and enhanced public life to create engaged communities.</i>	[16] Culture character and heritage The consent authority must consider whether: <ul style="list-style-type: none"> (a) the development detracts from the desired character of the area, and (b) the design of the development incorporates or responds to: <ul style="list-style-type: none"> (i) heritage items and conservation area on or near to the site, and (ii) areas of Aboriginal and non-Aboriginal cultural significance, and (c) if the development is State significant development to which the Urban Design Guide applies—the development incorporates a response to Country and takes into account submissions made to the applicant by Aboriginal stakeholders. 	We recommend that 16(a) be rephrased to a positive consideration that aligns with the other considerations under Part 2 of the DP SEPP, requiring the consent authority to consider whether ' <i>the development contributes to the desired future character of the area</i> ' this will facilitate a more logical checklist response when preparing DAs.
	[17] Public Spaces and public life The consent authority must be satisfied of the following: <ul style="list-style-type: none"> (a) for development involving new public space – the public space is- <ul style="list-style-type: none"> (i) located to maximise equitable access by the public, and (ii) located on land that is fit for purpose (iii) designed by a qualified landscape architect (b) for development involving public space—the public space is designed to facilitate social interaction, (c) the development does not result in an adverse impact on, or net loss of, public open space, (d) the development contributes to connectivity between existing and proposed landscape corridors, public spaces and walking and cycling networks near the site. 	<p>We recommend that this clause is amended to remove the requirement “be satisfied” and to allow for consent authorities to “take into consideration”. We recommend that 17(a)(ii) be amended by the addition of the words “or can be made” before “fit for purpose”.</p> <p>We recommend that clause 17(b) is deleted. Assessing whether public space facilitates social interaction is highly subjective in terms of the outcomes sought. The provision of any public space that is accessible does facilitate this to some extent, and the subjectivity surrounding this clause may lead to undue delay in determination. It’s also worth noting that some public space is not appropriate for facilitating social interaction, for example riparian land, remnant bushland, landscaped setbacks, through-site links and passive open space.</p> <p>We strongly recommend that clause 17(c) is amended. In its current form, consent authorities must be satisfied that development does not result in any adverse impact on public open space. This doesn’t sufficiently allow consent authorities to apply discretion to achieve the best outcomes for a site/place. It is plausible that adverse impacts may be minor and negligible given the wider benefits that may be delivered by proposals.</p> <p>We recommend 17(d) is amended to clarify that “<i>development contributes to connectivity between any existing and proposed landscape corridors, public spaces and walking and cycling networks near the site</i>” as proximity to these attributes may not apply to all sites.</p>

Design Principle	Design Considerations	Comments
To promote productive and connected places to enable communities to thrive.	[18] Vibrant and affordable neighbourhoods The consent authority must consider the following <ul style="list-style-type: none"> (a) for urban design development involving subdivision—whether the subdivision supports <ul style="list-style-type: none"> (i) walkability, and (ii) smart cities by adequately providing for current and future needs for telecommunication infrastructure, (b) for development for residential purposes—whether the development contributes to the housing needs of the local population, (c) for development that is within walking distance of a train station or in a town centre—whether the development contributes to a diverse mix of uses and active streets, (d) whether the development provides enhanced visibility and contributes to passive surveillance and the activation of the neighbourhood at different times of day. 	<p>At 18(b) we recommend the words “current or future” be added before “local population” for clarity.</p> <p>With regard to clause 18(c) we recommend that a metric is added to provide clarity around the term ‘walking distance’. We note that the UDG makes reference to a 10minute walk and encourage that this is reviewed to allow for place specific considerations. We also highlight that not all sites in walking distance of a train station or town centre are suitable for a diverse mix of uses and active streets. We recommend that this clause be deleted, or if retained, this clause should be amended to allow consent authorities to exercise greater discretion in assessing DA’s.</p> <p>Regarding clause 18(d), clarification should be provided with regard to the term “<i>enhanced visibility</i>” or the term should be deleted from the clause.</p>
	[19] Sustainable transport and walkability The consent authority must consider whether the development <ul style="list-style-type: none"> (a) contributes to minimising car trips and car travel distances by <ul style="list-style-type: none"> (i) supporting access to public transport, and (ii) minimising private car parking, and (b) minimises the impact of car parking on public space, and (c) supports increased opportunities for walking and cycling by integrating with, or improving connections to existing walking and cycling networks, and (d) provides bicycle parking and end of trip facilities, and (e) supports the installation of infrastructure for charging electric vehicles. 	<p>In relation to clause 19(a) we highlight that minimising private car parking is not guaranteed to be successful in reducing car trips or travel distance when considering that the DP SEPP will apply state-wide. It may also not be an appropriate requirement for low density suburban neighbourhoods. We recommend that the words “taking into consideration the availability of public transport in the area of the development” are inserted at the beginning of subclause (a) before the words “contributed to”.</p> <p>Given that car parking is introduced as a non-discretionary standard in part 32 of the DP SEPP, clause (a)(ii) can be deleted, and that the non-discretionary standard should require parking to be provided at a rate “<i>equal to, or greater than, the lesser of..</i>”.</p>

Design Principle	Design Considerations	Comments
To deliver sustainable, greener places to ensure the wellbeing of people and the environment.	[20] Green infrastructure The consent authority must consider the following <ul style="list-style-type: none"> (a) whether the development retains or improves existing green infrastructure and contributes to the restoration and regeneration of natural systems, (b) whether the development maximises tree canopy cover and provides sufficient deep soil to support the tree canopy, (c) whether new and existing green infrastructure will be appropriately managed and maintained during at least the first 12 months. 	<p>We highlight that in relation to 20(a), the Water Management Act 2000 applies to any riparian corridor, and development within 40m of the riparian corridor, and requires approval by NSW Department of Natural Resources Access Regulator (NRAR). The wording of the DP SEPP which seeks to encourage the restoration of natural systems has the potential to conflict with both with the Water Management Act and the provisions already in place under Biodiversity Conservation Act.</p> <p>Additionally, Council's stormwater strategies may provide for the redevelopment of natural systems, for example the creation of drainage channels. This presents uncertainty over the applicability of this clause. It could also prevent any removal of bushland despite that being separately address in the Bushland SEPP and Biodiversity Conservation Act.</p> <p>In relation to clause 20(b) we find the use of the terminology '<i>maximises</i>' to be problematic. This places the onus on proponents to demonstrate how tree canopy cover is the maximum achievable outcome. We support the intent of this clause but request that it be re-worded to be; '<i>Whether the development delivers appropriate tree canopy cover for its context...</i>'</p>
	[21] Resource efficiency and emissions reduction The consent authority must consider whether the development <ul style="list-style-type: none"> (a) for urban design development involving subdivision— minimises, and excludes as far as practicable, the use of on-site gas for cooking, heating and hot water, and (b) is designed to minimise waste from associated demolition, construction and during the ongoing use of the development, including by the choice and reuse of building materials, and (c) minimises greenhouse gas emissions, as part of the goal of achieving net zero emissions by 2050, including by incorporating the following <ul style="list-style-type: none"> (i) passive design, (ii) energy efficiency, (iii) the use of renewable energy, and (d) uses water sensitive urban design and maximises water re-use 	<p>We support the intent of this principle and the focus on reducing emissions, minimising waste and incorporating good design to ensure resource efficiencies.</p> <p>In relation to 21(a), we support the move away from fossil fuels, but we consider the requirement to exclude the use of any on-site gas as premature. A transitional period should be implemented and greater consideration should be given to market factors and technological development to allow this to be fully understood and incorporated into new developments across all asset classes.</p> <p>We recommend the wording of 21(b) is amended to acknowledge the role of waste management plans, which then inform details that are implemented as part of CC staging.</p> <p>Clause 21(c) significantly overlaps with the intent of the proposed new BASIX requirements. We recommend that this clause could be removed without diluting the aims of the DP SEPP.</p>

Design Principle	Design Considerations	Comments
To deliver resilient, diverse places for enduring communities.	[22] Resilience and adapting to change The consent authority must be satisfied that the development is resilient to natural hazards by <ul style="list-style-type: none"> (a) incorporating measures to <ul style="list-style-type: none"> (i) avoid or reduce exposure to natural hazards, and (ii) mitigate and adapt to the risks of natural hazards, including risks of climate change and compounding risks, and (b) mitigating the impact of expected natural hazards through the siting and design of the development. 	<p>Clause 22(a)(i) should be amended to clarify that development should incorporate measures “to avoid or reduce exposure to natural habitats that are identified as particular to a site”</p> <p>22(a)(ii) we recommend that the reference to compounding risks is removed. By virtue of reducing exposure and mitigating the risks of natural hazards, compounding risks will be addressed.</p> <p>In relation to clause 22(b), further clarity should be provided on ‘expected natural hazards’ and how this is to be identified and defined by proponents. This could require independent and costly hazard analysis over and above existing Council flood and bushfire prone maps, for example.</p>
	[23] Optimal and diverse land use The consent authority must be satisfied that the development <ul style="list-style-type: none"> (a) contributes to an appropriate mix of compatible uses, and (b) for subdivision for new residential accommodation—includes different lot widths and sizes to support diverse residential accommodation types, and (c) for urban design development—includes appropriate residential density close to proposed or existing amenities, including public transport, open space, schools, shops and other services. 	<p>We recommend that this clause is amended to remove the requirement “be satisfied” and to allow for consent authorities to “take into consideration whether...”.</p> <p>We welcome the inclusion of these clauses but consider that in condensing the considerations and sub-considerations, it may equally be appropriate to include these subclauses under design principle 1: ‘To deliver beauty and amenity to create a sense of belonging for people’.</p> <p>In particular, we support 23(1)(b) as we consider this will significantly improve design outcomes.</p>

1.4 Terminology

The draft DP SEPP includes some ambiguous terminology which should be clarified and defined further prior to finalisation, otherwise the DP SEPP presents very real risks of interpretation and potentially an increasing adversarial legalistic assessment process

The DP SEPP needs to be clearer in terms of the flexibility – in particular the flexibility it is affording to the application of the ADG and the UDG. The terms “criteria” “compliance” are used intermittently throughout the exhibited suite of documents, and aren’t conducive of a flexible merits-based approach to applying these guidance documents. We recommend that for the guidelines to be treated as such, the language is amended to consistently refer to “guidance” and “consideration” in order to give real weight to the intent of clauses 24(3)(a) and 30(3)(a), and to allow for alternative solutions to be considered.

Similarly, we also recommend that throughout the DP SEPP, absolute terms such as “minimise” or “maximise” should be removed. These terms place the onus on proponents to go to considerable detailed design analysis, not only to demonstrate that impacts of a proposal are acceptable, but to prove beyond that, that a particular impact is the most or the least that it could possibly be. The inclusion of these ‘absolute’ terms will increase the amount of negotiation required during assessment and result in protracted development assessment timeframes.

1.5 Stakeholder consultation

The Draft DP SEPP requires State significant development or development 1ha or more to explain the involvement and response to indigenous stakeholders, and to appoint indigenous members to design review panels. We welcome this inclusion, and firmly believe that the inclusion of indigenous stakeholders is vital to future place outcomes. But we query if the DP SEPP provides appropriate alternatives – particularly in relation to DRP roles and required expertise - should relevant stakeholders not be available to meet these requirements.

Appendix B: Apartment Design Guide

1.1 Overview

We acknowledge that the ADG has been through a rigorous and ongoing review. The revised ADG has the opportunity to resolve a number of areas that were often the cause of misinterpretation and/or incorrect implementation by Councils which has created an environment of uncertainty. The revised ADG, with further refinements to some aspects of it, has the potential to be adopted ahead of the wider DP SEPP framework, and could sit under the current SEPP 65 in the interim.

Our general observations are as follows:

- Generally, a blanket set of design criteria and guidance (such as the revised ADG) does not take into account the variety of building typologies and site locations that characterise residential apartment design. High-rise apartment design often has very different objectives and constraints to that of low and mid-rise design and as such many of the objectives and criteria are not practical or appropriate for both scenarios. When design criteria and guidance is strictly applied, the result can be sub-optimal outcomes in order to be recommended for approval by Council officers.
- A number of the draft Design Criteria (DC) and Design Guidance (DG) uses language such as “maximise / minimise”, “not possible”, creating potential for poor implementation by consent authorities. Absolute terms do not allow consent authorities sufficient discretion to make well-justified merits-based assessments. The result is a missed opportunity to provide the flexibility which is contrary to what the DP SEPP aims to introduce.
- In a number of instances, the draft ADG stipulates a design criteria to address issues that are already covered by local planning controls already in place. In some cases, the ADG presents a more onerous requirement which takes precedence over localised LEP or DCP controls - which may be more relevant to a site and its local context. Controls such as building heights, setbacks, car and bike parking, through-site links that are site or location specific issues should retain their primacy.

Changes to the ADG in relation to flexible application are welcomed. However on page 8 of the ADG under the heading “How to use this guide” it states that “Residential Apartment development in NSW must be consistent with the ADG objectives” [our emphasis added]. This statement conflicts with the DP SEPP which intends to resolve issues around the rigid application of the existing ADG.

We acknowledge the intention from GANSW that flexible application of the ADG, and the design alternatives will not create precedents, however we query if this would be realised over time. Future Land and Environment Court rulings on matters pertaining the application of the ADG are inevitable. These rulings form case law, and inherently set precedent for future development proposals regardless of the intent of the flexibility of application and design alternatives. This creates increased ambiguity as to the weight the DP SEPP guidance documents hold over case law.

Table 3: Commentary on the amended ADG

Item	Amendment Summary	Response
Built form and Siting	Increased guidance on floor-to-floor heights.	<p>The Design Guidance (DG) includes increased floor to floor heights in Table 1.2.2 of the ADG (from 4.0m to 4.2m for Ground Floor non-residential uses, and from 3.3m to 4.0m for first floor residential).</p> <p>This increase, when combined with other DGs - requiring rooftop communal spaces (including lift and stair access) to be within permissible building height and requiring a variety of building heights for articulation - is likely to have significant impacts to the potential yield of a site, and therefore creates uncertainty when assessing viability.</p> <p>We recommend that the existing floor to floor heights are retained in the draft ADG design guidance.</p>
Site Access and Address	General restructure and amendment	<p>Objective 1.3.1 requires clarification as it appears to equally prioritise walking and cycling to pedestrian links. We recommend that pedestrian prioritisation is clarified, whilst still clearly allowing cycle use.</p> <p>The DG for through-site links is very subjective in its use of language. For example: “where a site is sufficiently sized” [our emphasis added]. Site area is not the only factor that determines the suitability for through-site links, and that the draft wording creates uncertainty and potential for mis-application by Consent Authorities. This wording should be revised to acknowledge the specific circumstances of a site.</p>
Green Infrastructure	<p>Increased deep soil design criteria: Minimum 3m dimension, 10% site area on sites over 1500sq.m.</p> <p>Introduction of tree canopy design criteria: 15% on sites 1500sq.m Applies to public and private land</p>	<p>Part 1.5 of the ADG includes a DG for deep soil and a minimum canopy cover within the site. The DG, promotes consideration of deep soil areas across boundaries to allow tree canopies of large trees. Clarification should be included to allow for the calculable tree canopy to be inclusive of canopy cover across boundaries.</p> <p>The DG for retaining trees requires the planning of buildings, basement and driveways to “maximise” the number of existing trees to be retained. Whilst we support the retention of significant trees on a site, the guidance language used is too simplistic. It does not nominate tree size, native species or ecological value, and does not allow for well-justified site-specific considerations. This DG should be amended to recognise that under certain circumstances tree removal is necessary, and may be appropriately offset.</p> <p>We support the DG amendment for Deep Soil which recognises that for some sites it is not possible to provide this. We suggest the wording be changed to “not reasonably or practically possible”, as it will always be possible, but the result may render a site unviable.</p>

Item	Amendment Summary	Response
Common Circulation		<p>We recommend that the wording of part 2.1, the alternative design response for Configuration and Layout be amended. At present, the test is whether a development is “<i>Unable to achieve 8 or fewer apartments access from a circulation core on a single level...</i>”. We recommend that the wording is amended to be “<i>In the event of there being more than 8 apartments, this should not exceed 12, and demonstrate a high level of amenity</i>”</p> <p>We consider that the current draft wording will be incorrectly interpreted by Consent Authorities and therefore the ability to be eligible for the design alternative solution.</p> <p>The DG for <i>Common stairs</i> encourages that common stairs which serve as both emergency escapes and general access are capable of daily use. We highlight that this is not a suitable solution in high-rise towers, nor is a transition from a fire enclosed stair to a hybrid arrangement at the lower levels as is suggested. The draft change has potential to confuse the primary function of the fire stair to safely direct residents to open space. Therefore, we recommend that the guidance is clear in it's application to low rise development.</p> <p>The DG for <i>Daylight and natural ventilation</i> requires at least 2 sources of natural ventilation. We advise this will impact floorplate efficiencies, increase costs and therefore impact housing affordability. Furthermore, we consider that lobbies in apartment buildings that are naturally ventilated via openable windows are problematic in a number of ways:</p> <ul style="list-style-type: none"> • Lobbies will be subject to unfavourable environmental conditions eg. wind, rain, heat/cold, noise and dust, and do not have the same level of attendance as apartments; • In taller buildings natural ventilation in lobbies can create wind noise and pressurisation issues at apartment entry doors, and lift doors; • Most importantly, it will also require the ability to automatically close in the event of fire so as not to interfere with the smoke hazard management system. <p>The preferred method for naturally ventilating lobbies in larger apartment buildings is via controlled mechanical systems that deliver a superior outcome and avoids the additional challenges and detrimental effects inherent to providing openable windows.</p>
Car Parking	Green Travel Plan can reduce parking in PTAL 6 areas	<p>We note the Non-Discretionary Development Standard in Division 3, [33] of the DP SEPP stipulates the lesser rate of: the ADG, and the relevant DCP control. We suggest the DCP control is always more place-specific and therefore more relevant to a site. In order to provide certainty and avoid confusion. We recommend this be amended to support the DCP control.</p> <p>The section on Carparking should only provide guidance on how to best integrate carparking and bicycle parking provisions into developments. The Development Standard, and DG which proposes parking rates and numbers creates confusion by either duplicating or contradicting local Council controls (noting that some Councils prescribe minimums, or maximums depending on local considerations). We recommend the ADG provision becomes applicable only where a local planning control does not prescribe quantities.</p>

Item	Amendment Summary	Response
Bike Parking	1 per dwelling, 1 visitor per 10 dwellings	The DG for Bicycle Parking stipulates that the greater of the ADG and the DCP rates applies. The guidance should defer to the local planning controls which are more relevant to local conditions. We recommend the ADG provision becomes applicable only where a local planning control does not prescribe quantities.
Common Space	Up to 25% of site area (8m2 per unit), no requirement for indoor common space, decoupled from deep soil. Apartment Mix; over 20 units must provide 3 dwelling types of minimum 10% maximum 50% studio/1beds (Considered one type)	In our experience, the criteria for 25% of a site's area to be communal open space will often be unattainable, especially in densely urban areas, or to constrained sites. With other DG requiring roof tops be largely occupied by roof plant and equipment, solar panels and the like, this is less likely to be achieved. We recommend the wording is amended to require this only where practically possible, taking into account the specific context of the site.
Family Friendly	20% of 2-3 beds must have increased size, multiple main bedrooms, second living space, be near common space. Must have a 7sq.m study per apartment, limit structural services to promote flexibility.	With regard to Family-friendly apartments, this DG is overly prescriptive and is based on a number of flawed assumptions: <ul style="list-style-type: none"> • That current 2, 3 and 4 bedroom apartments do not cater for families; • That families can afford the additional cost of larger apartments; • That families want to only live in lower levels of a building, and not where better outlook and solar access is provided; • That common open space is provided on the ground level (noting ADG requires this in the roof) We recommend that the ADG is revised to acknowledge that where family apartments are to be provided, they are not required to be limited only to the lower levels of a building, since lift access and rooftop open space can equally and equitably cater to family units.

Item	Amendment Summary	Response
Solar Access	Allow 8am - 3pm window in constrained situations.	<p>The increased timeframe for testing is welcomed. We support the alternative design response that allows the inclusion of solar performance from 8am, but question why it has not been extended until 4pm.</p> <p>Our understanding from ADG working groups is that there's a reluctance to extend timeframes to 4pm due to potential overshadowing issues on neighbouring properties. Our view is that the ADG would facilitate better design outcomes (and reduce the necessary negotiation during the assessment of DA's) if the hours were additionally extended to 4pm, with a caveat to allow consent authorities to require compliance with 3pm if it was found that there were adverse impacts on neighbouring properties.</p> <p>We also support the alternative design response for solar access as it recognises that site specific factors may prevent the guidance being met. However, it does not solve a major problem with the current ADG which, on many unencumbered sites, results in an over-representation of 1 bed apartments on the north side of a floor plate, and larger 3+ bedroom apartments on the south side, simply to meet the criteria.</p> <p>Whilst it might be argued that the ability to provide alternative design solutions offers the opportunity to address this issue, our experience with the current ADG is that consent authorities are generally inflexible and prioritise the requirement to achieve the metrics within the design criteria rather than achieving a more even unit spread across North and South facing apartments. It needs to be made abundantly clear that a more even unit-mix across north facing and south facing aspects is desirable, and can in some circumstances prevail over strict numerical compliance.</p>
Shading and Glare control	Glazing over 30% of wall to have external shading to block 30% summer sun. Performance glazing no longer acceptable.	<p>Draft criteria for shading is convoluted, and presents a very blunt instrument whereby a façade with 30% glazing requires no sunshade, yet one with 31% is subject to the criteria. This may have a sub-optimal impact on design outcomes in order to achieve compliance.</p> <p>We also raise concern that this metric may prove to limit the design potential for RFBs in inner-city or densely urban locations, since it requires building envelopes to be covered in external shading devices.</p> <p>We understand that this is further covered in the appendices but the commentary within this section needs to be reworded to provide clarity.</p>

Item	Amendment Summary	Response
Cross Ventilation	guidance on calculations provided	<p>We note that the in part 2.7 of the ADG, DC for natural Ventilation remains unchanged with respect to the requirement for 60% of naturally cross ventilated apartments within the first 9 storeys. We suggest this is further clarified by stating that these 9 storeys are above ground level. This would mitigate Consent Authorities who may otherwise take the view that cross ventilation criteria should apply to the 1st nine storeys of residential in a mixed use development.</p> <p>A more logical suggestion is that natural cross ventilation requirements be applied to the first 25m of a buildings height above ground level rather than by storeys since the different impacts of wind relate to height, not number of storeys.</p> <p>We consider that the DG for natural ventilation and the calculation of equivalent open area (EOA) is onerous and once the impact of flyscreens has been taken into account (the applicability of this is questionable in high-rise apartments), this will result in excessive areas of operable windows in the façade to provide the resultant EOA. The alternative of louvred windows, whilst effective in meeting this, is unlikely to provide the required weathertightness and will not therefore satisfy BCA requirements under the Design and Building Practitioners Act (D&BP Act). The D&BP Act specifies that only awning windows are deemed compliant.</p> <p>Furthermore, we consider the 225 degree metric is fundamentally flawed. Diagram 1 in Figure A4.2.2 on page A24 shows an inset window at the back of the balcony with a wind exposure angle labelled 'B3'. The B3 angle is approximately 90 degrees however if the window were to be at the balustrade of the balcony the exposure angle would be 180 degrees while the apartment layout would be unchanged (other than the deletion of the balcony). Since cross ventilation requires the window to be open, the location of the window is irrelevant as the window (or barrier) effectively does not exist once it is open. As such the method measurement does not make sense in certain circumstances since airflow through the apartment will be the same regardless of where the open balcony window is located - whether it be out at the edge of the balcony or further back within the apartment where the angle would be even more acute.</p>
Storage	External storage volumes are increased from 2,3,4,5 to 4,5,6,7m cubed	This will have significant impact on the size of basements, as this is typically where external storage areas are located. An increase to basement storage will therefore subsequently increase the construction costs which will be passed on to purchasers and adversely further impact affordability
Water	specific rainwater tank sizes, recycled water required.	The requirement to retain and reuse rainwater is something already required under BASIX and any adjustment to it should be reflected in that.

Appendix C: Urban Design Guide

1.1 Overview

The structure of the urban design guide is very clearly a guide, and this approach is welcomed. At a high-level, it's role in providing a common language of assessment for urban design practitioners to use, is supported. However, the UDG is a mostly fresh document presented to industry in this exhibition and unlike the revised ADG (which went through an early round of review via the EIE process) has not been subject to extensive rounds of detailed stakeholder input, review and refinement to be the best it can be. Whilst well written and structured in principle, we consider that the flexibility aspects of the guide are critical to achieving the objectives and principles of the UDG and that the document itself needs significantly more development industry oversight and refinement before adoption.

In its current form, the UDG adds increased complexity to the planning framework, particularly in relation to the criteria that are nested under the 19 overarching objectives – these are discussed further in **Table 5**. We note that in places, the assessment guidance points could be rationalised as there is overlap in the intent of some of these statements. For example, Objective 1 includes the following two points on assessment guidance which could be consolidated:

- The proposal demonstrates how the design response has been informed by place analysis
- The project vision and place-based principles have been developed through place analysis.

Additionally, the CIV threshold of \$30million for application of the UDG is too low. In it's current form, the UDG will prove to be equally applicable to greenfield sites and to tower development in CBDs. The latter of which will be highly problematic. In addition to the strong wording of the DP SEPP (Part 3, Div 1, 24) this will result in uncertainty and delay to development in inner-city or CBD locations and infill development. It follows that we recommend that the applicability thresholds of the UDG are revised.

Part 3, clause 24(b) provides that a consent authority must “consider the objectives of the Urban Design Guide only in relation to the particular development application”. We acknowledge the intention from GANSW that flexible application of the UDG will not result in precedent, however we query if this would be realised over time. Future Land and Environment Court rulings on matters pertaining the application of the UDG are inevitable. These rulings form case law, and inherently set precedent for future development proposals regardless of the intent of the flexibility of application and design alternatives.

1.2 Terminology

As with the ADG, we consider that the terminology used is ‘absolute’ and facilitates a prescriptive approach to implementing the guidelines. This is likely to result in sub-optimal design outcomes. We recommend that the terms “minimise” and “maximise” are replaced throughout the document with softer language that allows greater flexibility.

For example, the design criteria for objective 3, sets minimum residential densities for areas within 10 minutes walk of ‘high frequency public transport’ (which is undefined in the exhibited documents) or neighbourhood or activity centres (also undefined in the exhibition documents) many terms throughout the document require clarification.

1.3 Design Verification Statement

Part 57A(1)(b) EP&A Amendment (Design and Place) sets out that the Design Verification Statement (DVS) must “explain how the design is consistent with design review panel advice”. The use of the word ‘consistent’ has the effect of removing flexibility that consent authorities may have otherwise had with regard to design review panel advice. This is an important matter, as Council officers are often aware of a number of factors, stakeholders and internal Council practices/precedent with respect to

assessing DAs, and not all design panel advice can or should be taken on board. There is therefore currently some discretion for Council planning officers to mediate and interpret the advice from design panels in order to achieve better outcomes in consultation with the applicant of the DA. We would encourage that this word is replaced with “consideration” in order to minimise delays to development delivery which may result from re-referral back to design review panel over minor matters.

A DVS must also be submitted with modification applications. This blanket approach will likely result in unnecessary delay to the assessment process, particularly where a modification is minor. We recommend that a clearly worded caveat be applied to only require modifications that substantially deviate from previous panel advice to be referred. On this point, our experience is that there is a low threshold for modification applications to be classified as a s4.55(1A) compared with a s4.55(2) modification. We highlight that not all s4.55(2) modifications will propose modifications that will necessitate further review from Design Review Panels, and that the DP SEPP should be amended to reflect this.

The requirement for a stand-alone design verification statement is onerous and another lengthy documentation requirement adding significant cost and complexity to the process. The response to UDG objectives would be better and more logically placed in a Statement of Environmental Effects (SEE) without the need for a separate document. It follows that the existing qualified architect Design Verification Statement (DVS) (one page authorisation) is sufficient to demonstrate design oversight and capability alongside the SEE.

Whilst we acknowledge that the UDG aims to improve design by raising the bar for consultant eligibility to prepare and assess a development. The requirements for authorship of a DVS are worded to focus on a 5-year career duration and makes generic reference to broad areas of experience that a consultant must have. We consider that this broadness may prove a loophole to undermine expert witnesses in the Land and Environment Court. It also limits the availability of consultants, without delivering any meaningful mark of quality. A more meaningful mark of quality could be achieved through requiring active accreditation with the relevant professional Australian body (ie. AIA or PIA) which in itself ensures standards of professional practice are achieved and maintained.

1.4 Implementing the UDG

Appropriate implementation of the UDG will be essential to the delivery of high-quality design outcomes. If the UDG is applied in a rigid manner, as a ‘compliance tool’ (in a similar manner to the existing application of the existing ADG) it will present additional complexity in the planning assessment process and deliver sub-optimal design outcomes. We recommend that the level of detail provided for in the UDG is simplified.

Additionally we note that many of the principles relate to roads, parks and pedestrian links, which predominantly end up being transferred to Council assets. The detailed requirements of these are heavily influenced early in design processes by Council engineers. In our experience, the primary concerns are maintenance budgets as opposed to design outcomes. The UDG should provide standards that are uniform across all jurisdictions and override local Councils’ standards that may otherwise be excessive and produce poor urban design outcomes.

Mirvac has undertaken an analysis of a number of its award-winning projects against the key metrics of the draft UDG. We find that generally, Mirvac projects perform well against the UDG, however a number of metrics are problematic; We consider the tree canopy requirement of 40% to ‘large development’ to be overly ambitious and not attainable in greenfield release areas, which appear to be the sites to which this particular design criteria intends to apply. On deep soil, we consider that small lots under 150m² should have a reduced requirement for deep soil planting (we recommend 10% would be appropriate). Equally, the metrics for public space accessibility do not sufficiently accommodate the value of amenity delivered by waterways and recreational/sport facilities, which at present, do not contribute to the considerations.

Table 4: Commentary on the UDG

Objective	Criteria	Response
Urban Structure	1. Projects start with nature, culture and public space	Green space connectivity, embellishment and hierarchy are generally supported. However as the majority of the assets revert to Councils ownership, the design and allocation of such areas are guided by projected ongoing maintenance costs and insurance liability rather than outcomes and planning/placemaking opportunity. The UDG misses an opportunity to address this.
	2. District and local routes provide transport choice and accessibility.	The outcomes relating to public transport opportunities are a key objective of TNSW during the initial planning stages. The development yield for small to moderately sized development are not enough to drive network wide public transport investment. An integrated TNSW and DPIE approach should be determined at the early land release/rezoning stage, and the UDG should be amended to acknowledge this.
	3. Compact and diverse neighbourhoods connect to good amenity	Objective 3 includes design criteria for Neighbourhood density. A generic density bands of 15 dw/ha is too low in the context of modern subdivisions, we recommend that this should be at least 20 dw/ha. Equally, 50 dw/ha is too high in greenfield release areas (unless in town centres), and access to open space does not warrant that level of density. It follows that we query whether it is appropriate or well-aligned with place specific objectives of the DP SEPP to establish minimum densities at all. Densities need to be supported by land use zoning and planning control framework. We note that the alternative design solution for objective 3 is worded; <i>"If individual blocks are not capable of meeting a density target of..."</i> this suggests that minimum density is intended to be achieved on a block-by-block basis. There is concern that this will encourage uniform density across large areas, and result in poor, uniform design outcomes. We recommend that the terms <i>'high frequency public transport'</i> and <i>'neighbourhood or activity centres'</i> are more clearly defined in the document.
	4. Place-based risks are mitigated and ecological values sustained to ensure resilient communities.	This principal is generally supported with the exception of ensuring that there is still flexibility within it to allow for development within proximity to areas of risk provided those risks are managed.
Movement and Connection	5. Walkable neighbourhoods are vibrant and productive.	Objective 5 includes design criteria for walkable neighbourhoods, and distances to public open space. We support the intent of objective 5, however we refer to the draft Greener Places Design Guide (GPDG) which allowed greater flexibility for minimum catchment areas to apply "to most houses" . We recommend that the distance from district parks is increased to 2km, and that the distance to regional parks increase to 5-10km, and that the UDG adopts this wording for the design criteria for objective 5 and objective 12. At a high level, the guidance for each neighbourhood to consist of identical access to amenity, facilities and has the potential to stifle uniqueness and differentiation between developed precincts.
	6. Block patterns and fine-grain street networks define legible, permeable neighbourhoods.	Objective 6 includes design criteria for walkable block lengths. No design alternatives are provided. We recommend that guidance on through-site-links should also focus on limiting dead ends or cul-de sacs as limiting these would be just as effective as through-site-links in terms of improving walkability and proximity to open space on foot.

Objective	Criteria	Response
		<p>Section 6.3 sets out “<i>Some historic areas align main streets north–south to maximise lunchtime sun, and residential cross-streets east–west to maximise built form solar access to the north</i>”.</p> <p>This suggests that east-west street orientation in residential areas is considered to be good for solar access. For residential streets, north-south oriented streets that result in east-west oriented lots provide for better solar access to private open space and the longer north-facing side of the building. Orienting streets east-west results in north-south oriented lots, with the north-facing lots having the private open space in the rear overshadowed by the building, and the family room addressing the rear yard facing south with no sun.</p>
	7. Walking and cycling is prioritised, safe and comfortable for people of all abilities.	<p>Objective 7 includes design criteria for mid-block connections.</p> <p>We support the intention of this guidance, and section 7.3, which seeks to provide low traffic and slow traffic streets. We highlight that to be successful, this needs to be supported by Consent Authorities. In our experience, each LGA has their own road/laneway design requirements. Some have longstanding engineering practices that result in poor urban design outcomes; for instance, excessive road widths and excessive kerb radii at intersections that prioritise vehicular movement over the ease of pedestrian crossings. Our experience is that these must be complied with before roadway ownership can be transferred. The UDG misses a significant opportunity to regularise and unify these standards for the state.</p> <p>We recommend that section 7.3 is amended as follows;</p> <ul style="list-style-type: none"> • <i>Integrate behavioural traffic calming within streets e.g. yield streets, narrow lanes, street trees or indented street parking bays, and minimise kerb radii at intersections to shorten pedestrian crossing path and reduce speed of traffic for increased safety.</i> • <i>Where possible, adopt speed limits that minimise the risk of fatality for vulnerable road users (e.g. 30 or 40 km/hour or less).</i> We recommend that this will be ineffective without adequate policing. This clause should be re-focussed to design-out opportunities for speed and accidents to occur by avoiding wide and long straight roads, by providing traffic calming devices, and minimizing lengths between intersections (recommending 70m) to create frictions to slow down traffic. • <i>Integrate alternative materials in low-speed streets to aid pedestrian legibility and reinforce pedestrian priority.</i> Generally, consent authorities are reluctant or outright prohibit use of alternative materials to asphalt for maintenance reasons. This aspect of the UDG must have sufficient authority to override consent authority objection. <p>With an increased frequency of pedestrian crossings being provided, there is the potential to create additional conflict with road traffic conditions – particularly if there is not a strong local uptake of walking and cycling. The success of this guidance is highly dependent on end-user behaviours and may not deliver optimal design outcomes if applied uniformly.</p>
	8. Parking is minimised, adaptable and integrated.	<p>Section 8 of the UDG is highly problematic and aimed at denser urban settings. By requiring parking to be ‘<i>minimised</i>’, the UDG is promoting a trend toward the provision of 0 parking provision state-wide, since 0 parking is the minimum. This guidance is inappropriate in vast areas of NSW, we highlight in particular that</p>

Objective	Criteria	Response
		<p>lessons have been learned in Western Sydney where it has been necessary to provide additional carparking to stations such as Edmondson Park, Glenfield and Holsworthy, due to the lack of available public transport options. Accordingly, we recommend that this section be deleted or revised to allow for the ADG and DCP provisions to prevail.</p> <p>Further, the objective to <i>minimise</i> car parking contradicts the intent to support the use of electric vehicles, particularly as electric vehicles will contribute to the demand for car parking within urban areas.</p>
Natural System	9. Landscape features and microclimates enhance human health and biodiversity	We are generally supportive of the concept and intent of this criteria, however many of these features end up in Council ownership and thus are subject to inflexible, often outdated design and criteria. For example, the requirement for riparian corridors to sit within government ownership has often led to a limitation of their uses as accessible public open space.
	10. Tree canopy supports sustainable, liveable and cool neighbourhoods	<p>Objective 10 includes detailed design criteria for tree canopy targets, and we note that design alternatives allow for greening alternatives to be provided to walls and roof space. Overall, we consider the criteria in this objective to be highly problematic.</p> <p>We recommend that a 30% target for tree canopy to existing streets would provide substantial canopy and serve as an attainable target. Our analysis of a range of precincts show that 40% canopy coverage still can't be achieved with trees in front and rear yards (in addition to street trees). A more appropriate target would be 40% within road reserves and 25% over entire subdivision/neighbourhood.</p> <p>This is especially relevant for medium density housing, with small lots and attached housing with lot sizes 150-250m². These highly constrained typologies will be the most difficult to achieve deep soil and landscaping when compared with higher density development such as residential flat buildings, where built form site coverage is reduced due to vertical form.</p> <p>From experience, large trees are rarely supported by landowners as these compete with preferences for amenity - outdoor entertainment or swimming pools, solar access requirements, create bushfire and maintenance/safety concerns - particularly in rear yards. As such, the emphasis to provide tree canopy should be focussed on public land which will deliver more sustainable long-term results. This in itself is not straightforward as we have experienced many consent authorities who do not support trees within the road reserve on the basis of maintenance concerns and the potential to impact upon drainage, services and road pavement. We also find that many owners remove the street trees at subdivision stage. Equally, consent authorities have their own standards for carriageway widths which in and of itself will limit the potential to achieve the 70% canopy cover requirement to new streets. In practical terms, the proposed criteria for tree canopy coverage would conflict with basic amenities such as street lighting, and automated garbage truck arms.</p> <p>With regard to section 10.2 we note that consolidation of below-ground services requires agreement by all service authorities who benefit from the Roads Act legislation.</p>

Objective	Criteria	Response
	11. Water is retained and water quality improved in urban places.	Section 11.1 includes the following guidance “ <i>Integrate water-sensitive urban design measures such as reed beds and urban swales along green infrastructure corridors within streets and public open spaces such as parks and streets</i> ”. Our experience is that consent authorities are resistant to the application of WSUDs within road reserves and would not enable the intent of this clause to be realised.
Public Space	12. Public open space is high quality, varied and adaptable.	<p>Objective 12 includes design criteria for public open space provision, and solar access and shading for public open space.</p> <p>Many rezoned greenfield precincts are masterplanned with designated regional/district/local open space designated areas. It is our view that it is unreasonable for subdivisions in proximity to regional or district open or larger local parks to provide additional open space on site. We recommend that a ‘whole-precinct’ approach should be taken to calculate open space needs, as opposed to a crude 15% site-by-site requirement.</p> <p>We also highlight that DPIE’s October 2021 exhibition on infrastructure contributions reform recently noted that Land costs comprise “<i>an average of 54% of total infrastructure costs in greenfield areas.</i>” And that in recognition of this, it was proposed that “<i>a maximum of 20% of the land can be required for local infrastructure</i>”. We highlight that the UDG objectives are misaligned with the allowances and assumptions of the infrastructure contributions reform. It therefore appears that the UDG fails to consider the challenges of housing affordability which the contributions reforms aim to resolve.</p> <p>Further, the guidance fails to acknowledge that ‘small parks’ can still provide significant amenity when as small as 1500m². We highlight that the quality of open space needs to be considered as well as quantity. For example, a highly landscaped park including a playground may be smaller but has more community value and recreation benefit than a much larger unmanaged riparian offering. We recommend that the criteria for this objective should prevail over local controls.</p> <p>Additionally, with reference to Appendix 2 page A7, we highlight that there will be challenges to incorporating/delivering water bodies/ ponds/ water features/ wetlands, etc. all of which enhance the amenity and fulfill the aesthetic, environmental and microclimatic functions in development, if these assets cannot be counted toward public open space.</p>
	13. Streets are safe, active and attractive spaces for people.	<p>Objective 13 includes design criteria for social interaction and comfort.</p> <p>Section 13.3 presents potential for conflict with consent authorities, as aforementioned many consent authorities raise maintenance concerns over tree planting along streets. The UDG should more clearly prevail over local controls.</p> <p>Section 13.4 requires that streets are well lit for public safety, we support this aim but we query how this is compatible with the high thresholds for street tree planting. Street tree canopy will inevitably impact on street lighting efficiency, and the guidance should be revised to acknowledge this.</p>

Objective	Criteria	Response
	14. Public facilities are located in key public places, supporting community and place identity.	We are generally in support of shared and co-located of public facilities. This can only happen with a coordinated approach across government departments (who often own the land), DPE and Councils. Councils should be encouraged to include these objectives in their VPA policies and Contributions plans.
Built Form	15. The lot layout supports green neighbourhoods and a diversity of built form and uses	<p>We note that section 15.3 seeks to achieve less than 30% of detached dwellings to areas with a density of 15dw/ha. We recommend that this criteria would be better applied to areas with a density of 20dw/ha - since a density of 15dw/ha delivers an average area of larger lots (450-500sqm). In current the market climate there is no appetite or opportunity to provide attached dwellings to larger lots, which are typically 15m wide. This will deliver inefficient outcomes that do not meet market demand.</p> <p>We strongly recommend that product mix should be defined by the locality, and not by state policy or guidance. It should be specific to the amenity of a place, demographic analysis of emerging community and household groups and to the local population's needs.</p>
	16. There is a strong sense of place structured around heritage and culture	This criteria needs to be clearer in the fact that it relates items that are listed heritage only. The subjectivity around opinions on what is and should be heritage cause concern and uncertainty around how this may be applied. The heritage registers and process has been set up to ensure that due consideration is given to what is and is not heritage. The language is reasonable in its flexible principal-based application.
	17. Scale and massing of built form responds to desired local character	Principal based approach that could be implemented via a DCP.
	18. Built form enlivens the ground plane and activates and frames public space.	Principal based approach that could be implemented via a DCP.
	19. Developments use resources efficiently, reduce embodied emissions, and consider onsite energy production.	This criteria should be linked, or should show a relationship to the sections of the SEPP which deal with sustainability so that once the elements of the SEPP have been satisfied there is no duplication of compliance required to be satisfied at the UDG stage. Section 19.2 contains very aspirational and broad criteria which when sitting at such a high level could be difficult to deliver on in practice.

Appendix D: Design Review Panel Manual

1.1 Overview

Whilst we acknowledge that Design Review Panels (DRP) can be very valuable in resolving development proposals to ensure high quality outcomes, the drafting of the DP SEPP affords DRP's a disproportionate role in the development application process, at the detriment of project delivery.

We welcome the inclusion of a Design Review Panel Manual that provides a common understanding of the role of DRPs, however we find the exhibition draft to be overly prescriptive in some aspects, and lacking detail and certainty in other aspects. For example, we welcome the inclusion of a strict 14-day timeframe for a meeting to be obtained and for panel advice to be issued, however we would like to see this requirement afforded more weight in the wider DP SEPP.

1.2 Role of Design Review Panels

The DP SEPP requires development subject to Part 4, to be supported by a Design Verification Statement (DVS) or design review report. Part 57A(1)(b) of the EP&A Amendment (Design and Place) requires that a DVS must also explain how the design is “**consistent with design review panel advice**”. This contradicts the wording of the manual itself, and has the effect of making the design review panel advice binding regardless of whether the DP SEPP aims and objectives are achieved. We strongly recommend that this wording in the DP SEPP is amended to allow flexibility in the application of design review panel advice, and to allow for authorities to consider whether the DP SEPP aims and objectives are achieved notwithstanding the DP SEPP advice.

The Environmental Planning and Assessment Amendment (Design and Place) Regulation 2021, Division 1A [57B] requires development applications to be submitted with a design review report - which necessitates a minimum of one meeting with DRP. This leads us to raise the following matters:

- In our experience, DRP meetings can be either infrequent, or oversubscribed. This clause has the effect of preventing a development application being lodged until a meeting can be obtained. This will unduly delay the lodgement and notification of development applications. The timing of lodgement for development applications is market-driven, and sensitive to factors such as funding and tenant availability/demand. This is only compounded when dealing with a more complex project which may require two to three meetings.
- We query how the DP SEPP will ensure the availability and timeliness of DRP meetings. If dates are to be set in advance, consent authorities need to ensure there's flexibility to accommodate out-of-cycle meetings to avoid projects stalling.
- A potential alternative to a separate Design Review Report, which creates another document that requires submission and assessment as part of a Development Application could be inclusion of a separate section which details the response to design review panel comments as part of the Statement of Environmental Effects (SEE).
- The DRP manual encourages multiple design reviews prior to DA lodgement. We highlight that this will inevitably lead to requirements for highly resolved submission documents before applicants are able to engage with consent authorities at pre-da stage. This places a high amount of risk and cost up-front with no guarantee of support for proposals. This may have the consequence of making it much harder for applicants to be able to engage with consent authorities at pre-da stage, particularly where projects carry planning risk.
- We encourage the inclusion of a caveat to the requirement for a design review report, which would allow an application to be directly submitted without design review if no meeting can be obtained within a two-week window.

- The agenda and timing of panel meetings on page 22 of the manual does not appear to be practical. It is unlikely to be possible to have four DRP agenda items per day including site visits. This will inevitably lead to an oversubscription and backlog of cases waiting on DRP meetings which will unduly delay determination for many projects. We highlight that the onus is on the successful role of the DRP manager to oversee the agenda's for DRP and that should DRP not have timely availability, there is no alternative recourse for proponents or consent authorities.
- We also encourage that the DRP manual remove the suggestion that an application can be referred back to DRP post-consent. A post-consent referral would have no meaningful role in the planning and design process if a project has been through a successfully frontloaded design review process.
- It is unclear what the implications of the front-loading of the planning and design process will be for community consultation. If schemes are to be resolved to a high degree of detail in connection with DRP advice prior to lodgement, we query the role and the weight that can be afforded to subsequent community consultation. Consent authorities are bound to consider community consultation responses, it therefore seems appropriate that DRP comments can be concurrently addressed as part of the assessment process, rather than front-loaded to the extent that the DP SEPP would allow.

1.3 Timing

We raise concern that the DP SEPP, in particular the DRP Manual will result in significant delays to project delivery and viability.

For a planning proposal we estimate that the DP SEPP will result in a minimum delay of 7 months, comprising:

- 3 months added to preparation process due to the requirements for almost DA level detail being provided at the PP stage.
- 1 month added to revise concept after engagement with Council pre lodgement (round 1).
- 1 month added to revise concept after engagement with Council pre lodgement (round 2).
- 2 months added to refinement of proposal as it progresses through Gateway process (allowance for two revisions to package).

This assumes that the DRP is not involved in this stage, the inclusion of DRP involvement would add between 1-2 months per meeting depending on the outcomes.

For a complex or staged development applications we anticipate that the DP SEPP will result in a minimum delay of 4 months on a simple project, comprising:

- 3 months added to assessment time frame, comprising;
 - 1 initial concept meeting
 - 1 refined concept (endorsement) two months later (factoring in two weeks for feedback, 4 weeks for deliverable updates and 2 weeks to obtain a meeting and submit)
- 1 final endorsement meeting two months later (same timeframes as above).
- A minimum of 1 month added to assessment process dependent on Council resourcing, inclusion of a post assessment DRP meeting, and the number of refinements required to be made post lodgement and exhibition.

These assumptions are made on the basis that no wholesale changes are required as part of the initial feedback from the DRP.

It follows that we recommend a maximum wait-time for engagement with DRP should be imposed, and strictly adhered to. For example, we consider that if a DRP meeting cannot be obtained within 2 weeks then development proposals must be allowed to proceed to be lodged.

1.4 Resourcing and expertise

We highlight the need for consent authorities to be appropriately resourced to be able to manage the additional assessment requirements – including DRP and the suite of additional application deliverables that are required by the DP SEPP - in a timely manner.

We would also like to see greater assurance of the eligibility requirements for panel members. The DRP manual should be much clearer on the required range and diversity of panel expertise, on the requirement for panels to operate independently from consent authorities, and on the minimum necessary training required for panel members to partake in DRP.

Appendix E: Sustainability

1.1 Overview

We support the aims of achieving net zero by 2035.

1.2 Embodied Energy

Embodied energy requirements need to be disclosed as part of BASIX certification submitted with development applications, and using the supplied calculator. We consider that this will require the majority of materials to be specified and 'set' at DA stage. In most instances, this is contrary to how Mirvac operates; with the design development phase informing the materials specifications. This may result in the need for additional – otherwise undue - amendments to consents and delays to project delivery post-consent.

The EP&A Amendment (design and Place) provides draft clause 57C refers to an online calculator "as in force from time to time" the intent of this clause should be clarified. We note that the exhibited documents do not include the proposed calculator, and we highlight that the ability for industry stakeholders to comment in detail on the requirements to calculate the embodied energy of a development is therefore limited at this stage. We also highlight that Mirvac is well positioned to commit to low-emission construction technologies and a net zero statement is not unusual for Mirvac projects.

Finally, there is some inconsistency across various authority requires, for example The City of Sydney proposed planning standard requires a 4 Star NABERS Energy rating for new Retail Centres and moves to a 5 Star rating in 2026. The DP SEPP has an initial 4.5 Star requirement, therefore further clarity as to what policy and legislation is the required benchmark is required. Furthermore, if any increase in stringency is proposed appropriate notice and transitional arrangements should follow to allow for the industry to prepare itself.

The requirement for a 5-year renewable energy supply agreement is great for the environment but will be difficult to manage unless its purchased upfront by the developer in line with the design energy model (which does not necessarily match actual energy use). This could be problematic as the actual management of the requirement would be challenging (for example a five year term may in fact be too short) and in residential there is legislation in place that restricts developers from entering into any contract for a term long than three months.

1.3 Electric Vehicle Charging

The requirements for electric vehicle (EV) chargers set out in clause 99 of the EP&A Amendment (Design and Place) Regulation are significant and have far reaching implications for development. We recommend that this clause is amended to include a phased implementation of the full requirements.

Clause 99 requires all parking spaces to be capable of a 12kWh supply of energy between the hours of 11pm-7am every day at 100% capacity. We query whether this will reflect user behaviours (ie. whether all spaces are expected to be in use for charging between 11pm and 7pm daily) and raise concern that this will place additional pressure on requirements for substations.

We also highlight that enacting this provision as a condition of consent would prevent certifiers from issuing an OC unless they are satisfied that the requirements of Cl. 99 have been met. This in itself may be problematic to demonstrate.

Clause 99(3)(C) requires "*Storage for electric cables must be within 5m of each parking space*". It's not clear from the statement whether this means vehicular charging cables, or cables to generally service the charge point from grid (ie. for maintenance purposes). The intent of this clause should be clarified.

This provision needs additional refinement with stakeholders, and we request that the provision for EV infrastructure is assessed on a site-by-site basis, and specific to development proposals.

1.4 Gas

Part 2, 21 of the DP SEPP requires the consent authority to consider whether a development appropriately minimises and excludes the use of gas for cooking, heating and hot water. We highlight that there is still very little long-term data available for electric hot water heat pumps for developments of the scale that the DP SEPP applies to.

We recommend that clarification on the parameters for determination are provided, and that these parameters take into account site specific circumstances (location, context, customer). We also recommend that there should be a transition period for these requirements as market analysis suggests that gas is still the preferred mode of cooking by a majority of residential customers and hospitality operators.

1.5 Green Infrastructure and Green Travel plans

Requirements for the provision of green travel plans are set out in Division 4, Section 33 of the DP SEPP. We support the role of green travel plans, and highlight that these are documents that we ordinarily implement in Mirvac Projects. However, it is unclear from the exhibition documents precisely what the remit of this report should be, and who will be responsible for the implementation and ongoing monitoring of the green travel plans (as per 99A(2)(a) the green travel plan must be reviewed every 2 years).

We advise that additional information is required in order to provide feedback on how this may relate to development projects.

1.6 BASIX

Mirvac is supportive of increasing BASIX standards, however, the tool and resources have not been provided to allow industry to understand the implication of the proposed changes. It is difficult to determine what the implications may be for built form and design without access to the sandbox tools and knowing the extent of the new requirements.

We highlight that the BASIX sandbox tool for freestanding homes is not a complete tool and has many gaps in it, whilst the BASIX sandbox tool for town homes and apartments has not yet been released. We recommend that in order to provide meaningful commentary on this, we would need access to the sandbox tool.

Appendix F: Cost Benefit Analysis

1.1 Overview

While the intention of the exhibition Cost Benefit Analysis (CBA) to provide an analysis of the proposed DP SEPP and support its implementation are acknowledged, Mirvac has significant concerns relating to the report and the assumptions which have formed the basis of its recommendations, including:

- A lack of transparency regarding the assumptions, data, case studies and scenarios which were used to support the CBA;
- The summary of costs and benefits which are considered to arise as a result of the implementation of the DP SEPP; and
- The presentation of the results of the CBA, including the omission of various scenarios which were tested and the overall suggested benefit across NSW.

As discussed further below, Mirvac is of the view that additional detail should be provided and consideration made by GANSW to the above items in order to form a holistic view of the impacts of the proposed DP SEPP.

1.2 General Lack of Transparency in Data and Analysis

It is noted that Section 1.1 of the CBA refers to a range of other detailed analyses and reports relating to the DP SEPP which inform the cost benefit analysis, however the nature of these documents is not discussed, and Mirvac is not aware of these documents having been made available for public exhibition. As such, much of the data which has been used to inform the CBA is not available and therefore unable to be analysed in detail. It is imperative that industry and the community are able to assess the basis of the CBA in order to confirm that the assumptions made are realistic, accurate and provide a true picture of the actual costs and benefits which may arise as a result of the proposed DP SEPP.

In addition, the Section 1.3 of the CBA refers to five case study locations which have underpinned the results of the report, including that preliminary feasibility studies have been undertaken to understand the revenue and cost implications of the implementation of the revised ADG and broader DP SEPP. As above, the locations, feasibilities and assumptions for these case studies has not been provided, and should be made available for public exhibition to enable informed and thorough feedback from industry stakeholders and the broader community.

Finally, Section 2.6 of the CBA discusses various options which were considered as part of the analysis including:

- Base Case “business as usual” scenario;
- Option 1: Proposed DP SEPP without flexibility provisions;
- Option 2: Proposed DP SEPP with flexibility provisions; and
- Option 3: Proposed DP SEPP with flexibility provisions and adjustments of selected policy initiatives.

While the testing of various scenarios is supported, the description for each option in the CBA is vague and does not provide sufficient detail regarding the considerations made as part of each option, namely in relation to:

- The assumptions as to the application of the “flexibility provision” and the extent to which it impacts each scenario; and

- The detail and extent of each of the adjusted selected policy initiatives and the impact each may have on the relevant scenario.

Further information around the items discussed above should be made available to enable stakeholders and the community to make an informed assessment as to the advantages and disadvantages of each option which was tested.

It is therefore requested that GANSW makes the following information available to the public to allow for a thorough and equitable assessment of the impacts of the proposed DP SEPP:

- Supplementary analyses and reports which support the findings of the CBA;
- Detail of the five case study locations which form part of the basis of the report including the locations, feasibility studies and assumptions for each; and
- Further information regarding each of the options tested including a detailed breakdown of the assumptions behind each scenario and how they impact the results of the CBA.

1.3 Consideration of the Costs and Benefits Considered in the CBA

We believe that the costs and benefits discussed in the CBA have not been fully considered, and that the true impacts may not be captured in the results of the report. In addition, no detail has been provided to demonstrate the value of each of the costs and benefits, which effects the transparency of the findings of the report, particularly in relation to the value of items which are more difficult to quantify such as “improved social cohesion” and “increased walkability and health benefits”.

With regard to specific cost items discussed in Table 3.1, Mirvac makes the following comments:

- The CBA operates on the assumption that the DP SEPP will result in significantly reduced construction costs. There is no detail provided to support this assumption and Mirvac is of the position that many of the requirements of the DP SEPP and amended ADG will increase the construction, design and regulatory costs associated with development projects in NSW;
- Table 3.1 does not appear to consider the increased design consultant costs which would likely be associated with the more stringent design requirements proposed in the DP SEPP across all development types;
- Table 3.1 does not appear to consider the increased regulatory and approval timeframes which are likely to result from more stringent design requirements proposed in the DP SEPP across all development types, as well as the flexibility provisions which have potential to make the approval process more subjective and therefore more protracted in terms of timing; and
- Table 3.2 considers a reduction in construction costs resulting from reduced car parking requirements, however in this instance a direct reduction in the sale price of lots without parking has not been considered and is likely to represent a significant cost to development projects.

With regard to specific benefit items discussed in Table 3.2, Mirvac makes the following comments:

- Reduced developer risk is not considered to be a benefit of the proposed DP SEPP as the flexibility provisions are likely to create more subjectivity in the approval process and increase uncertainty across development projects; and
- Many of the benefit items are difficult to attribute value to, and no detail has been provided in the CBA as to how the value of these items was quantified and to what extent each benefit item contributes to the overall benefit considered in the summary of the report.

As such, we suggest the following in relation to the costs and benefits outlined in Table 3.1 and Table 3.2 of the CBA:

- Further consideration be made as to the full suite of costs and benefits which are likely to arise from the implementation of the DP SEPP;
- Detailed information be provided as to the calculation of the value of each of the costs and benefits considered in Table 3.1 and Table 3.2; and
- Further consultation be undertaken with industry and stakeholders to gain a clear, accurate and quantifiable picture of the costs and benefits which are likely to arise as a result of the DP SEPP.

1.4 Results of the CBA

Section 3.2 of the CBA outlines the results of the cost benefit analysis and suggests that the implementation of the DP SEPP will generate a \$980m benefit across NSW, however the results shown in Table 3.3 are vague and no justification of the claimed benefit has been provided in the report. In addition, the results of the CBA refer to only one scenario, however Section 2.6 of the report claims that a total of four options had been tested to fully understand the impacts of the proposed DP SEPP. As no results for the other scenarios have been provided, there is no way for stakeholders or the community to make an informed assessment as to the costs and benefits of each option and which scenario would provide the best outcome to NSW.

It would be useful for industry to review and understand the findings of the cost benefit analysis for all four options are provided to enable a full and informed assessment of the impacts of the proposed DP SEPP.

1.5 Conclusion

In summary, while the CBA provides an indication of the possible costs and benefits of a single regulatory scenario, there are significant shortfalls in relation to the detail, case studies, assumptions and data which support the analysis, as well as a lack of clarity regarding the findings of the CBA itself. Further information could be provided in relation to the CBA and additional consultation with stakeholders and the community take place to ensure that a comprehensive and accurate assessment is made in relation to the costs and benefits of the implementation of the proposed DP SEPP. Until such time as this is completed and further information provided, it is considered that the CBA exhibited alongside the DP SEPP is insufficient to justify the implementation of the proposed DP SEPP.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:43 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: nash-submission---basix-higher-standards.pdf

Submitted on Mon, 28/02/2022 - 16:42

Submitted by: Anonymous

Submitted values are:

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Last name

Kelly

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Please provide your view on the project

I am just providing comments

Submission file

[nash-submission---basix-higher-standards.pdf](#)

Submission

The National Association of Steel Framed Housing (NASH) and its members are involved in the design, manufacture and installation of downstream steel products - light gauge, cold-formed metallic coated steel frames, trusses and components. These products typically have long life, high reusability and high recyclability. Their embodied emissions characteristics rely on two factors: the quantity of material in a particular project and the emissions factor applied to the material.

NASH works closely with steel manufacturers such as BlueScope, who are also members of our association, in conducting research to support positions on regulatory change. NASH supports the submission made by BlueScope on the Design & Place SEPP and BASIX Higher Standards proposals. We have also prepared and uploaded a short submission focussed on the particular challenges of material estimation and substitution at the dwelling level.

Thank you for the opportunity to make a submission and we welcome the opportunity for further engagement to assist the project.

I agree to the above statement

Yes



BASIX Higher Standards

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Background

The National Association of Steel Framed Housing (NASH) and its members are involved in the design, manufacture and installation of downstream steel products - light gauge, cold-formed metallic coated steel frames, trusses and components. These products typically have long life, high reusability and high recyclability. Since 2006, NASH design standards have been referenced as Deemed-to-Satisfy solutions in the NCC, with further standards added in 2015.

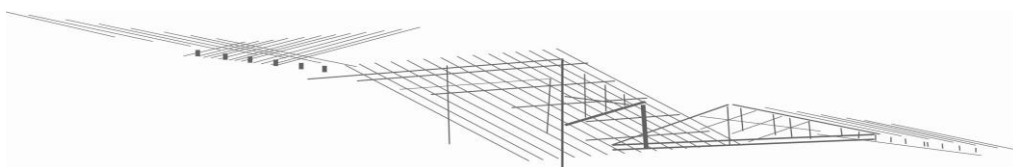
NASH works closely with steel manufacturers such as BlueScope, who are also members of our association, in conducting research to support positions on regulatory change. NASH supports the submission made by BlueScope on the Design & Place SEPP and BASIX Higher Standards proposals.

NASH has been intensely engaged in the current NCC 2022 update cycle, paying particular attention to the data, assumptions and methodologies used to determine the thermal resistance of building elements. This has required us to challenge many of the data used to develop thermal resistance characteristics and thermal bridging mitigation measures. New research undertaken by both the ABCB and NASH has enhanced understanding of Australian steel framed buildings and will be of lasting benefit to the science and engineering of buildings. Hopefully there will be an opportunity to incorporate some of this new knowledge in the BASIX Scheme in the future.

The Importance of Quantities for Embodied Emissions

It is sometimes assumed that all quantities of materials are automatically known at the point at which a BASIX (or NatHERS) assessment is undertaken. Many quantities can be estimated and some are harder than others. Getting these estimates wrong could have a significant impact on substitution choices made during the design phase. Our close involvement with dwelling frames at the individual level provides access to design and detailing software and to the fabricators who use it. This would permit accurate estimation of specific material quantities for building archetypes as well as averages over different types of dwelling.

NASH welcomes the opportunity to discuss how we could assist in the implementation of BASIX Higher Standards in terms of making material quantity estimates more accurate and hence more reliable and useful.



Emissions Factors

It is understood the emissions factors will be drawn from the EPiC database which uses global averages. This may or may not be appropriate for the types of steel used in Australian dwellings, so we would like to understand more about how local data, including LCA data, will be incorporated in the Scheme.

Whole of Building vs Elements

A typical Australian dwelling contains a variety of steel products, most of which are designed to – and do – last the life of the building. The option exists to simplify an assessment by aggregating the steel products across the whole building or building type. However, this creates some complexity for substitution of one material for another, because the substitution may involve an element comprising more than one material. The mechanics of this process is something we would like to be involved with as it is developed.

Resilience

The contribution of different materials to the attributes of the total dwelling vary significantly. Steel is highly durable and imparts resilience to building structures, enhancing its value to the community by lowering the cost of maintenance and repair and reducing disaster recovery times. The Briefing documents suggest that maintenance and replacement over the building life are incorporated in the emissions assessment, but we cannot determine how this will happen in practice.

Implementation

To be fully effective in its purpose, the embodied emissions functionality will require careful attention in implementation. It will be complicated and has the potential to make the building design process more complex and iterative through the substitution opportunities. Taking the time to understand this complexity and getting it right may require a longer implementation period than currently suggested.

Finally

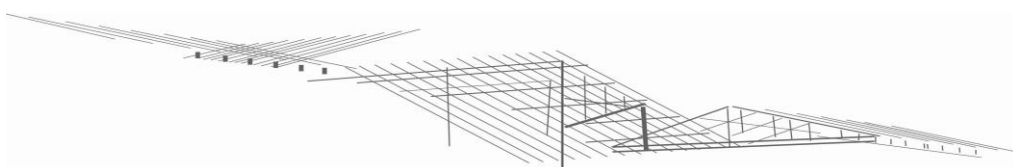
Thank you for the opportunity to make this submission and we welcome the opportunity for further engagement to assist the project.

Michael Kelly

Technical Support and Development

0409 676 813

28th February 2022



Submitted on Wed, 23/02/2022 - 16:10

Submitted by: Anonymous

Submitted values are:

Submission Type

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Please provide your view on the project

I object to it

Submission file

[the-dp-sepp-submission-from-voerman-ratsep.pdf](#)

Submission

Submission to Proposed Design and Place SEPP

Voerman & Ratsep is a surveying and planning consultancy to the land development industry in NSW.

We service a wide range of developer clients in Bathurst, Orange, Mudgee, Oberon and Lithgow areas.

The size of the residential developments range from dual occupancy subdivisions to multi-unit strata developments to green field development sites of around 250 lots.

The company includes three Registered Surveyors all active in the planning, design and project management of urban and residential development sites. Many of our clients are long term developers who have trusted Voerman & Ratsep to provide surveying, planning and project management expertise for well over 30 years. Our work starts with the detail and level surveys over the site; liaison with the client, council planners, civil engineers, environmental consultants, solicitors and other public authorities during the urban design phase; lodgement of the development application; input into the subdivision works design and supporting for the construction contractors; surveying and marking of the boundaries leading to preparation of the plan of subdivision; submitting the subdivision certificate application; and lodging the plan with NSW LRS for registration and new Title issue. Other well established surveying firms in regional NSW would have similar profiles and skill base. No other professional has such a wholistic input into the development of land in NSW.

Due to the fact that many developments in regional NSW are on land with an area greater than 1 hectare, the narrow definition of an Urban Designer will have a devastating effect on role of Registered Surveyors in NSW. Registered Surveyors play an integral part in the urban development of NSW. This is backed up by the following points:

1. Registered Surveyors are university trained and course subjects include town planning, urban land design and development, civil engineering design and project management.
2. Registered Surveyors are certified by the Board of Surveying and Spatial Information under the Surveyor General and are examined as competent in areas Town Planning, Civil Engineering, Spatial Information as well as Cadastral Surveying.
3. To maintain registration with BOSSI, Registered Surveyors are required to undertake a strict Continuing Professional Development programme each year. Topics include cadastral surveying, surveying practice, town planning, civil engineering and project management.

Research into the urban development of NSW over the last 100 years, and in particular regional development would reveal that most of the sites have in fact been designed by Registered Surveyors. Their legacy is the creation of vibrant and well designed and serviced urban areas that realise the vision of the communities Local Environmental Plans and Development Control Plans.

Therefore, it would be short sighted to exclude Registered Surveyors from the meaning of Urban Designer in the proposed Design and Place SEPP.

Yours faithfully,
VOERMAN & RATSEP

I agree to the above statement

Yes

23rd February 2022

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Yours faithfully,
VOERMAN & RATSEP



Andrew Burge
Registered Land Surveyor/Director

Directors:

- **Andrew Burge**
Registered Surveyor
- **David Ortiger**
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Associates:

- Adam Ortiger
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Submitted on Wed, 23/02/2022 - 14:50

Submitted by: Anonymous

Submitted values are:

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Suburb/Town & Postcode

Mudgee 2850

Please provide your view on the project

I support it

Submission file

[one-million-homes_final-report-9.12.21.pdf](#)

Submission

I would like to offer a recommendation to the Design and Place SEPP consultation draft overview.

A.5 Limiting solar absorption. While the reference is to consider amendments to existing policy that will consider roof colours and alternative technologies to mitigate urban heat. This is acknowledged as a serious environmental threat. Speaking to the Committee for Sydney, planning minister Rob Stokes foreshadowed the policy switch to ensure all new housing has light-coloured roofing and there's copious articles world wide along with studies globally for cool roof benefits.

Third paragraph of the draft (Page 12): When referring to building materials, such as roof tiles and roof sheeting, colours are classified based on their solar absorptance (SA). Solar absorptance is the proportion of the total incident solar radiation that is absorbed by the roofing material (the remainder is reflected) and is expressed as a ratio between 0 and 1.

While solar absorptance is important, the measure of this SA is crucial for thermal efficiency. Similar to Solar Reflectance Index (SRI) this takes a measure above the envelope and not the heat load and heat transfer. Alternative technologies can substantially reduce the heat load far more than standard building materials, such as roof tiles and roof sheeting.

Recently the Federal Department of Industry, Science, Energy and Resources with the Climate-KIC Australia and others produced the Race for 2030 document and outlined a U-value proposition. Page 23 Improvement U-values of roof, wall,

and floor insulation. (Roof U-values collected for light coloured roofs).

This U-value is a much better way to assess the merit of solar absorptance for roofs and materials as it takes the heat load and transfer into the structure including any specific materials or substrates such as roof tiles and roof sheeting. Ultimately, the goal is to best reduce the heat load for thermal protection. Even galvanised sheets have a very poor emittance rating (hold heat) compared to a white roof and a white roof can only keep out 50% of the visible heat but not the infrared heat therefore still not mitigating as much heat as possible. There are proven and long lasting innovative technologies in Australia that can keep out over 90% of the heat effectively targeting Net Zero results better.

It would be of strong merit for the NSW The Department of Planning, Industry and Environment to align its standards, measurements and values with a national strategy which gains a much better outcome for consumers, industry and government with a more rigid measure of heat load.

If the objective is to consider roof colours and alternative technologies to mitigate urban heat, then U-values and reducing heat load allows consumers to better be educated on actual heat transfer benefits of all materials with the best solutions and technology should be a paramount result for a sustainable future in NSW whether that's new buildings or retrofitting for everyone.

https://climate-kic.org.au/wp-content/uploads/2021/12/One-Million-Homes_Final-Report-9.12.21.pdf

Thank you for your time.

Kind regards, Shane Strudwick

NEOtech Coatings Australia

I agree to the above statement

Yes

H2 Fast Track

Pathways to scale: Retrofitting One Million+ homes

Final report



Final Report
RACE for Homes Program
Research Theme H2: Enhancing home thermal inertia

Project Code: 20.H2.F.0136

ISBN: 978-1-922746-12-2

December 2021

Project team

Climate-KIC Australia

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Industry and the Environment**

University of Technology Sydney

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**VIC Department of Environment,
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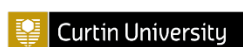
Elexsys

What is RACE for 2030?

The Reliable Affordable Clean Energy for 2030 Cooperative Research Centre (RACE for 2030 CRC) is a 10-year, \$350 million Australian research collaboration involving industry, research, government and other stakeholders. Its mission is to drive innovation for a secure, affordable, clean energy future.

<https://www.racefor2030.com.au>

Project partners



Executive Summary

Australia needs a targeted and coordinated effort to retrofit the millions of existing homes. This report presents the foundational research that will underpin an effort to engage private finance to begin by retrofitting over one million Australian homes for thermal and energy efficiency. The scheme aims to retrofit homes so that they can support Australia's current and future comfort and energy needs and facilitate the transition to renewable energy.

The way we generate and use energy is transforming. Our homes need to evolve alongside this to support our needs for comfort, efficiency, and resilience.

Maximising thermal and energy efficiency in homes, moving energy demand into periods of maximum renewable generation, and enabling electrification can also support the transition toward net zero.

Based on modelling in this report, retrofitting one million existing Australian homes across five years could:

- Reduce average home energy use by up to 9,000kWh per year
- Reduce average home emissions by up to 5.8 tonnes CO₂ eq per year
- Create an up to \$55 billion private finance investment opportunity

A bespoke home retrofit, addressing needs identified through a whole-of-home assessment could reduce an average home energy bill by up to \$1,600 per year.

A large-scale home retrofit scheme can create jobs for Australian communities, reduce energy use for heating and cooling and cut carbon emissions whilst stimulating private investment. This is evidenced by international retrofit programs. This project reviewed eight international programs from the United Kingdom, Europe, United States of America, and New Zealand. These programs demonstrated that large-scale retrofits can be effectively implemented and yield positive impacts including stimulate investment, save energy, reduce greenhouse gas emission, increase employment and local business activity, provide good return on investment of public money (1:4+), create health benefits for home occupants and increase property value.

The research outlined in this report supports development of a public-private partnership to retrofit one million plus homes, across five years. It recommends that a large-scale home retrofit scheme aims to create future ready homes. That is; improved thermal comfort with a path toward electrification.

The report outlines key insights to inform the design and implementation of an effective retrofit scheme. It then recommends a suite of coordinated actions required from stakeholders across the Australian home retrofit ecosystem to support a large-scale scheme. It also paves the way for a longer-term research program that can fill gaps in our current understanding to maximise the effectiveness of home retrofits at scale.

There is a substantial market opportunity in Australia. The task ahead is large and complex, yet feasible through collaborative efforts. And now more than ever before. The

insights for effective retrofit scheme design and recommendations for a portfolio of coordinated action outlined in this report can guide this effort and transform Australia's existing homes for a prosperous, net-zero emissions future.

Methodology

The project was delivered through a mix of desk-top research, literature review, modelling, and stakeholder consultation.

A literature review was undertaken of the impacts of large-scale energy efficiency retrofit programs and the determinants for success of such programs.

Modelling was used to explore the benefits that could be shown from various retrofit upgrades in three priority locations across Australia.

This work was complemented by desktop research, one legal and governance workshop, two Industry Reference Group (IRG) workshops, eight semi-structured IRG participant interviews and three Project Partner committee (PPC) meetings to collect further insight and support scheme design.

Findings

Retrofits have been shown internationally and locally to yield benefits including:

- Reducing mortality, hospitalisations, and health costs
- Reduce demands on the grid
- Supporting economic activity, job growth and energy prices

Numerous studies report significant health and well-being improvements due to improving the energy efficiency of housing, and these benefits are frequently reported to be much greater than the energy use and cost benefits (IERC, 2021; MEEA, 2021; Telfar Banard et al, 2011, Thomson et al, 2013, Chapman et al, 2009, Prevar et al, 2010, Gilbertson and Green, 2008). Vulnerable groups that benefitted particularly are the elderly and infants, and people with chronic illness. Quantifying the exact health and wellbeing benefits is complex, however, a report by the International Energy Agency states that they could equate to 75% of the overall benefits and return on investment (IEA, 2014).

Modelling of a selection of Australian homes has shown that home energy and thermal efficiency retrofits offer energy and thermal benefits at a household scale. A basic building envelope retrofit saves between 18% (in New South Wales, terrace home) and 31% (in Victoria, detached home) of energy use. Poorer quality homes would benefit from an increased impact. In New South Wales and Western Australia, a comprehensive home retrofit including improvements to the building envelope as well as solar PV and other building technology and appliance upgrades or additions enabling home electrification can obtain a near 100% saving in overall energy use.

Care is required to balance the thermal and energy benefits with financial benefits to create financially viable yet bespoke home retrofit packages. Novel value flow, including

capturing the value of health benefits could further boost the case for public and private investment in home retrofits.

Enabling a large-scale delivery of the scheme is a critical element of the schemes direction that can only allow the scheme to tap into private finance. The scheme could operate at a community scale (geographical or other community basis), to allow aggregation of demand and efficiency in supply and installation. A place-based roll out will enable addressing issues of capacity and the ability to work with community groups to enable shared success.

Research identified an initial target market to establish the drive for thermal and energy efficiency home retrofits. The scheme will target National Construction Code (NCC) Class 1a single dwellings that are owner occupied or tenanted. This accounts for up to 8.6 million dwellings and represents 86% of Australian households. This target market reaches most of the private Australian housing stock which would allow for the scale and impact required. The scheme will also prioritise targeting poorer quality homes due to the increased household and economy scale impact from home retrofit improvements to poor quality housing stock.

Social and public housing inclusion could be implemented dependant on Government appetite to provide funding for delivery, assessment, and installation of home retrofits. Low-income households will be wholly reliant on governments to fund home retrofits. Minimum rental standards that would benefit mainly low-income households and would also initiate the market demand for improvement to tenanted homes are recommended. The proposed scheme delivery model could be utilised to enable a large-scale rollout for public, social and community housing, as well as low-income households, if supported by governments.

Due to complexities in providing private sector finance, and complex governance, NCC Class 2 apartment buildings could be considered for inclusion as the scheme delivery progresses.

An effective scheme will need to be supported by a range of activities from multiple stakeholders. Work will be required to shift norms and mobilise industry including:

- 1 Training providers and industry accreditors building the skills capability within the home retrofit building industry
- 2 State and federal governments setting disclosure and reporting requirements, creating supportive legislative environments, and supporting funding and financing models
- 3 Outreach and engagement activities that target trusted sources of information for homeowners and that seek to influence the broader social perceptions about home comfort and energy efficiency

Scheme Design Principles, Targets and Recommendations

The home retrofit scheme must have clear and demonstrable goals as is shown below in Table E1.

Table E1 Scheme design principles

The home retrofit scheme aims to create:
<ul style="list-style-type: none"> Future ready homes, meaning homes that are comfortable as well as highly thermal and energy efficient, with a path toward electrification Improved NatHERS rating for each home Market transformation Culture shift toward demanding comfortable and energy efficient homes Large-scale delivery of home retrofits across all states and regions in Australia
The home retrofit scheme will target:
<ul style="list-style-type: none"> National Construction Code (NCC) Class 1a single dwellings that are owner occupied or tenanted, mortgaged or owned outright Poor quality homes
The home retrofit scheme must build and maintain trust with homeowners:
<ul style="list-style-type: none"> Scheme must benefit the homeowner through a streamlined process, including finance and retrofit options Scheme must provide an offering that the homeowner wants and/or needs Retrofit options provide best case outcomes with comfort and ROI benefits understood for each homeowner
The home retrofit scheme must engage at trigger points:
<ul style="list-style-type: none"> Point of sale/purchase of home Point of advertisement for lease Point of renovation
The home retrofit scheme and its partners and advocates must provide clear messaging and influence for government, industry and homeowners:
<ul style="list-style-type: none"> Use a values-based approach to understand customer motivations and an effective way to overcome intervention barriers Optimised Australian home comfort benefits must be further researched and communicated to the target market and government
Whole of home assessments and a quality control process is critical:
<ul style="list-style-type: none"> An accredited assessment process that enables the homeowner to understand and receive independent technical guidance A scalable yet stringent quality control process is required to ensure consistent and continued quality of workmanship and the scheme delivery model

The scheme design principles will guide further scheme development, testing and piloting. To be successful, a large-scale home retrofit scheme will need to bring together a

network of organisations and people working in collaboration and partnership with each other, as shown in Figure E1 below.

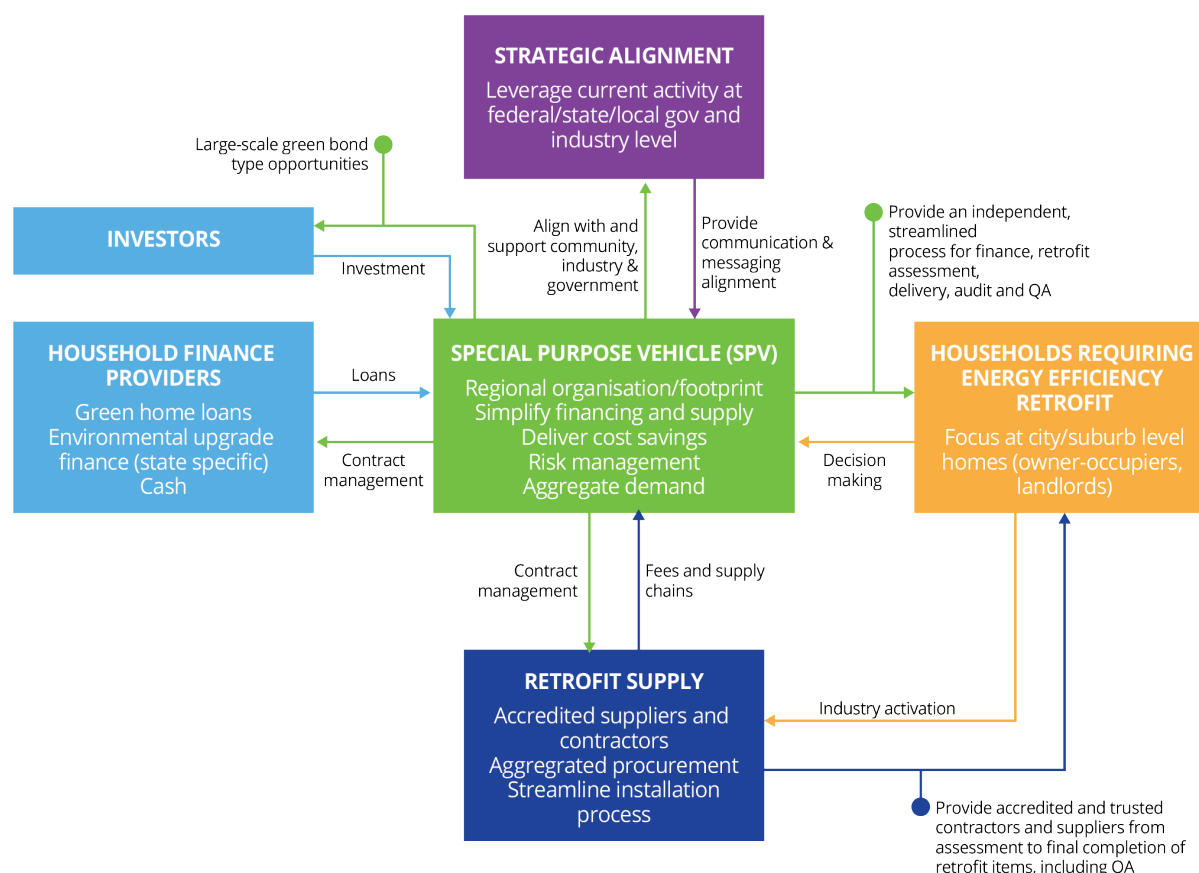


Figure E1 The proposed system model

Next Steps

A suite of work packages has been identified through the project that would support and progress a large-scale home retrofit scheme. Implementation will require coordination across the suite of work but does not need one entity to implement all the activities. Development, enablement, and implementation will require portfolio governance, with collaboration and partnership key to its success.

A Portfolio of Action

Our portfolio approach has identified six leverage points with twenty work packages between them, these packages are shown below in Figure E2. These packages cover **portfolio oversight**, which includes understanding and ensuring alignment and learning across the range of activities outlined in the other work packages.

The **operational model** group of work packages aims to understand the detail of the operational model of a retrofit scheme, while the **delivery** group of work is focussed on prototyping, piloting, improving and then expanding the delivery of large-scale home retrofits. Alongside the operational and delivery work are packages of work aimed at

creating the enabling environment for large-scale retrofits and building new narratives and norms that support the scheme. These include the **communications and engagement** activities aimed at building a national narrative while also understanding local and community scale nuances that will allow impactful messaging about retrofits. There is also work to understand and engage with the **policy and regulatory** environment. This includes appreciating the current conditions what will need to be accounted for in the scheme design, as well as understanding what the optimal environment is, and how to transition towards it. Finally, there is a package of work aimed at improving **technical** understanding of supply chains, managing waste and retiring and recycling items and monitoring and measuring impact.



Figure E2 The proposed large-scale home retrofit scheme portfolio of 20 work packages

Within this large range of work, several priority work package items that will be critical to maintaining momentum across the next 12 months and in preparation for a pilot scheme have been identified as shown below in Table E2.

Table E2 Work package priorities to maintain momentum

Market analysis and discovery

Engage with customer focus groups and public surveys, what are the consumer preferences and where is the target market demand in the current landscape (COVID)?

Test the delivery model at household and community level

Driving the narrative and building profile

Work with partners to engage the target market(s), create a movement around energy and thermal efficiency broadly, and build the profile of the large-scale home retrofit scheme

Identify, align with and support policy and regulatory changes

work with enablers to progress disclosure and other policy changes

Recommend and enable industry standards and accreditation

Engage and align with industry to support and advise on progress towards achieving the required standards and accreditations

Finance system, customer segmentation model

Explore the proposed finance models with potential investors and/or financiers

Business development – Partnerships and funding

Climate-KIC Australia and its partners are exploring the opportunity to progress the work as a standard track project for implementation in the RACE for 2030

A Portfolio of Research

Alongside the work packages, specific research that has been identified as lacking or required to progress the scheme design and development includes:

- Quantify the potential economy scale health benefits of a large-scale home retrofit scheme being delivered in Australia.
- Deeper analysis of the retrofit upgrades that provide optimal Return on Investment (ROI) at the household scale in different climate environments and for different housing types.
- Model how home energy efficiency measures alongside home electrification (including electric vehicle (EV) charging and solar photo voltaic (PV) with storage) can or will support and impact the grid.
- How to design the scheme to also ensure benefits to the indoor air quality (IAQ) and moisture management of a home when retrofitting for the purpose of thermal and energy efficiency, as well as optimising occupant health and comfort benefits.
- How does the scheme determine a poor-quality home? Do we consider dates based around NCC guideline changes, for example pre/post 2010? Do we consider dwelling construction type based on available data?

Glossary

IRG	Industry Reference Group
PPC	Project Partner Committee
ROI	Return on Investment
EV	Electric Vehicle
PV	Photo Voltaic
LCA	Life Cycle Assessment
VPP	Virtual Power Plant
CBA	Cost Benefit Analysis
NatHERS	Nationwide House Energy Rating Scheme
NCC	National Construction Code
NSW	New South Wales
Vic	Victoria
WA	Western Australia
KfW	Kreditanstalt Für Wiederaufbau
UK	United Kingdom
EU	Europe
USA	United States of America
NZ	New Zealand
EEC	Energy Efficiency Certificates
REC	Renewable Energy Certificates
NPV	Net Present Value
DE	Decentralised Energy
IAQ	Indoor Air Quality
EUF	Energy Upgrade Finance
ACCC	Australian Competition and Consumer Commission
AFS	Australian Financial Services
SPV	Special Purpose Vehicle
JV	Joint Venture
DER	Distributed Energy Resources
HEER	Home Energy Efficiency Retrofit

ACP	Australian Certificate Providers
ESC	Energy Savings Certificates
ESS	Energy Savings Scheme
NEM	National Energy market

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1 Introduction

Many of Australia's ten million homes are characterised by poor thermal and energy efficiency performance. Consequently, substantial energy consumption is required to maintain thermal comfort and deliver household services. Energy efficient retrofitted homes save money, decrease energy consumption, promote healthier home environments, contribute to stabilising the electricity grid, and represent a significant market opportunity.

Private finance is willing to provide loans for retrofits. However, they need scale and clear market signals to make it an attractive opportunity.

Builders, installers, and materials providers are interested in this business opportunity but need a strong market signal to justify investment in the infrastructure, training, accreditation, and staff for scale up.

State governments have energy efficiency and greenhouse gas emission reduction targets, which would be aided by residential retrofits. In addition, governments want better health outcomes, new jobs and economic growth, and affordable energy.

Significant work has been done across Australia to progress home energy efficiency and thermal performance retrofits. As shown in Appendix C, several state-based Australian pilot programs have demonstrated that retrofits can be effectively implemented and yield positive community and household scale impacts. Internationally, large-scale retrofit programs have been rolled out with varying levels of success, as will be demonstrated in Section 4. Despite this, large-scale schemes supporting home energy efficiency retrofits remain elusive in Australia, however the market is changing and demand for a collaborative effort and partnership between homeowners, tenants, industry, investors and government is growing.

This report supports and proposes the design and development of an evidence-based large-scale home retrofit scheme. It draws on international and local expertise to:

- Model the impact of retrofits at a household scale including energy savings, environmental benefits, financial benefits and improvements in thermal comfort
- Gather evidence of environmental, social and economic benefits of large-scale retrofits
- Illuminate the barriers, opportunities and market setting requirements for large-scale home retrofits
- Identify a proposed retrofit standard to offer to homeowners, depending on their home requirements and priorities
- Advance the proposed delivery model including, understanding current activity, mapping stakeholders, understanding markets, consumer preferences, recruitment options and funding and financing requirements

2 Project Scope

2.1 Project Aims

The overarching aim of this research project was to fill knowledge gaps and build capability to implement home retrofits, for the purpose of thermal and energy efficiency, in over one million homes, through public-private partnership. It answers critical scheme design and scheme development questions, analyses the barriers, opportunities and impacts of large-scale home retrofits with public-private finance whilst considering the current activity and market for home retrofits.

2.2 Project Outputs

This report describes the research approach, the research findings, and recommendations. The findings underpin a proposed scheme design, which is put forward at the conclusion of this report. The report outlines:

- Indicative economy-scale benefits of international large-scale retrofits including:
 - Financial costs and benefits
 - Health benefits
 - Impacts on the energy grid
 - Job creation and gross domestic product (GDP) effects
- A package of recommended retrofits for typical housing types across New South Wales (NSW), Victoria (Vic) and Western Australia (WA)
- Modelling of the household scale environmental, energy saving, and financial benefits of retrofits
- A stakeholder map to identify relevant organisations for the delivery of the large-scale home retrofit scheme
- A summary of complementary activities already underway in Australia
- Preliminary insights on consumer preferences, market segments and customer recruitment
- Governance and legal considerations for the scheme
- Mapping of the barriers to achieving home retrofits at scale and practical options to address priority barriers
- A scheme model that can support rapid scale up, by identifying market scale and segmentation; illuminating the business models required to become self-sustaining; and determining the level of funding and finance that is required for implementation.

2.3 Project Outcomes

The research informs the design and development of a home retrofit scheme and research that can support the rapid scale up of thermal and energy efficiency retrofits moving towards large-scale impact. The research enhances understanding of the opportunities of large-scale home retrofits in order to make the case for policy and

investment. It will explore the current state of understanding of the grid impacts of large-scale home retrofitting.

Understanding barriers and practical actions to address them may further allow for an informed design of broader responses that build the marketplace for home thermal and energy efficiency retrofits in Australia.

This work also informs the design of a larger, long-term scheme of research to support the design and implementation of a home retrofit scheme. The proposed research could monitor and evaluate approaches to retrofitting, and the opportunities for innovation to further accelerate action. The research will also include exploration of novel technology that can aid higher penetration of roof-top solar PV, and net-zero homes.

This long-term research should include:

- More robust scheme design with further insight into key design questions and a pathway to pilot project implementation
- Ability to make the case for investment in a large-scale home retrofit scheme
- Ability to articulate the complementary activity required to facilitate retrofits at significant scale.

3 Methodology

The project was delivered through a mix of desk-top research, modelling and stakeholder consultation, which is outlined below. Due to the short time frame of the project these activities progressed in parallel. Insight from the different activities fed into one another where possible along the timeline.

3.1 Literature Review

Drawing on existing literature and available data sets an exploration was undertaken of the impacts of large-scale energy efficiency retrofits and the determinants for success of such programs. This included consideration of the impacts on:

- the electricity network including possible impacts on long-term energy affordability, and greater renewable energy uptake through roof-top solar
- the economy (jobs, investment etc.) and
- society, especially considering health.

The literature review was completed using the steps outlined in the following sections.

3.1.1 High Level Literature Scan

Experts in the field of residential energy efficiency retrofits (within ISF, UTS, Project Partners Committee and Industry Reference Group) were contacted to identify key literature that would provide general and technical information across the research topics. In addition, recommendations of any specific examples of residential energy efficiency programs in Australia and overseas were obtained, as well as key journals and databases to search. A broad online search aimed to identify literature at a high level. This included grey literature and evaluation reports of energy efficiency programs in Australia and overseas.

3.1.2 Detailed Literature Scan

A more detailed and focused search was then undertaken to uncover further information on the research topics, and in particular lessons from similar schemes internationally. This began with academic search engines Google Scholar and ResearchGate, however the searches were very specific to the research topics (health, thermal comfort, electricity grid, network, economy, employment) and the results were of limited applicability or usefulness.

Three key journal databases: Web of Science, Scopus and Science Direct, were then searched utilising the same detailed search strings. However, the results were not applicable or useful in many instances. In the case of Science Direct, the search strings couldn't be applied as the database does not accept strings of a certain length.

It was then decided to conduct a more general search which uncovered a very large number of results.

The final search string included a combination of the general and specific search terms which was then adjusted for Science Direct. The relevant results which were downloaded into EndNote.

The titles were reviewed to identify relevant papers and articles that could address the research topics. This resulted in a shortlist of 80 papers.

Grey literature that was recommended in the first step was added to this list resulting in a shortlist of 88 papers and articles in total.

The abstracts were then analysed, and additional papers sourced, to bring the final literature reviewed to 29. While many papers addressed residential energy efficiency retrofits specifically, they were more applicable to the following, than high level economy-wide benefits:

- technical studies (e.g., results of a specific intervention on individual households)
- non-residential or commercial buildings
- analysis of benefits or impacts on a very small sample size of homes
- modelled and predicted outcomes of potential EE interventions and a focus on existing and proposing new modelling methods (analysis and critique)
- analysis of homeowner decision-making via qualitative surveys and studies (e.g., motivations, attitudes, participation rates etc)
- quantification of energy and greenhouse gas savings
- specific demographics such as low-income households, social housing, rental housing, programs addressing fuel poverty etc.

3.1.3 Literature Review

The shortlisted literature was then reviewed to address the research questions and gather evidence, as reported herein.

Full details of the literature review are provided in the accompanying report *Pathways to Scale: Evidence of environmental, social, and economic benefits of large-scale residential retrofits*.

3.2 Home Upgrade Modelling

Modelling was used to explore the benefits to be obtained from various retrofit packages in three priority location. The modelling aimed to address the following research questions:

1. What is the thermal performance of common housing types in New South Wales, Victoria, and Western Australia, as they were built in the early 2000's (prior to the NCC 2010 6-star NatHERS rating requirement)?
2. How can this thermal performance be enhanced through retrofitting strategies, including floor, roof, and external wall insulation, diminishing leachability, energy-saving appliances, solar PV and storage systems, lighting system?

3. How do these enhancing strategies translate into environmental impact, considering their related embodied energy and embodied carbon?
4. Which retrofit standards can be recommended to enhance common housing types in the Victoria, New South Wales, and Western Australia climates?

The modelling investigated the environmental impact of four retrofit packages. These packages were developed through research and consultation with the Project Partner Committee (PPC). The upgrades identified for modelling are summarised in tables 3-6 below:

Table 3 Upgrade 1 retrofitting interventions for detached and terraced homes

Intervention	Description	Baseline parameter	Improved parameter	Reference
Roof insulation	Improvement U-values of roof, wall, and floor insulation. (Roof U-values collected for light coloured roofs).	<1 W/m2/K	0.217 W/m2/K	https://build.com.au/bca-requirements-insulation (ABCB, 2020) – Part 3.12 of the Building Code of Australia Housing Provisions (BCA)
Wall insulation		0.5-1 W/m2/K	0.357 W/m2/K	
Floor insulation		1 W/m2/K	0.444 W/m2/K (0.364 W/m2/K in Victoria)	
Pipe lagging	Thermal insulation of the hot water pipes.	-	4% increased efficiency	(Marini, Buswell, & Hopfe, 2021)
Draught sealing/proofing	Overall improved air tightness.		15% improved airtightness after retrofitting	(Wills, Beausoleil-Morrison, & Ugursal, 2021)

Table 4 Upgrade 2 retrofitting interventions for detached and terraced homes.

Intervention	Description	Baseline parameter	Improved parameter	Reference
Ceiling fans	Addition of ceiling fans to minimise the air conditioning when cooling.	-	Cooling from the air conditioning reduced to zero (the energy use of the fan is considered negligible, when compared to that one of the aircon).	-
Reverse cycle aircon	Substitution of the traditional aircon system for a reverse cycle split system.	-	Improved coefficient of performance (COP) by 11%	https://www.energy.gov.au/households/heating-and-cooling#toc-anchor-heating-choices

Double glazing	Double glazing in place of the single glazing to improve the thermal insulation of the windows (decreased windows' U-value)	U-Value 5-6 SHGC 0.5-0.6	U-value 3.1 SHGC 0.63	(ABCB, 2020) – Part 3.12.2 External glazing of the Building Code of Australia Housing Provisions (BCA)
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Table 5 Upgrade 3 retrofitting interventions for detached and terraced homes.

Intervention	Description	Baseline parameter	Improved parameter	Reference
Efficient appliances	Substitution of high-efficiency home appliances such as fridge, dishwasher, washing machine.	-	Reduced equipment power density by 55% (W/m ²)	https://www.energyrating.gov.au/
LED lighting	Substitution of the incandescence lightbulbs with LED or similarly high-efficiency lights.	-	Reduced light power density by 85% (W/m ²)	(European Commission Joint Research Centre, 2011; Mills & Schleich, 2014)
Clothesline	Elimination of dryer	-	Reduced equipment power density by 15% (W/m ²)	https://www.energyrating.gov.au/

Table 6 Upgrade 4 retrofitting interventions for detached and terraces homes.

Intervention	Description	Baseline parameter	Improved parameter	Reference
Solar panels	Inclusion of solar panels.	-	Efficiency = 15% Tilt angle = 30° Panel area (5 kW) = 25 m ²	https://solarcalculator.com.au/solar-panel-efficiency/
Hot water heat pump	High-efficiency heat water pump (pipe lagging included)	-	30% less energy compared to traditional hot water systems	https://www.energy.gov.au/households/hot-water-systems

The baseline parameters in the above tables indicate the characteristics of the building envelope of the modelled typical detached and terraced homes before improvements.

Building envelope characteristics were extracted from the Australian Housing Data from CSIRO (<https://ahd.csiro.au/>) and includes class 1A existing buildings only.

The building energy simulations were in New South Wales, Victoria, and Western Australia, more specifically in Sydney, Melbourne, and Perth.

Two of the most common Australian housing types were analysed in this report: a detached home and a terraced home (or townhouse) – these two building types are building Class 1a in the Australian Building Codes Board National Construction Code (ABCB, 2020).

3.2.1 Building Energy Simulation Method

The building energy simulation unfolds in four main steps:

1. House plans were selected by the team of experts and authors as suitable typical plans in the three Australian states considered in this study.
2. The geometry of the house plans was modelled in a three-dimensional environment using SketchUp Pro 2021.
3. The 3D models were extracted into Sefaira v3.0.0, where the weather information, space use, and operations were entered.
4. The results were extracted into Excel 2105, analysed, and reported.

3.2.2 Life Cycle Assessment and Material Flow Accounting

The Life Cycle Assessment (LCA) methodology enables an evaluation of the environmental impact of products and services (ISO, 1994). The environmental impact of buildings span through their whole life cycle, usually divided in four stages: production (or construction, stage A), operation (stage B), end of life (stage C), and second life (stage D). For this study, only the operation stage was analysed, evaluating energy use and greenhouse gas emissions due to the use of the buildings and the retrofitting operations. Whilst the energy use of the buildings was analysed through the 3D modelling and energy simulation, the environmental impact of retrofitting operations was assessed through a desktop search. Results of the desktop search are shown in Section 7 of the accompanying report *Pathways to Scale: Thermal Modelling, energy efficiency and life cycle assessment of Australian homes*.

Full details of the modelling method, home plans, models and results are available in the accompanying report *Pathways to Scale: Thermal Modelling, energy efficiency and life cycle assessment of Australian homes*.

3.3 Stakeholder Engagement and Industry Insights

The scheme design was progressed through meetings of the Project Partner Committee (PPC), insight generated by the Industry Reference Group (IRG), desk-top research, insights from the literature and based on emerging information from the modelling and literature review.

The stakeholder engagement activities conducted were:

- 1 Meetings of the PPC:
 - Meeting 1: kick-off: Overview of project plan and goals, resource identification, modelling options
 - Meeting 2: literature review and barriers insights, modelling update, governance insights, scheme model discussion
 - Meeting 3: wrap up: final products and insights, reflection, and next steps
- 2 Desktop research: drawing on the literature review and other resources to
 - Summarise preliminary insights into barriers and considerations
 - Identify current government and NFP policies, programs and initiatives supporting household energy efficiency retrofits in Vic, NSW, and WA
 - Advance development of the scheme model
 - Build understanding of consumer perspectives and
 - Assess finance options in relation to the scheme
- 3 IRG Workshop: two IRG workshops to understand the barriers for the scheme in the Australian context and identify and test possible solutions, and to identify relevant stakeholders for implementation.
- 4 Semi-structured interviews: eight interviews with the IRG to provide insight on current activities, relevant stakeholders, and barriers
- 5 Governance and legal workshop with legal experts to explore the relevant considerations for a scheme of this nature and design.

From the two IRG workshops, the eight interviews and the three PPC meetings we collected insight which allowed us to identify:

- Stakeholder map – who are the stakeholders in the Australian ecosystem and what roles might they play
- Current activity in the Australian residential energy efficiency sector
- Barriers and opportunities from past experiences in Australia and internationally
- Key actions required to develop the scheme itself and build a supporting environment in Australia

The messages delivered have also informed the design for the proposed large-scale home retrofit delivery model.

3.3.1 Project Partner Committee

The Project Partner Committee (PPC) was formed from those organisations that made contributions to the project and were partners of the RACE for 2030 CRC. The PPC was closely consulted in the development of the project plan, and provided input throughout the project, including guidance towards the project outputs. The PPC met three times across the project timeline, meeting agendas and meeting minutes were agreed on by the PPC. The PPC members also participated in the Industry Reference Group workshops.

A table showing all PPC participant names is included in Appendix A.

3.3.2 Industry Reference Group

The Industry Reference Group (IRG) was made up of a coalition of organisations which had already mobilised to develop a proposal for large-scale energy efficiency home retrofits, the group also included additional industry representation that were able to provide insight to the process. This group includes representation from sectors that need to be engaged in a large-scale home retrofit scheme, and who are seeking critical insights from the research. Members of the IRG were encouraged to share the outputs of the research through their networks. An invitation to participate in the IRG was based on an individual's known expertise being relevant to the project research as well as their active engagement within the industry.

The group was engaged with the project through two workshops as well as eight one on one interviews that provided insights to guide the research, to hear the preliminary outcomes and provide feedback. This group was provided with targeted outputs to support the scheme development and communication about the issue.

The group was advised that companies participating in the IRG take seriously their obligations under the Competition and Consumer Act 2010 and intended to ensure that the discussions and any related communications fully comply with competition law requirements at all times.

A table showing all IRG participant names is included in Appendix A.

4 Findings

For the purposes of this project, a retrofit is considered as the act of adding a component to a building that it did not have when it was built. A renovation is the restoration of a building, the process of repairing and/or improving something about a building. It is possible for a retrofit to become a worthy addition to a building renovation.

The following chapters describe the research findings. Full details of the literature review are provided in the accompanying report *Pathways to Scale: Evidence of environmental, social, and economic benefits of large-scale residential retrofits*. Full details of the modelling method and results are available in the accompanying report *Pathways to Scale: Thermal Modelling, energy efficiency and life cycle assessment of Australian homes*.

4.1 Large-Scale International Programs, Arrangements, and Impacts

Eight International programs from the UK, Europe, USA, and New Zealand were reviewed. The range of retrofit upgrades covered by the programs were generally similar, with insulation, heating, and hot water core to most. The criteria for inclusion were that the programs had to be:

- energy efficiency upgrades to building envelopes, not solar PV installations or technology additions only,
- for residential buildings,
- large scale, nominally over one thousand homes.

Reporting and evaluation of each program confirms and quantifies the success of the program, gives reassurance that public money is well spent, and informs future program designs. Benefits from these large-scale international programs were found to be wide ranging and generally positive. Claims of benefits include:

- Investment stimulated
- Energy saved
- CO2 emissions reduced
- Employment and local business activity increased (or safeguarded)
- Good return on investment of public money (1:4+)
- Health benefits for occupants
- Property values increased

Table 7 below summarises the key aspects of the programs reviewed in the literature review, for ease of comparison.

Table 7 Summary of key aspects of international energy efficiency home retrofit programs

	Green Deal	EnEV Energy Conservation Act	Warm Front	EnergieSprong	Kirklees Warm Zone (KWZ) scheme	Warm up NZ	Property Assessed Clean Energy (PACE)	EcoBonus
PROGRAM DESCRIPTION								
Offered by	UK Government	KfW-Bankengruppe (a state-owned banking group)	Government funded	EnergieSprong	Kirklees Council	New Zealand Government	Local city councils – active in California, Florida, and Missouri	Italian Government
Jurisdiction	UK	Germany	England	Netherlands extending to France, UK, Germany, Italy and NY State	UK	New Zealand	USA	Italy
Delivery partners involved	approved Green Deal Advisor, approved Green Deal Provider, approved Green Deal Installer	Federal Ministry of Transport, Building and Urban Development (BMVBS) provides budget resources to KfW, retail banks	managed by Carillion Energy Services		managed by Yorkshire Energy Services (NFP local energy company), private installers	local government, iwi (Maori community), existing and new service providers, energy retailers	Works contractors	
Main target market	Homeowners	Owner occupiers, landlords and public bodies	owner occupied & private rented households	social housing providers and tenants, later private owners added	all households			Homeowners (luxury properties excluded) Tenants
Customer eligibility	Additional special conditions for low income or vulnerable	New houses meeting EnEV standard or	Vulnerable on income support		No restriction	No restriction	Subject to local community	Leading works to improve house energy

	Green Deal	EnEV Energy Conservation Act	Warm Front	EnergieSprong	Kirklees Warm Zone (KWZ) scheme	Warm up NZ	Property Assessed Clean Energy (PACE)	EcoBonus
	households and list of eligible measures	refurbishments exceeding standard SME, start-ups, enterprises, private individuals, municipalities, municipal companies, social organisations. For EE improvements of at least 10%						rating by 2 classes
Measures included	over 45 energy efficiency measures spread over the category's insulation (windows, internal & external walls and roof), boilers, draughts, and local energy creation	Insulation, windows, ventilation (with heat recovery), heating system, solar PV, consultancy	Heating, insulation, draught proofing,	prefabricated facades, insulated rooftops with solar panels, smart heating, and ventilation and cooling installations	Insulation, energy assessments	Insulation, moisture barrier, draught proofing, hot water cylinder wraps, and pipe lagging, heating	energy efficiency, renewable energy, water conservation, and building resiliency upgrades	Leading works: insulation heater replacement, anti-seismic interventions. Secondary works: energy efficiency work, EV charging or PVs
Date commenced or operating period	Launched 2013 Pulled July 2015	KfW program: 1970s. EnEV Energy: 2002 KfW-Efficiency House 2006	2000	2010-2016 (government funded) and ongoing since 2017 (privately funded)	2007 to 2010	2009 to 2013	2008	for expenses incurred from 1st July 2020 until 30 June 2022 (expected to be extended to Dec 2023)

	Green Deal	EnEv Energy Conservation Act	Warm Front	EnergieSprong	Kirklees Warm Zone (KWZ) scheme	Warm up NZ	Property Assessed Clean Energy (PACE)	EcoBonus
REPORTED IMPACTS								
Scale of program	1,815 homes in total (against a 1m homes target) At July 2014 300,000 audits. 4,000 loans. £120m spent on Home Improvement Fund	200,000 homes per year 1.0m homes retrofitted 2004-9 KfW-Efficiency House 3.6m units since 2006 (~9% of existing stock)	2m homes in total to 2009	111,000 homes target	51,000 homes 2007-2010	241,000 insulation retrofits	200,000 homes (to 2019)	13m buildings are eligible
Accessibility	Low-high customer dropout rate – 0.6% successful conversion rate	High – extensive marketing campaigns			High level of participation and take-up			
CO2 emissions savings (Mt CO2 /year)	0.3 total	19					0.827 lifetime carbon abated in City of LA	
Cost benefit or ROI		1:4 or 1:5	Energy bill reduced by £300/year	Pilot averaged 70% reduction in total household energy consumption		>1:4 - Net benefits calculated to be worth NZ\$1.3 billion over the expected lifetime of measures		Predicted to generate around €30 billion in GDP over the next decade, with a fiscal multiplier above 3.5
Success factors	Home audits have been hugely popular	Focus on customer orientation			Sustained marketing and repeated household visits		Financing terms to 20 years, so possible to undertake deep,	

Green Deal	EnEv Energy Conservation Act	Warm Front	EnergieSprong	Kirklees Warm Zone (KWZ) scheme	Warm up NZ	Property Assessed Clean Energy (PACE)	EcoBonus
	High degree of standardisation			from a trusted provider, great emphasis on customer care and the quality of installations		comprehensive retrofits that have meaningful energy savings and a significant impact on the bottom line	

4.2 Economy Scale Impacts of Large-Scale Retrofits

The literature review distilled the economy-scale benefits of large-scale retrofits that have been identified in either local or international studies and programs including:

1. Greenhouse gas emission reductions
2. Health benefits
3. Impacts on the energy grid
4. Job creation and GDP effects

4.2.1 Greenhouse Gas Emission Reductions

Energy efficiency is often seen as the easiest and most cost-effective way to reduce greenhouse gas emissions in the short term. It is important to note that the value of energy efficiency is not only determined by the quantity of energy that can be saved, but the timing of those energy savings as energy market costs vary significantly over the course of the day with costs typically highest when demand peaks. (Lilley et al, 2009)

A study by Langham et al in 2010 looked at the reduced infrastructure costs of energy efficiency in buildings in Australia and found that subject to a carbon price of \$32 per tonne of carbon dioxide, emissions savings from cost effective energy efficiency measures could be increased by a further 36%, reducing total 2020 building sector emissions to 7% below 2010 levels.

The Kreditanstalt Für Wiederaufbau (KfW) is a German government-owned financing institution. KfW energy-saving programmes from 2006-2009 have saved heating costs of €1 billion per year, resulting in reduced carbon dioxide (CO₂) emissions of almost 4 MtCO₂/year. CO₂ savings through the support programmes (low-interest loans and investment subsidies through KfW and Market Incentive Programme (MAP)) are estimated at around 1.2 MtCO₂ per year. Over the lifetime of the investments, the various measures are estimated to have led to long-term savings of around 72 MtCO₂.

4.2.2 Health Benefits

Numerous studies report significant health and well-being improvements due to improving the energy efficiency of housing, and these benefits are frequently reported to be much greater than the energy use and cost benefits (IERC, 2021; MEEA, 2021; Telfar Banard et al, 2011, Thomson et al, 2013, Chapman et al, 2009, Prevar et al, 2010, Gilbertson and Green, 2008). Vulnerable groups that benefitted particularly are the elderly and infants, and people with chronic illness. Quantifying the exact health and wellbeing benefits is complex, however, a report by the International Energy Agency states that they could equate to 75% of the overall benefits and return on investment (IEA, 2014).

Improved thermal comfort and reduced mould, damp, and draughts, means better conditions for those suffering from asthma, allergies, cardio and, in particular, respiratory illnesses. Mental health improvements were also reported (Gilbertson and Green, 2008). Reduced energy poverty frees up funds for improved medical care and medicines and reduces stress.

Outcomes:

- Reduced mortality attributed to fuel poverty and cold housing – possibly by 8 to 12%, and improved life expectancy (University of College London et al, 2005)
- Reduced hospital admissions (MEEA, 2021, Telfar Banard et al, 2011)
- Reduced health care costs (pharmaceuticals) for occupants (Telfar Banard et al, 2011)
- Alleviated symptoms of chronic illness (Thomson et al, 2013)

Measures that improve the energy efficiency of homes, such as improved glazing and daylight, have supplementary health benefits, adding to their overall value to the occupants.

Monetisation of the health and wellbeing impacts is a difficult and complex task that depends on local costs and services. The IEA (2014) report found that energy efficiency retrofits in buildings (e.g., insulation retrofits and weatherisation programmes) create conditions that support improved occupant health and well-being, particularly among vulnerable groups such as children, the elderly and those with pre-existing illnesses. Several studies that quantified total outcomes found benefit cost ratios as high as 4:1 when health and well-being impacts were included (IERC, 2021). Health benefits represent up to 75% of overall benefits in several studies, and 99% in a NZ study, and in some cases improved mental health is seen to represent almost half of that total. In NZ, low to middle income households gained nearly twice the benefits of other households. (NZBCSD, 2008).

Cost savings to both public health systems and to individuals were identified by the studies. Economic cost saving co-benefits of retrofits improving indoor air quality are due to reducing deaths, lost workforce productivity and welfare losses (IEA, 2014). Fewer hospital stays have a knock-on macroeconomic benefit in increasing disposable income.

Health costs

A report (IERC, 2021) prepared for the Irish Government on co-benefits of retrofits highlights the benefits of improving indoor air quality from an economic cost saving, deaths, lost workforce productivity and welfare losses. It estimates that addressing indoor air quality could save the European Unions' economy €190bn annually (IEA, 2014). It found the costs of lives lost from outdoor and household air pollution in 2013 in Ireland could cost the global economy about US\$225bn in lost workforce productivity and over US\$5 trillion in welfare losses. Dampness and mould growth, to which Irish buildings are particularly prone, can cause and aggravate a range of illnesses, allergies, and respiratory diseases. It cites a US study which estimated *"the cost of asthma induced by dampness and mould in homes at USD\$3.5bn per year."*

A New Zealand Business Council for Sustainable Development study in 2008 identified key health cost benefits of energy efficiency as 50 fewer hospital stays each day (ward beds or emergency clinic) on average will occur because homes will be warmer and drier.

This gives a total savings of 18,000 annual hospital stays for respiratory conditions, at around \$3,000 per bed night. (NZBCSD, 2008).

(IERC, 2021) report also highlighted the reduced social costs of improving indoor air quality through transfer of spending on energy bills to medical care. It was seen to impact overall on health treatments such as medications to treat asthma, and frequent visits to healthcare facilities because of asthma. The same report highlighted a study of 30,000 tenants over a ten-year period in Carmarthenshire County Council in Wales that showed that admissions to hospital fell by between one quarter and one third across the improved homes, depending on the measures that had been retrofitted. This was calculated as potential annual savings to patients of €2.04m and to the health service (HSE) of €21.39m. It noted that all savings to the patient have a knock-on macroeconomic benefit in increasing disposable income. Where improvements included improved ventilation, and carbon monoxide and fire alarms, occupants in the over 60 age category were admitted to hospital 39% less often after the measures were installed, and there was a 57% drop in emergency admissions for respiratory illness in particular.

The study acknowledges that monetisation of the health and wellbeing impacts is a difficult and complex task which varies by country/region depending on the cost of public healthcare, childcare, social services, pharmaceutical prices, and minimum and average wage rates. A cost-benefit analyses of the return on investment that could accrue from preventing fuel poverty amongst children and young people in Northern Ireland, suggested that, for every pound spent on reducing fuel poverty, a return in NHS savings of 12 pence can be expected from children's health gains. When adults in the family are also included, this increases to 42 pence. The Building Research Establishment (BRE) in the UK conducted research into the cost of poor housing to the NHS and found that improving 3.5 million 'poor homes' in England, could save the NHS £1.4bn in first year treatment costs alone. Their method included a list of 29 indicators of hazards in poor homes, including excess cold/ heat, falls, dampness, and radon amongst others (IERC, 2021).

The IERC attempted to make calculations for the overall health and wellbeing savings based on two different international studies, which show a potential for approximately €600m per annum in healthcare savings. It found:

- A Catalan study concluded that renovating 1.5 million dwellings would save the Spanish public administration €555m in healthcare and labour costs savings annually.

- Another study in France estimated that the indirect costs (including absenteeism at work or school, productivity losses, grade retention) cost almost 22 times more than direct medical costs of poor housing. It calculated that the direct costs to the HSE could be up to €28m annually, therefore the indirect cost savings could be €616m annually (28x22=616). (IERC, 2021)

The Kirklees Warm Zone scheme implemented large scale insulation retrofits in the UK. In their assessment of it, Webber et al (2015) found that research on the health-related impacts of the scheme has estimated that it generated health benefits of UK£4.9m, primarily in quality-of-life improvements (Liddell et al., 2011).

A study by Telfar Banard et al (2011) evaluating the Warm Up New Zealand: Heat Smart Programme (WUNZ:HS), noted changes in the incidence and costs of health services, pharmaceutical usage, and mortality in the first 46,655 houses retrofitted under the programme, introduced in July 2009. It attributed most of the benefits to improved insulation and only small costs benefits to heating upgrades, although the study noted this may be a factor of the intervention criteria for installing heaters. The sum of health benefits for all households from changes to total hospitalisation and total pharmaceutical use was found to average NZ\$563 from insulation compared to NZ\$4.64 from heating. The savings increased due to insulation, and mortality markedly decreased from interventions, for those with circulatory and respiratory illnesses. There was a very small but highly statistically significant reduction in monthly pharmaceutical costs as a result of receiving ceiling or floor insulation. The calculated benefits do not include those for improvements in comfort.

The Grimes et al (2012) cost benefit analysis of the Warm Up NZ scheme concluded that health benefits differ depending on the income level of houses, with low to middle income households gaining nearly twice the benefits of other households.

The study also looked at the NPV of total costs and health and energy benefits for the scheme and found net benefits of NZ\$951m to NZ\$1,492m (across a range of discount rates and assumed additionality). The results suggest that there are positive net benefits of the programme at all discount rates examined, including with assumptions of low levels of additionality. The results are dominated by the health benefits, which represent approximately 99% of the total benefits.

A New Zealand Business Council for Sustainable Development study in 2008 identified a key health cost benefit of energy efficiency being improved productivity due to fewer days lost due to illness. Insulation and double glazing were retrofitted to counter cold and damp. The study calculated a potential saving of 180,000 work days equating to at least \$17 million a year in lost production based on a conservative minimum wage of \$12ph. It also estimated lower health bills of \$54 million, and *“that more than \$17 million in extra production can be captured, energy and water use will fall, more people will be available for work and thousands fewer will have to go to hospital each year. Previous work found for every \$1 you invested in insulation, health and other benefits worth \$2 can be captured.”* (NZBCSD, 2008).

Other social outcomes

Energy efficiency retrofits were identified to have the potential to benefit a range of social circumstances. They can:

- create an effective increase in home size by increasing usable space which promotes improvements in diet, privacy, household, and family relationships (Thomson et al, 2013).
- reduce absences from school or work – In Ireland a 15% reduction in days off school was measured (Thomson et al, 2013)
- address gender-based inequalities in energy (IEA, 2014)
- reduce fuel poverty or increase disposable income (IERC, 2021).

The literature review looked for evidence of energy efficiency upgrades improving occupant ability to participate in activities, including employment and school, behaviour change, improved energy literacy or reduction in fuel poverty. It also noted discussions of consumer motivations to participate in upgrade programs.

Thomson et al (2013) Found that in addition to general health, respiratory health, and mental health improvements, other impacts of warmth improvements were found to be:

- an effective increase in house size by increasing usable space which promotes improvements in diet, privacy, household, and family relationships, as well as opportunities for leisure and studying
- reduced absences from school or work.

A report (IERC, 2021) prepared for the Irish Government on co-benefits of retrofits highlights the social outcomes in relation to social inequalities associated with retrofit programs. It linked inequalities in housing quality to inequalities in general quality of life, health and wellbeing, and access to educational and career prospects. A 15% reduction in days off school has been measured among children in homes that received energy efficiency upgrades. Older people are more likely to experience fuel poverty and are also particularly vulnerable to health and social harm because of this experience and over-represented among houses which are in poor condition, and which lack central heating. Fuel poverty rates for disabled people in the UK private rental sector are particularly high, for example 35% of UK households with a disabled occupant are in fuel poverty.

The EnergieSprong (Energy Leap) program implemented in the Netherlands demonstrates social outcomes (European Commission, 2017) in a case study of a resident/tenant perspective of the retrofits where the tenants viewed the experience very positively and described the retrofit as transformational, talking about their 'old home' and their 'new home' even though the basic structure of their house was unchanged.

Some studies indicate the improvements in housing quality led to improved property values, which may also lead to increased rents (Thomson et al, 2013 and Hyland et al, 2013).

4.2.3 Impacts on the Energy Grid

Benefits to networks of energy efficiency measures can be substantial and include lower costs for energy generation, transmission and distribution, improved system reliability, dampened price volatility in wholesale markets and the possibility of delaying or deferring costly system upgrades (IEA, 2014, Mims et al, 2017, Langham et al, 2010, Langham et al, 2011, Relf et al, 2018). Energy consumption is reduced in a reliable, predictable, long-term, and measurable way.

The lower rate of growth in peak demand due to energy efficiency improvements reduces the number and magnitude of constraints on the network, treating the problem of peak demand growth at the source, with no network augmentation costs associated with alleviating constraints.

Energy efficiency was claimed to support system reliability by reducing demand, which effectively increases the reserve margin and thereby offsets generation that otherwise would be needed. Reductions of throughput needs on installed equipment can delay, reduce, or offset the need for traditional grid infrastructure upgrades to handle increased power flows.

Relf et al (2018) claims that energy efficiency supports system reliability by reducing demand, which effectively increases the reserve margin and thereby offsets generation that otherwise would be needed. Efficiency can also function like a transmission and distribution (T&D) resource, reducing throughput needs on installed equipment. These reductions can delay, reduce, or offset the need for traditional grid infrastructure upgrades to handle increased power flows. In this way, energy efficiency can play a role alongside other distributed energy resources (DERs) to meet T&D system needs and maintain reliability.

Energy efficiency benefits the electric power system by reducing electricity consumption and peak loads in a reliable, predictable, long-term, and measurable way. The value of the demand reduction achieved by customer energy efficiency programs is a function of the amount, timing, and location of the savings, as well as the utility system's physical and operational characteristics such as the timing of peak demand (summer or winter and time of day), load factor, and reserve margin. Energy efficiency improvements that reduce load during times of electric system peaks are more valuable from a grid perspective than those that occur during off-peak periods. Similarly, additional value accrues to investments located in areas experiencing T&D constraints. The ways in which these reliability contributions are being valued can be difficult to find, vary across the country, and differ based on goals and market structure. Nonetheless, there are indications that these reliability benefits can be substantial.

The recent trend of adding connected and smart features to energy-efficient technologies promises additional reliability benefits. For example, ENERGY STAR®-certified smart thermostats save on average 8% of heating and cooling bills and can also function as a demand response resource.

The report notes the example of California during its electricity crisis in 2000–2001 when energy efficiency and demand management played key roles in addressing the system's

reliability challenges, and the state's utility programs achieved energy and demand savings that prevented rolling outages.

The lower power demand of efficient buildings puts less stress on the system and facilitates a smoother, quicker restoration of power after an outage, as well as maintaining more liveable conditions for the occupants during the outage.

The IEA report (2014) notes that direct benefits from energy efficiency measures include *lower costs for energy generation, transmission and distribution, improved system reliability, dampened price volatility in wholesale markets and the possibility of delaying or deferring costly system upgrades. Providers can also benefit indirectly through benefits that accrue to customers from improved affordability of energy services, which in turn can reduce arrears and the associated administrative costs for utilities. To date, these and other customer benefits have proven difficult to integrate properly into cost-effectiveness tests and therefore have not been accurately measured.* This view is also confirmed by 2017 study by Mims et al that focussed on the time-varying value of energy efficiency savings to grid infrastructure.

A study in 2010 (Langham et al, 2010) which looked at the reduced infrastructure costs of energy efficiency in buildings in Australia found that improved energy efficiency in buildings could save up to an estimated \$16.7 billion in infrastructure costs by 2020, in the context of energy infrastructure spending of around \$165 billion. It estimates an annual avoided infrastructure value for residential buildings in Australia of \$0.024 for fixed electricity infrastructure and \$0.037 for fixed electricity and gas infrastructure per m² per percentage reduction in energy consumption.

Research conducted in 2011 (Langham et al, 2011) for the Victorian government in Australia analysed the benefits of decentralised energy (DE) on the state economy. Its definition of 'decentralised energy' includes energy efficiency measures such as retrofits, as well as distributed generation and power load management.

It found that there is substantial untapped cost-effective potential of DE in Victoria, which if implemented strategically, could reduce electricity sector emissions by 6.2% and save electricity consumers in the order of \$437 million per annum by 2020. It is estimated that this saving would result in reductions in average consumer bills of 4.7%. It also identified reduced risks of the Victorian electricity sector being exposed to a combination of reliability problems, declining load factors, rising network capital expenditure, and rising prices, customer bills and carbon costs. It suggests that, in practice, the main economic benefits of a well-implemented DE strategy may never be 'visible'.

The economic benefits of DE could be realised by Victorian electricity consumers if electricity network businesses are encouraged and supported to implement DE options at sufficient scale to defer or avoid capital intensive network; lower peak demand growth requires less network infrastructure investment; from lower wholesale energy generation costs resulting from lower overall and peak demand in the wholesale energy market; reduced electricity sales and incentives cost are offset by reduced capital investment. As network businesses become more inclined to plan in extensive DE solutions, this limits the need for new growth-related network expenditure in the upcoming regulatory period.

The lower rate of growth in peak demand due to DE implementation reduces the number and magnitude of constraints on the network, treating the problem of peak demand growth at the source.

Energy efficiency options in particular offer large potential to reduce costs to customers, in part because there are no network augmentation costs associated with alleviating energy constraints through demand reduction. Energy efficiency delivers both peak demand and volume reductions, and as such raises prices, but lowers volumes by a greater amount and thus lowers bills. Emissions are also strongly reduced. (Langham et al, 2011)

4.2.4 Job Creation and GDP Effects

Independent analysis of BZE's Million Jobs Plan considered the economic impacts of a national scheme involving 1.4 million home retrofits over five years. The analysis found that the scheme would lift GDP by 0.19% and real after-tax wages by 0.31%. It would also lead to increases in the value of several industries, in particular:

- housing services – 1.2% increase
- residential building construction – 1.7% increase
- construction services (mainly tradespeople) – 0.6% increase.

A number of reports quantified benefits from energy efficiency upgrades across the whole economy, with impacts on economic activity employment, trade balance and energy prices (IEA, 2014, Langham et al, 2010, IERC, 2021, Briggs et al, 2020b, SEAI, 2015). The benefits include reduced government expenditure (on energy, health care, unemployment payments) and come through greater economic activity and increased tax revenues.

Significant employment increases have been identified in association with retrofits and renewable energy improvements, mostly in construction and installation but also in employment induced by the increase in activity. This can lead to challenges finding enough suitably experienced specialist workers. A particular benefit in Europe is that employment opportunities are spread across the region where retrofits occur, not centralised in major urban hubs. The benefit should be measured as the additional jobs that would not occur without the program.

The EnergieSprong program in the Netherlands worked with stakeholders to actively create market contexts and a viable path to scale that is attractive to both industry and consumers, providing a good example of successful market activation. Supply chain analysis is recommended to focus resources and understand barriers when designing and implementing a program, as different actors can influence decision making for different products or stages of work.

The IEA (2014) report on the multiple benefits of energy efficiency highlighted potential improvement across the whole economy *“with direct and indirect impacts on economic activity (measured through GDP), employment, trade balance and energy prices. In general, analysis of GDP changes due to large-scale energy efficiency policies show positive outcomes*

with economic growth ranging from 0.25% to 1.1% per year. How energy efficiency measures influence these areas (i.e., positively or negatively) depends on a country's economic structure and on the design and scale of the underlying policies."

Whether by reducing government expenditures on energy or by generating increased tax revenues through greater economic activity and/or increased spending on energy efficiency-related and other goods and services, energy efficiency improvements can have important impacts on the budgetary position of national and sub-sovereign entities. One of the greatest impacts overall is the reduced budget for unemployment payments when energy efficiency policies lead to job creation. Public budget impacts are thus closely linked to macroeconomic impacts.

A study in 2010 (Langham et al, 2010) which looked at the reduced infrastructure costs of energy efficiency in buildings in Australia found:

- Australia could eliminate all forecast growth in energy consumption and related carbon emissions from residential, commercial, and industrial buildings to 2020 through cost effective energy efficiency improvements.
- After allowing for the costs of implementation, these energy efficiency improvements could deliver a net economic benefit of \$1 billion per year.

Webber et al (2015) estimated costs and savings of the UK Kirklees Warm Zone scheme to be costs of £21m and annual savings of £6.2m, with the direct benefits of retrofit expected to outweigh the costs in around 3.4 years. Allowing for a practical life span for insulation of 25 years, they calculated the direct savings of these measures as being in the range of £148–218 million over a 25-year period.

In a cost benefit analysis of the Warm Up NZ scheme, Grimes et al (2012) found overall net economic benefits of the program with their central estimate of programme benefits being almost five times resource costs attributable to the programme.

Choi et al (2018) evaluated the economic performance of South Korea's housing support program for new and renewable energy: a policy measure to supply new and renewable energy to homes, and, thus, the government subsidises a part of the installation costs for related facilities. The results show that solar PV achieved economic feasibility for both the Korean government and consumers, in 2014.

Net benefits to New Zealand from the Warm Up NZ program are calculated to be worth NZ\$1.3 billion over the expected lifetime of measures delivered under the programme, with a benefit:cost ratio of more than 4:1. The majority (99 per cent) of the measured net benefit is from improved health resulting from warmer, drier conditions after insulation is installed (IEA 2021).

In Germany, energy efficiency in new buildings has doubled over 2002 - 2009, reducing calculated energy use from 120 kWh/(m²) to 60 kWh/(m²), while renovation has reduced it to approximately 80 kWh/(m²) in existing buildings. It is estimated that every €1 of subsidy has leveraged €9 in loans and private investment, with a leverage ratio of 1:10 for the KfW programmes and 1:12.5 for the Market Incentive Programme (MAP).

Evaluations of the precursor KfW-programs showed positive results, not only in terms of investment stimulated, energy savings, CO2 reduction and the impact on employment, but also regarding impact on public budgets. For every euro that went into the promotion of energy-efficient construction and refurbishment in 2010, public authorities collected four to five euros in revenue. KfW's promotional loans of EUR 8.9 billion initiated investments worth EUR 21.5 billion. This has primarily benefited regional tradespeople and construction contractors to whom the construction and converting contracts are usually awarded. As a result, these firms are said to have created or safeguarded some 340,000 jobs for one year.

Under the EnEv Energy Conservation Act in Germany, 1 million old homes were retrofitted, and 400,000 new highly efficient homes built (as this is not just a retrofit scheme). The Act promoted investment safeguarding roughly 51,000 jobs, particularly among SMEs. 894,000 jobs were created between 2006 and 2009, mainly in construction and the supply chain (SEAI, 2015). As of 2010, KfW had financed in total the rehabilitation to high energy efficiency standards of 9 million pre-1979 housing units.

In considering economy wide benefits, the IEA report (2014) finds the potential for job creation ranges from 8 to 27 job years per €1 million invested in energy efficiency measures.

The IERC 2021 report identified employment opportunities from a national retrofit program (IERC, 2021) stating that *“a renovation wave to bring all homes currently rated C or lower to a B-Rating would generate €35bn worth of work, the vast majority of which would be in the construction industry over the period from 2021 to 2030, equating to an average of approximately €3.8bn per annum over 9 years. This work would also be spread across the country, not centralised in the major urban hubs.*

According to a recent report by the Buildings Performance Institute of Europe (BPIE), for every €1m invested in retrofits, an EU average of 18 jobs are created. The job creation potential of retrofitting homes to a B-rating would be 32,832 total direct and induced jobs. Much of the spending in home retrofitting is in labour and services, including site labour, technical expertise, and provision of financial services. 33% of which would be directly employed in retrofitting, 52% indirectly employed in manufacturing, and 15% ‘induced’ employment i.e., adjacent neighbourhoods, coffee shops etc.”

The Grimes et al (2012) cost benefit analysis of the Warm Up NZ program estimated the net employment impacts of the programme, i.e., additional jobs that would not exist in the absence of the programme, to be approximately 71-424 full time equivalents (FTEs) in the first year and to peak at 94-560 FTEs in 2001/12.

In examining the impacts on the industry supplying insulation and clean heating of the Warm Up NZ program, Denne and Bond Smith (2012) found (across 3 scenarios) 29–555 additional direct and indirect FTE jobs for insulating 51,600 houses, and 4-84 for installing clean heating in 12,658 houses.

For the EnergieSprong program in the Netherlands, various market benefits were achieved by implementing the program at scale (European Commission, 2017) Its major achievement in 2013 was to broker the Stroomversnelling (Rapids) deal, to retrofit 111,000 homes to Net Zero Energy (NZE). The Stroomversnelling network is made up of contractors, component suppliers, housing providers, local governments, financiers, DSOs, and other parties.

4.2.5 Recommendations

- Look for opportunities to capture the additional benefits, in particular health benefits of retrofits, in order to off-set the upfront costs of installation and / or encourage investment from groups seeking public good outcomes (governments, philanthropy, social impact investors)
- Explore partnerships with those organisations which could benefit from large scale energy efficiency retrofits – e.g., energy network operators, health providers etc.
- Establish a comprehensive monitoring program throughout roll out to identify benefits and challenges and enable communication of benefits and refinement of approaches
- Financing must be competitive with commercial loans
- Benefit should be measured, often in terms of improvement to building rating, or reduction in energy consumed, sometimes measured as household energy cost savings
- Good communication is essential for encouraging participation
- Good oversight in the form of home audits, advice to homeowners, in customer care and quality assurance of workmanship, to build trust in the program
- Government funding or backing, or philanthropic funding is prevalent, as is partnership with community groups, local government, and utilities

4.3 Household Impacts of Retrofits

The following sections describe the results of the upgrade improvements modelled on the two baseline typical homes (detached and terraced) in Victoria, New South Wales, and Western Australia.

- The detached home has a usable area of 202 m².
- The detached home includes a living area with dining and kitchen, four bedrooms, two bathrooms, a theatre room and garage.
- The terraced home has a usable area of 124 m², distributed across two floors.
- The terraced home includes a living and dining room, three bedrooms, one bathroom, two balconies and a carport.

Further details regarding the typical home descriptions are included in Section 4 of the accompanying report *Pathways to Scale: Thermal Modelling, energy efficiency and life cycle assessment of Australian homes*.

The retrofit items that have been modelled here aim at improving the thermal insulation and air tightness as well as the energy efficiency of the typical homes, as agreed by a team of experts included in the Project Partner Committee (PPC) and Industry Reference Group (IRG) for this project as well as recommendations drawn from the most updated version of the Building Code of Australia (ABCB, 2020). The term energy includes a combination of electricity and gas unless stated otherwise.

Building envelope characteristics (listed in Table 3) were extracted from the Australian Housing Data from CSIRO [accessed June 2021] and includes only class 1A existing buildings. A poorer quality home would reap bigger benefits from these improvements than are shown in the modelling for this project.

4.3.1 Detached Home Upgrade 1

Upgrade 1 includes the retrofit items that are listed in Table 3. Upgrade 1 aims at improving the thermal insulation and air tightness of the detached home through a series of interventions that target the envelope of the detached home, including roof, wall and floor insulation, pipe lagging, and draught proofing. Specifically, the upgrades are focussed on improving the U-values of roof, wall, and floor insulation from the baseline U-values of current detached homes in Victoria, New South Wales, and Western Australia listed in Table 3 and Table 4. The improved parameters of U-Value were sourced from the Building Code of Australia (ABCB, 2020).

Upgrade 1 enables the occupants of this typical home to save between 18% and 31% of annual energy use, up to 6% of energy cost and 11% of emissions, shown below in Table 8. Results show improved annual energy use, energy cost and emissions as kWh as well as a percentage of improvement.

Table 8 Annual energy use, energy cost, and emissions results of the model with upgrade 1 implemented to the detached home

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	12,655	8,734	31	1,841	1,726	6	7,887	7,025	11
New South Wales	9,604	7,918	18	2,326	2,290	2	6,541	6,227	5
Western Australia	9,827	7,603	23	2,035	1,932	5	5,345	4,824	10

The annual energy use decreases more in Victoria than in New South Wales and Western Australia, where the climate is more moderate. The improved building envelope helps to minimise the energy use; however, the impact of lighting and appliances remains unchanged.

It is notable that although roof, wall and floor insulation drastically decrease energy use, energy cost and emissions are not as greatly improved. This is largely driven by the assumption in the modelling for the use of gas heating being typical in homes. As the cost and emissions of gas are lower than those of grid electricity, the decreased use of gas reflects only marginally on the annual energy cost and emissions. The impact of Upgrade 1 would be mostly felt as increased occupant comfort through an improvement to the thermal capacity of the building envelope but would also have a larger impact on a poorer quality home.

4.3.2 Detached Home Upgrades 2, 3 and 4

Upgrade 2, 3 and 4 (see details of the upgrades in Table 4, Table 5, and Table 6, respectively) were assumed to be implemented subsequently to Upgrade 1.

- Upgrade 2 includes the addition of ceiling fans, reverse cycle aircon, and double glazing
- Upgrade 3 includes efficient appliances, LED lighting, and clothesline (feature that helps reduce the need for a dryer)
- Upgrade 4 includes the addition of solar PV and hot water heat pump

Table 9 repeats the results obtained from Upgrade 1 and summarises the results of the three subsequent upgrades included in the detached home. Also including the improvement in percentage. The improved percentage values of Upgrades 1, 2, 3, and 4 are calculated against the baseline.

Table 9 Annual energy use, energy cost, and emissions results of the baseline and upgrades for the detached home

Victoria			New South Wales		Western Australia	
ANNUAL ENERGY USE (ELECTRICITY AND GAS) (kWh)						
Baseline	12,655		9,604		9,827	
Upgrade 1	8,734	31%	7,918	18%	7,603	23%
Upgrade 1 + Upgrade 2	7,298	42%	7,815	19%	7,215	27%
Upgrade 1 + Upgrade 3	5,210	59%	3,476	64%	3,577	64%
Upgrade 1 + Upgrade 4	2,169	83%	669	93%	710	93%
All upgrades	103	99%	0	100%	4	100%
ANNUAL ENERGY COST (ELECTRICITY AND GAS) (AU\$)						
Baseline	1,841		2,326		2,035	
Upgrade 1	1,726	6%	2,290	2%	1,932	5%
Upgrade 1 + Upgrade 2	1,811	2%	2,341	0%	2,006	1%
Upgrade 1 + Upgrade 3	583	68%	840	64%	620	70%
Upgrade 1 + Upgrade 4	538	71%	200	91%	197	90%
All upgrades	25	99%	0	100%	1	100%
EMISSIONS (ELECTRICITY AND GAS) (kg CO ₂ eq)						
Baseline	7,887		6,541		5,345	
Upgrade 1	7,025	11%	6,227	5%	4,824	10%
Upgrade 1 + Upgrade 2	7,151	9%	6,330	3%	4,905	8%
Upgrade 1 + Upgrade 3	2,636	67%	2,365	64%	1,717	68%
Upgrade 1 + Upgrade 4	2,126	73%	542	92%	483	91%
All upgrades	101	99%	0	100%	3	100%

The combination of Upgrade 1 and Upgrade 2 retrofits implemented to the detached home enable the occupants to save between 19% and 42% of annual energy use and up to 9% of emissions, while the annual energy cost remains almost constant (Table 10.)

Table 10 Annual energy use, energy cost, and emissions results for the detached home when upgrades 1 and 2 are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	12,655	7,298	42	1,841	1,811	2	7,887	7,151	9
New South Wales	9,604	7,815	19	2,326	2,341	0	6,541	6,330	3
Western Australia	9,827	7,215	37	2,035	2,006	1	5,345	4,905	8

The combination of Upgrade 1 and Upgrade 3 implemented to the detached home enable the occupants to save between 59% and 64% of annual energy use, between 64% and 70% annual energy cost and between 64% and 68% of emissions (Table 11).

Table 11 Annual energy use, energy cost, and emissions results for the detached home when upgrades 1 and 3 are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	12,655	5,210	59	1,841	583	68	7,887	2,636	67
New South Wales	9,604	3,476	64	2,326	840	64	6,541	2,365	64
Western Australia	9,827	3,577	64	2,035	620	70	5,345	1,717	68

The combination of Upgrade 1 and Upgrade 4 implemented to the detached home enable the occupants to save 83% of annual energy use in Melbourne and 93% in Perth and Sydney, cities which usually enjoy more hours of sun throughout the year. Also, these interventions enable the occupants to save between 71% and 91% in terms of energy cost, and between 73% and 92 % in terms of emissions (Table 10). It is important to consider that the energy cost is calculated using the purchase cost of energy, not the selling price or feed in tariff (FIT) of solar energy to the grid. The energy (and related costs) generated by the solar panels is cut in the results of Upgrade 4. The term energy includes only electricity for these results.

Table 12 Annual energy use, energy cost, and emissions results for the detached home when upgrades 1 and 4 are implemented

Location	Baseline annual energy	Improved annual energy use (kWh)	%	Baseline annual energy	Improved annual energy	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
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	use (kWh)			cost (AU\$)					
Victoria	12,655	2,169	83	1,841	538	71	7,887	2,126	73
New South Wales	9,604	669	93	2,326	200	91	6,541	542	92
Western Australia	9,827	710	93	2,035	197	90	5,345	483	91

4.3.3 Detached Home – All Proposed Upgrades

A combination of all four upgrades yields the maximum thermal and energy efficiency in all modelled locations (Table 13). Specifically, applying thermal insulation, improving the efficiency of appliances and lighting, introducing solar panels enable occupants to decrease the energy needed to maintain comfort at home with a minimal impact on energy use, cost and related greenhouse gas emissions. In all the analysed weather conditions, these upgrades allow to save nearly 100% of annual energy use, annual energy cost, and annual greenhouse gas emissions.

Table 13 Annual energy use, energy cost, and emissions results for the detached home when all proposed upgrades are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	12,655	103	99	1,841	25	99	7,887	101	99
New South Wales	9,604	0	100	2,326	0	100	6,541	0	100
Western Australia	9,827	4	100	2,035	1	100	5,345	3	100

4.3.4 Terraced Home – Upgrade 1

This improved design includes the retrofit items in Upgrade 1 that are listed in Section 3.2, Table 3.

- Upgrade 1 includes roof, wall, and floor insulation, pipe lagging, improved airtightness

The improved design of the terraced home allows the occupants to save between 17% and 24% of annual energy use, up to 6% of energy cost and 10% of emissions (Table 14).

Table 14 Annual energy use, energy cost, and emissions results with upgrade 1 implemented to the terrace home

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	9,930	7,506	24	1,227	1,151	16	5,431	4,876	10
New South Wales	6,491	5,391	17	1,176	1,137	3	4,849	4,586	5
Western Australia	6,883	5,473	20	1,195	1,135	5	4,960	4,594	7

Not surprisingly, the annual energy use decreases more in Victoria than in New South Wales and Western Australia, where the climate is more moderate. The improved envelope helps to minimise the energy use; however, the impact of lighting and equipment remains unchanged.

The results highlighted in Table 14, however, allow for an interesting observation. In the table, we notice that the walls, floors, and roof insulation drastically decrease energy use, but energy cost and emissions remain less improved. Energy use decreases while cost and emissions remain at a less improved level because improved insulation effectively maintains the spaces warmth, thus decreasing the need for heating. (In the cases analysed in this report, we assumed the use of gas heating in the baseline homes.) However, the same amount of electricity will be needed for cooling, appliances, and lighting. Therefore, as the cost and emissions of gas are lower than those of electricity, the decreased use of gas reflect only marginally in the annual energy cost and emissions.

Regardless of the limited effect of insulation to cost and emissions, it is essential to underline that insulation is critical to improving healthier and more comfortable homes. Indeed, insulation can lead to a significantly warmer and drier indoor environment, resulting in decreased mould formation and related respiratory symptoms alongside many other diseases (Howden-Chapman et al., 2012).

Alongside the results obtained when modelling the following upgrades, this analysis proves that insulation and electrification are needed and should be implemented together with improved home appliances and lighting as well as renewable electricity generation to achieve a maximum impact.

4.3.5 Terraced Home - Upgrades 2, 3 and 4

Upgrades 2, 3 and 4 were assumed to be implemented subsequently to Upgrade 1.

- Upgrade 2 includes ceiling fans, reverse cycle aircon, and double glazing
- Upgrade 3 includes efficient appliances, LED lighting, and clothesline (feature that helps reduce the need for a dryer)
- Upgrade 4 includes solar PV and hot water heat pump

Table 15 repeats the results obtained in the baseline and improved designs of the terrace home and summarises the results of the three upgrades included in the terrace home. Also including the improvement in percentage. The improved percentage values of Upgrades 1, 2, 3, and 4 are calculated against the baseline.

Table 15 Annual energy use, energy cost, and emissions results of the baseline and upgrades of the terrace home

Victoria			New South Wales		Western Australia	
ANNUAL ENERGY USE (ELECTRICITY AND GAS) (kWh)						
Baseline		9,930		6,491		6,883
Upgrade 1	7,506	24%	5,391	17%	5,473	20%
Upgrade 1 + Upgrade 2	5,054	49%	4,775	26%	4,791	30%
Upgrade 1 + Upgrade 3	5,250	47%	2,848	56%	2,994	57%
Upgrade 1 + Upgrade 4	3,231	67%	147	98%	153	98%
All upgrades	88	99%	0	100%	0	100%
ANNUAL ENERGY COST (ELECTRICITY AND GAS) (AU\$)						
Baseline		1,227		1,176		1,195
Upgrade 1	1,151	6%	1,137	3%	1,135	5%
Upgrade 1 + Upgrade 2	1,255	0%	1,186	0%	1,190	0%
Upgrade 1 + Upgrade 3	427	65%	415	65%	422	65%
Upgrade 1 + Upgrade 4	802	35%	36	97%	38	97%
All upgrades	21	98%	0	100%	0	100%
EMISSIONS (ELECTRICITY AND GAS) (kg CO ₂ eq)						
Baseline		5,431		4,849		4,960
Upgrade 1	4,876	10%	4,586	5%	4,594	7%
Upgrade 1 + Upgrade 2	4,953	9%	4,679	4%	4,697	5%
Upgrade 1 + Upgrade 3	2,102	61%	1,777	63%	1,816	63%
Upgrade 1 + Upgrade 4	3,167	42%	144	97%	150	97%
All upgrades	86	98%	0	100%	0	100%

The combination of Upgrade 1 and Upgrade 2 retrofits applied to the terraced home enable the occupants to save between 26% and 49% of annual energy use and up to 9%

of emissions, while the annual energy cost remains almost constant due to the reduced use of gas and increased use of electricity (Table 16).

Table 16 Annual energy use, energy cost, and emissions results for the detached home when upgrades 1 and 2 are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	9,930	5,054	49	1,227	1,255	0	5,431	4,953	9
New South Wales	6,491	4,775	26	1,176	1,186	0	4,849	4,679	4
Western Australia	6,883	4,791	30	1,195	1,190	0	4,960	4,697	5

The combination of Upgrade 1 and Upgrade 3 retrofits applied to the terraced home enable the occupants to save between 47% and 57% of annual energy use, 65% of annual energy cost and around 63% of emissions (Table 17).

Table 17 Annual energy use, energy cost, and emissions results for the detached home when upgrades 1 and 3 are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	9,930	5,250	47	1,227	427	65	5,431	2,102	61
New South Wales	6,491	2,848	56	1,176	415	65	4,849	1,777	63
Western Australia	6,883	2,994	57	1,195	422	65	4,960	1,816	63

The combination of Upgrade 1 and Upgrade 4 retrofits applied to the terraced home enable the occupants to save 67% of annual energy use in Melbourne. However, the saving of energy cost and emissions in Melbourne is only 35% and 42%, respectively. This is because of the predominantly overcast weather in combination with harsher temperatures, which require a more abundant use of mechanical heating whilst the home is not powered by solar energy.

Conversely, in Perth and Sydney, cities which usually enjoy more hours of sun throughout the year the saving is more substantial. Indeed, there, these interventions enable occupants to save 98% of energy use and 97% both in terms of energy cost and emissions (Table 18). It is important to consider that the energy cost is calculated using the purchase cost of energy, not the selling price or Feed in Tariff (FIT) of solar energy to the grid. The energy (and related costs) generated by the solar panels is cut in the results of Upgrade 4. The term energy includes only electricity in these results.

Table 18 Annual energy use, energy cost, and emissions results for the detached home when upgrades 1 and 4 are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	9,930	3,231	67	1,227	802	35	5,431	3,167	42
New South Wales	6,491	147	98	1,176	36	97	4,849	144	97
Western Australia	6,883	153	98	1,195	38	97	4,960	150	97

4.3.6 Terraced Home – All Proposed Upgrades

A combination of the four upgrades yields the maximum thermal and energy efficiency in all modelled locations (Table 19). In all the analysed weather conditions, these upgrades provide savings of nearly 100% of annual energy use, annual energy cost, and annual greenhouse gas emissions.

Table 19 Annual energy use, energy cost, and emissions results for the detached home when all proposed upgrades are implemented

Location	Baseline annual energy use (kWh)	Improved annual energy use (kWh)	%	Baseline annual energy cost (AU\$)	Improved annual energy cost (AU\$)	%	Baseline emissions (kg CO ₂ eq)	Improved emissions (kg CO ₂ eq)	%
Victoria	9,930	88	99	1,227	21	98	5,431	86	98
New South Wales	6,491	0	100	1,176	0	100	4,849	0	100
Western Australia	6,883	0	100	1,195	0	100	4,960	0	100

4.3.7 Recommendations

The results obtained in the modelling draw five main upgrade recommendations to enhance common housing types in Victoria, New South Wales, and Western Australia. It is crucial to note that these recommendations are only marginally depending on the dwelling's type, i.e., detached home and terraced home. These two dwelling types behave similarly when the upgrades are implemented.

- It is recommended to apply, as a foremost intervention, Upgrade 1 (roof, wall, and floor insulation, pipe lagging, and airtightness) to both dwelling types and in all locations. Upgrade 1 alone saves energy use between 18% (in New South Wales, terrace home) and 31% (in Victoria, detached home).
- Target poor quality homes to benefit from larger improvements in energy use and cost savings, as well as improved occupant comfort.
- In New South Wales and Western Australia, a substantial saving in energy use, cost, and emissions is obtained with insulation and solar PV (Upgrades 1 and 4).
- In Victoria, the overall benefit of implementing solar PV is less than that in New South Wales and Western Australia. That is because the Victorian climate is typically more overcast and, on average, colder. Therefore, to obtain substantial savings in Victoria, it is recommended to integrate solar panels with insulation and high-efficiency home appliances and lighting (Upgrades 1, 3, and 4).
- In New South Wales and Western Australia, all proposed upgrades should be implemented to obtain a near 100% saving in energy use.

- Insulation should be coupled with electrification (avoiding gas) to contextually decrease energy use and related costs, as suggested in Upgrades 3 and 4.

Future analysis should include a more nuanced analysis of heating energy sources across multiple Australian states or climates, as well as including electric vehicle (EV) charging plus solar PV and storage impacts on the home, and effects on the grid.

Future analysis should include more dynamic modelling of the optimal package of retrofits for achieving cost benefits at a household scale.

4.4 Retrofit Cost Estimate

The following table represents a cost analysis of the items included in the retrofit upgrades for the detached home and the terrace home. It also includes some recommended retrofit items that were not included in the modelling due to complexity and modelling limitations. It is important to emphasise that this cost analysis represents a preliminary evaluation only. For the purpose of this analysis, item costs are considered the same across Victoria, New South Wales, and Western Australia.

Table 20 Cost of the items included in the retrofit upgrades of the typical detached home

Upgrade	Item	Cost per unit	Amount	Total cost (\$)
Home assessment	Remote/home walk through/hybrid. Trained and employed home energy assessors will be required	\$30 - \$400 per home	1	30-400
Upgrade 1	Roof insulation	\$24 installed per m ²	296 m ²	7,104
	Wall insulation	\$23 installed per m ²	143 m ²	3,289
	Floor insulation	\$24 installed per m ²	205 m ²	4,920
	Pipe lagging	\$30 (plus labour)	5 m	150
	Draught sealing	\$1,020	1	1,020
	Window treatments (not modelled)	\$700 per window	7	4,900
	Total			21,383
Upgrade 2	Ceiling fans	\$500	4	2,000
	Reverse cycle aircon	\$2000 per fixture, installed	1	2,000
	Pool pump upgrade (not modelled)	\$40	1	40
	Double glazing	\$500 per window	7	3,500
	Total			7,540

Upgrade 3	Efficient appliances	Dishwasher - \$2,000	1	6,900
		Washing machine - \$1,500		
		Dryer - \$1,800		
		Fridge - \$1,400		
	LED lighting	\$50 per light	15	750
	Clothesline	\$200 per fixture	1	200
	Shower heads (not modelled)	\$200 (4 stars)	2	400
	Total			8,250
Upgrade 4	Solar panels (considering a 5kW system)	\$5,000	1	5,000
	Smart home energy management system (mandatory with solar PV) (not modelled)	\$129	1	129
	Hot water heat pump	\$3,100 installed	1	3,100
	Home battery (Virtual Power Plant (VPP) capable) (not modelled)	\$7,500 installed	1	7,500
	Induction cooktop (not modelled)	\$2,900 installed	1	2,900
	EV home charger/infrastructure (not modelled)	\$2,200	1	2,200
	Total			21,229

*Cost estimates were taken from a variety of resources including commercial and retail examples as well as the following articles, <https://www.solarchoice.net.au/blog/solar-power-system-prices/> ; <https://enviroshop.com.au/pages/home-insulation> ; <https://www.ecoglaze.com.au/retrofit-double-glazing-pricing/> <https://www.aef.com.au/for-home/insulation/insulation-guide/> <https://grattan.edu.au/wp-content/uploads/2020/11/Flame-out-Grattan-report.pdf>

These cost estimates represent the upper range of cost for a full home retrofit, including appliances. This is because, many homes will not require, nor will the homeowners perhaps want, the full list of retrofit items proposed in the table above. There may also be state based subsidies and other schemes, as well as scheme discounts that can be applied to reduce costs for the homeowner.

4.4.1 Recommendations

- The costs of retrofit can be high, and the short-term financial benefits can be unclear and uncertain
- Energy cost savings are not likely to be a sufficient motivation for homeowners

- To reduce homeowner costs, a community focussed large-scale home retrofit scheme would aim to enable labour and product buying power through larger contracts and increased quantities of material thus finding efficiencies of scale and bulk discounts in supplying and installing the retrofit items
- The ability to perform true cost benefit analysis will be enabled through case-study home retrofits of different housing types in different states/climates across Australia
- The bespoke nature of each retrofit and existing Australian homes means that a cost benefit analysis for different housing types will be a beneficial way to measure and monitor the benefit of the large-scale home retrofit scheme, as it progresses

4.5 Retrofit Aims and Priorities

Through the IRG workshop discussion and interviews the aims and priorities of the large-scale home retrofit scheme were explored. This was done through a Mentimeter survey, as well as through facilitated discussion via Miro.

4.5.1 Retrofit Aims

The IRG highlighted the importance of considering and setting clear goals for the retrofit scheme as it would guide the selection of retrofit items and aid communication about the scheme. *“A lot of this depends on the goals of the program as well, is it increasing the speed and scale of retrofits within a period of time or widespread take up?”*

Figure 3 shows that comfort and emissions reductions stood out among the respondents from the IRG as priority drivers for a large-scale home retrofit scheme. Cost savings or lower energy bills were also a consideration although not found to be as high a priority due to the greater impact and benefits created by prioritising the improvement of health and comfort for homeowners/occupants and the increased reduction of carbon emissions. It was noted that *“National Construction Code (NCC) is driving home comfort as a priority driver over energy cost off set. Thermal comfort for achieving suitable ratings cannot be compromised by fitting Photo-Voltaics.”*

What are the key drivers for a large scale home retrofit scheme?



Figure 3 Key drivers for a large-scale home retrofit scheme identified by IRG

4.5.2 Retrofit Priorities

The importance of assessment and alignment with NatHERS

IRG members emphasised that whole of home assessments play a vital role in the process of retrofitting existing homes: *"A very good enthusiastic assessor is required"*, that the scheme should *"Use of robust assessment tool to determine which upgrades to perform"* and that the scheme should *"undertake assessments early in discussions"*.

Several members of the IRG noted the current activity around the National Scorecard and the extension to NatHERS for existing homes and recommended aligning with this work: *"Strongly recommend using the NatHERS existing homes program for assessors - and get a rating. It will eventually link to disclosure and the broader financial sector"*. It was noted that *"the Scorecard can be used to model the impact of upgrades"*. In addition, assessments would provide data (that is currently lacking in most states) to better understand the quality of existing housing stock in Australia and is a basis to provide sound technical guidance to the homeowner on what retrofit to undertake.

Beyond the benefits of the assessment, it was also noted that the assessors perform a key role in supporting homeowners to understand retrofits. *"Well trained assessors will be able to explain the unique situation in a house, and the dynamic between appliances and house structure / design."*

The priority of retrofit items

Within the IRG workshops participants were asked, via a survey about priority retrofit items that they would like to see form part of a large-scale home retrofit scheme. They strongly felt that insulation and draught proofing should be high priority items due to their effectiveness when installed correctly. This is supported in the literature review. However, it is also worth noting that to enable a healthy and thermally comfortable

home, ventilation must be considered especially where airflow has been decreased to prevent the growth of mould, and where gas appliances are still present, not create an uninhabitable space. This is recommended as part of a further research question to consider how to not decrease the homes indoor air quality (IAQ) through increased building air tightness.

Regardless of the limited effect of insulation on cost and emissions, in particular where heating is done with gas, it is essential to underline that insulation is critical to improving healthier and more comfortable homes. Indeed, insulation can lead to a significantly warmer and drier indoor environment, resulting in decreased mould formation and related respiratory symptoms alongside many other diseases (Howden-Chapman et al., 2012).

In addition, a cost benefit analysis of the Warm Up New Zealand: Heat Smart Programme conducted by Grimes et al (2012) gave the following recommendations for future programs:

- *Prioritise the insulation component of the programme relative to the clean heating component of the programme.*
- *Target clean heating to houses that use reticulated gas rather than electricity for heating prior to treatment.*
- *Target insulation to houses in cooler rather than warmer areas.*
- *Target insulation to low- and middle-income earners and other at-risk groups in terms of illness.*

The Irish IERC report (IERC, 2021) on co-benefits of retrofits highlights the cost of heat pumps as a retrofit. *The cost of running a heat pump in an energy inefficient home could be expensive. Therefore, the installation of a heat pump should be done in conjunction with other measures such as increasing levels of insulation and draughtproofing for example.*

What retrofit items would you recommend to enhance a common housing type in NSW, Vic and/or WA?

Mentimeter

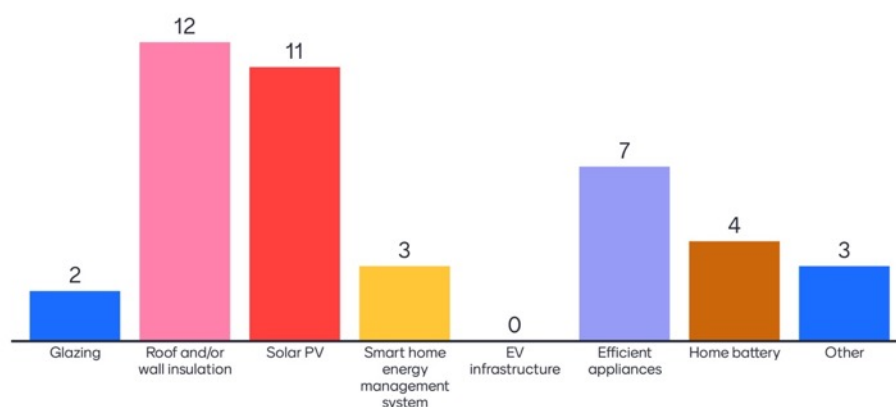


Figure 4 Recommended retrofit items as voted by the IRG

If other, which other retrofit items would you recommend to enhance a common housing type in NSW, Vic and/or WA?



Figure 5 Detail of 'other' retrofit items as voted by IRG

4.5.3 Quality Assurance

IRG participants and the literature review were very clear, *"Poor compliance could derail the whole scheme."*

Quality assurance and safety is critical to the success of a large-scale home retrofit scheme. The quality of retrofits and the safety of workers will depend on the use of trained and accredited workers as well as certified materials and equipment only. *"Industry needs a rigorous training and certification scheme for all retrofit providers."* This provides an opportunity to enable the clean energy workforce of the future through industry focussed training and accreditation.

"The customer needs to be able to trust the program provider and parties involved." Ensuring and maintaining the quality of retrofits will grow trust among homeowners and would enable 'word of mouth' recommendations amongst communities. Enabling a quality assurance process for the scheme, homeowner and contractor ensures standards remain high and consistent across the scheme. *"Audit 10% of upgrades to ensure standard of work delivered and require a desk top audit from the contractor on completion of every job, including photos."*

4.5.4 Scheme Design

Pilot schemes will be required to test and tweak the scheme design and the delivery model where required. The pilot must be able to *"trial and understand the complexities of the upgrade work being completed and enable something within the process to support those high priority retrofit items so that minor issues don't make them too hard"* for a large-scale home retrofit scheme to deliver.

"Homeowners want a streamlined process from assessment to finance and installation, and quality assurance included." Understanding the needs and wants of the target market is

crucial to delivering a model that engages with homeowners who require technical and retrofit process guidance, there also needs to be a clear demonstration of value to the homeowner. The scheme should provide *“A model that enables a central party to educate homeowners and listens to their needs is valuable.”*

Knowledge and social networks can play an important role in shaping the ways in which energy-related renovations are carried out, or not. Interventions can raise homeowners’ awareness of their energy use and enable them to be more informed consumers. Homeowners being involved in making decisions based on technical input, is the best framing of energy retrofits. Using a values-based approach to understand customer motivations is an effective way to overcome intervention barriers.

The scheme must enable a customer journey that removes the current ‘hassle factor’ of an energy efficiency home retrofit. *“The process of a retrofit is currently very hard to navigate, there is nobody available to guide the homeowner through the process. We need to be able to provide a specification to the homeowner and then how they go ahead with the retrofit, at least.”*

4.5.5 Recommendations:

- A successful scheme will need to have clear and demonstrable goals and target market that have been adapted from other programs learnings
- The scheme should aim toward achieving improved thermal comfort and energy efficiency with a path toward electrification
- The scheme should aim to improve the NatHERs rating of the home
- Whole of home assessment will be critical and will require independent trained assessors doing walk through assessments and/or high-quality desk-top assessment processes
- Good oversight in the form of home audits, advice to homeowners, in customer care and quality assurance of workmanship, to build trust in the program
- Develop a list of retrofits that prioritise the most impactful retrofits and can be adapted to the requirements of individual homes and homeowners
- Develop a robust auditing process for ensuring quality of retrofits and estimating and measuring their impacts
- For owners to have confidence in the scheme it will be important that quality and performance are promoted, developed, maintained, and recognised over time.
- The scheme must use industry trained and accredited installers and assessors only – support for industry training and accreditation programs will be required
- Use of government or industry certified materials and equipment only
- The scheme and its providers must provide a streamlined process that builds trust and delivers guidance, value, and benefits to the homeowner

4.6 Barriers, Opportunities and Market Setting Requirements

“Energy efficiency isn’t sexy”.

4.6.1 What We Learnt from International Examples

The successful Dutch energy transition program Energiesprong implemented in 2014 highlights the market conditions as a key barrier for successful implementation of an energy efficiency scheme. Issues identified include:

- *Market conditions are not set right for the innovation process in the building sector to take off*
- *Regulators and market players have not managed to introduce energy efficiency building upgrades that are attractive to the public or for investors*
- *Buildings are seldom refurbished more often than once every 30 years. Energy efficiency in buildings cannot be optimised through piecemeal insulation measures and gradual improvements. These measures thus lead to an opportunity lockout*
- *Solutions have not been integrated and holistic to deliver net zero energy refurbishments (the performance level required for the majority of houses to meet the CO2 targets) set out*

- *Solutions can only be delivered if they are attractive to the consumer. In order to ensure that the resulting energy costs savings cover the costs for these refurbishments, prices have to go down dramatically. In order to make these refurbishments attractive, delivery times have to go down to days instead of months. In order to turn energy costs into a revenue stream to recover the costs of investment, in many cases a financier is needed to put up the necessary upfront capital. To convince the financier that this investment is worthwhile and secure, we need a long-year energy performance warranty on the refurbished house.* (Platform 31,2017)

Webber et al (2015) highlight a range of barriers to implementing energy efficiency that include *lack of awareness and concern, limited access to reliable information from trusted sources, fears about risk, disruption and other 'transaction costs', concerns about upfront costs and inadequate access to suitably priced finance, a lack of confidence in suppliers and technologies and the presence of split incentives between landlords and tenants* (IEA, 2013b; IPCC, 2014; Long et al., 2014; Owen et al., 2014).

The 2010 Langham et al study looked at the reduced infrastructure costs from energy efficiency in buildings. It outlined some key barriers to energy efficiency, naming institutional obstructions as a key barrier, as well as:

- Imperfect information – a lack of timely and relevant information, such as lack of knowledge of energy efficiency measures, data on their performance and subsequent savings.
- Split incentives – where the outcome of an economically desirable outcome is obstructed because it is not in the interest of all parties involved.
- Payback gap – customers generally require a shorter payback period for demand side investment relative to the supply industry.
- Inefficient pricing – two aspects of inefficient pricing exist that represent barriers to EE: unpriced 'external costs' (e.g., the costs associated with greenhouse gases) and inefficient price structures.
- Cultural values – includes 'cultural lag' where prevailing attitudes and values are no longer appropriate to the current circumstances; and 'tragedy of the commons', where individual attitudes lead to behaviour of individuals which conflict with the collective interests of society.

It provides recommendations for energy efficiency policy measures for the National Electricity Market (NEM) using the following diagram Figure 6.

It can be seen in Figure 6 that to overcome the existing barriers to energy efficiency within the NEM and significantly increase uptake:

- objectives must be identified, which will “guide the selection of instruments”
- instruments must be implemented, which will “drive energy savings action”
- action (EE measures/interventions) must be taken
- performance must be evaluated.

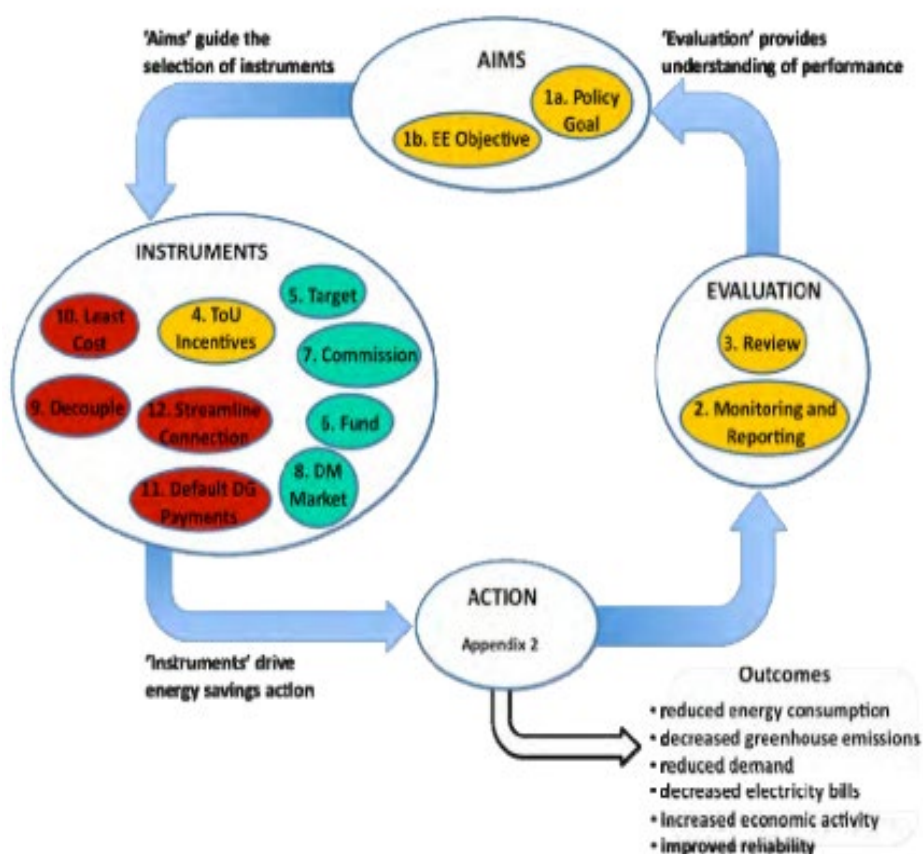


Figure 6 Recommendations for energy efficiency policy measures (Langham et al, 2010)

The IERC report (IERC, 2021) on co-benefits of retrofits highlights funding and participation should come from both public and private realms. It also outlines key phases for capturing stakeholder requirements and benefits:

- *pre-rollout preparations when government departments and organisations put together a plan of action for rolling out a nationwide policy of retrofitting. This plan should include collaboration with other government departments, and stakeholder groups to ready the retrofit and energy sectors with the personnel, products and services that will be required to carry out the retrofits. This phase should also include a comprehensive nationwide stakeholder engagement process, to ensure the needs of all beneficiaries are considered, especially the homeowners and occupants, and those in fuel poverty.*
- *retrofit renovation wave would begin once all these preparations have been made and the roll-out is launched. This is the execution phase, when all of the actual retrofitting takes place on-site through a coordinated delivery approach to achieve the required number and level of retrofits in a timely manner, while maintaining a high level of stakeholder engagement throughout*
- *post occupancy evaluation phase. This phase will examine the results of the works carried out, to evaluate if they meet basic project management criteria; finished on*

time, on budget and according to the scope, as well as addressing the energy performance gap. Where works have not been a success, this phase will provide valuable lessons learned as to why the retrofit did not meet expectations, and to ensure future works rectify systemic failings. This phase will also enable assessments of macroeconomic gains, public health and wellbeing gains, national energy, and carbon emissions savings, and so on. This will be the most important phase to determine whether or not the benefits of a retrofit renovation have been realised.

Recommendations for adopting or modifying EnergieSprong program in the Netherlands for implementation in New York State include the following:

- *Consider more work in the areas of lighting, appliances, and energy-efficient resident behaviour.*
- *Set clear goals for energy reduction that are deep, consistent, and defensible. The success of the Dutch program appears to be at least partially due to the clarity and depth of their net zero goal.*
- *Standardise the scope of work (to reap the benefits of economies of scale, messaging, and more) while allowing for some flexibility in implementation. Again, the Dutch program appears to have benefited from a combination of flexibility, in areas such as building appearance and “add-on features,” while delivering a standard set of energy improvements.*
- *Seek to unleash entrepreneurial spirit, excitement, and “can-do” attitude, as the Dutch have done. (Shapiro, 2018)*

4.6.2 Enablers and Benefits

Webber et al (2015) highlights the importance of considering the background trends in domestic energy use that occur during delivery of retrofit programs. They estimated that background trends generated a 12.3% drop in domestic space and water heating energy use within the study area during the 2007– 2011 period, which can be attributed to a range of factors, including the gradual upgrading of the housing stock, the steady replacement of older and less efficient space heating technologies, the impacts of various government energy efficiency policies and behavioural responses to increases in energy prices and changing economic conditions (including those that drive increases in fuel poverty). In comparison, the KWZ scheme, that offered free insulation to homeowners and that led to 29% of households having insulation installed, led to a 4.2% drop in domestic energy use across all households in the area. At the area-wide level, the influence of background trends therefore seems to be much greater than the influence of even a large-scale retrofit scheme. However, at the householder level the KWZ delivered a saving of 14.8%, which is comparable to 5 years of average background energy reductions. If it were possible to achieve higher participation levels, this demonstrates that retrofit schemes have the potential to exceed current trends in reductions in domestic space heating energy use.

The European Commission (2017) analysis of Energiesprong described conditions needed for success.

Achieving scale is essential to the long-term success of Energiesprong and exporting the business model to international markets is an important step to achieving that aim. The larger the market, the bigger the component supply chain. This is important to drive the development of new NZE components, improve quality and drive down costs to the benefit of all.

The Energiesprong model works because it delivers results whilst also being an attractive offer for contractors, housing providers and residents. Unlike existing retrofit models, Energiesprong uses an energy performance contract to guarantee the long-term energy saving performance of retrofits for a minimum of 30 years. This provides the property owner with financial security, giving assurance that the property will perform at the expected level. For the solution provider(s), there is a confirmed order pipeline with a minimum volume that justifies investment in innovation and solution development.

To make the scheme attractive and financially viable at scale the targeted cost per unit for a terraced house is EUR 40,000. To date, economy of scale, 3D technologies and prefabricated materials have enabled Energiesprong partnerships to lower the unit cost by about half of the pilot cost to about EUR 65,000¹⁷.

Unlike energy retrofit schemes, the Irish Home Renovation Incentive (HRI) does not necessarily lead to notable improvements in efficiency or renewable energy output, as it is typically used to build extensions, and for general repair and maintenance works. To invest more in energy retrofitting, it will be important that quality and performance are promoted, developed, maintained, and recognised over time, so that owners can have confidence to invest more in the energy performance of what is usually their most valuable asset, without risks of technical failure. (IERC, 2021)

4.6.3 What We Heard from the IRG

Building on the initial understandings from the desktop research, the IRG was consulted during the first workshop, to provide additional Australia-specific insight. We spoke about what barriers exist for a large-scale home retrofit scheme in the current market. Participants shared their expert knowledge and present/past experiences with similar programs in Australia and overseas, some of which are shown in Figure 7 as well as throughout this section and Appendix D.

What are the key risks to the potential impact of a large scale home retrofit scheme?

Mentimeter



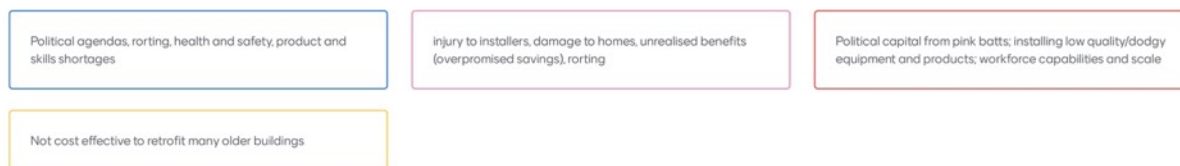


Figure 7 Key risks to a large-scale home retrofit scheme identified by IRG members

4.6.4 What is Required for Australian industry Enablement?

Evaluations of the precursor KfW-programs showed positive results, not only in terms of investment stimulated, energy savings, CO2 reduction and the impact on employment, but also regarding impact on public budgets. For every euro that went into the promotion of energy-efficient construction and refurbishment in 2010, public authorities collected four to five euros in revenue. KfW's promotional loans of EUR 8.9 billion initiated investments worth EUR 21.5 billion. This has primarily benefited regional tradespeople and construction contractors to whom the construction and converting contracts are usually awarded. As a result, these firms are said to have created or safeguarded some 340,000 job years of employment.

Ensuring the scheme can support the creation and maintenance of local jobs will be paramount to enabling the Australian industry. The large-scale home retrofit scheme could provide opportunity to grow local jobs through community scale retrofits, especially in regional areas. It is *“worth thinking through how to ensure the delivery model does not exclude local delivery partners and agencies at the expense of efficiency and scale”*. By enabling the required training for new jobs and accreditation to local existing providers or installers the scheme could strive to support jobs growth through home retrofits.

Sufficient training is required to ensure that industry professionals are capable and willing to maintain a high level of skill and service. The delivery model will require an influx of newly trained assessors as the *“current workforce requires upskilling”*. These newly created roles will need to be supported by a large-scale scheme that enables and draws on their experience and new training. It is considered that *“a well-trained assessor will be able to explain the unique situation in a house, and the dynamic between appliances and house structure/design”* which would ensure the best service for the homeowner.

The concept of new jobs and training is promising for communities however, IRG participants pointed out that *“we require a functional industry to deliver it”*.

It was also noted that industry development and enablement will need to be sensitive to the context. In particular *“Different delivery model required for regional areas”*.

When considering the industry that supports retrofits it will be important to not only consider the new products being installed, but also the waste generated by installation and ensure that the environmental impacts are managed.

The IRG noted that there is an opportunity to *‘drive innovation in design of product to minimise environmental impacts such as reduction of waste.’*

4.6.5 Legal and Governance Considerations

The following issues and considerations were discussed and advised on in a legal and governance workshop with our legal team following the first IRG workshop and conceptual scheme ideas.

It was advised that a Special Purpose Vehicle (SPV) employing a securitisation model would likely be a useful mechanism to handle the risk and investment capability required for a large-scale scheme of this nature. An SPV could be standalone, the parent company could be Climate-KIC Australia or another equity partner with Joint Venture (JV) partners also. Independent management of the SPV would be required that would align with the governance requirements of the proposed delivery model for the large-scale home retrofit scheme.

Licences that could be required and utilised by the SPV include:

- Australian Financial Service (AFS) licence
- Australian Credit Licence

An SPV also provides potential for joint venture arrangements with providers and suppliers, they could be technology providers for example. Possible JV partners could provide equity funding also.

For the purposes of a home retrofit it was considered that the ability to tie debt to the house could be an attractive option for homeowners. Would it be feasible to use the local council as an intermediary, with an Energy Upgrade Finance (EUF) for residential? This would require legislative changes across most states, as has been done to the Local Government Act 2020 in Victoria.

We were advised that the Industry Reference Group (IRG) engaged in this project and any projects with an IRG moving forward should function with the understanding of their obligations under the Competition and Consumer Act 2010 and their intentions to ensure that the discussions and any related communications fully comply with competition law requirements at all times. A protocol for future projects will be considered.

Under the Australian Competition and Consumer Commission (ACCC), The Australian Consumer Law is designed to protect consumers from scams, unsafe products, and unfair treatment from businesses. The Australian Consumer Law sets out consumer rights that are called consumer guarantees. These include your rights to a repair, replacement, or refund as well as compensation for damages and loss and being able to cancel a faulty service. The scheme and its providers must ensure that they are always guaranteeing consumers their rights to all the above requirements. All third parties involved must work to the same obligations.

The issue of false marketing and the potential for misleading communication was raised. Businesses are not allowed to make statements that are incorrect or likely to create a false impression. The scheme and its providers must ensure that they are always accurate in their messaging to consumers, they must never create a false or misleading impression. All third parties involved must work to the same obligations.

A framework agreement between the SPV and its providers and suppliers with separate customer agreements sitting underneath it may be beneficial to the scheme arrangement. This would require further investigation as the SPV is set up.

Further investigation is required to consider the following points:

- Who will own the Renewable Energy Certificates (REC)/Energy Efficiency Certificates (EEC)?
- What are the legal options available to support and take this scheme to scale?

4.6.6 Recommendations

- Consider the current market conditions and consumer preferences in the locality
- Build industry capability and capacity through training and certification programs
- Engage across supply chains to understand their current capacity and needs if they were to meet demand associated with a large-scale retrofit scheme – especially in the context of the current coronavirus pandemic and its impact on global supply chains
- Explore and analyse current waste management systems for retrofit and identify best-practice approaches to minimising waste and potential for circular economy approach.

4.7 Stakeholder Map

Table 21 shows the stakeholders involved in the large-scale home retrofit ecosystem. This is a result of interactive work performed in the first IRG workshop. The process of stakeholder mapping indicated the strengths and weaknesses of each stakeholder and where the stakeholder might add most value in a home retrofit process. Based on this information, potential roles for stakeholders in the large-scale home retrofit delivery model have been identified.

Table 21 Potential roles of key stakeholders in the household retrofit ecosystem

Stakeholder	Potential role(s)
Federal Government	Loan securitisation Funding support for establishment Setting supportive policy and legislative arrangements
State Government	Housing energy and thermal efficiency standards Trade licencing and accreditation Link to existing schemes Setting supportive policy and legislative arrangements
Local Government	Recruiting homeowners Engaging local suppliers
Community NGOs	Recruiting homeowners Supportive messaging to government
Electricity network operators	Data collection

Electricity Retailers	Allow retrofits repayments through energy savings on bills Communications with customers
Banks	Finance for retrofits – through home loans or separate loans Financial assessments
Superannuation	Finance loans
Industry Associations	Inform program design and roll out Aligned messaging to government for standards etc
Manufacturers	Scale up production as required by retrofit demand Aligned messaging on benefits of retrofit
Retrofit service providers (incl assessors)	Simplify experience for homeowners Provide advice
Installers / builders	Engage homeowners through broader renovation discussions Communicate benefits
Auditors	Assess retrofit requirements Communications with energy users Check quality of installations
Homeowner – occupiers	Self-assessment? Decide finance arrangement for their property Fund some upgrades
Homeowner – landlords	Fund some upgrades Decide finance arrangement for their property
Tenants	Pressure landlords and property managers for energy efficiency upgrades through rental property preferences
Social Housing providers	Support piloting of model retrofits where funding is available
Registered Training Organisations	Training for assessors, auditors, and installers
Universities	Monitoring and evaluation Training and course design

4.7.1 Recommendations

- Leverage the capabilities and capacities of key stakeholders to support ongoing work to develop and deliver a large scale retrofit program
- Understand and detail the relationships and agreements required to underpin effective collaboration for delivery of a large-scale home retrofit scheme

4.8 Current Activity

The Trajectory for Low Energy Buildings and its Addendum (the Trajectory)¹, agreed by state, territory, and Commonwealth Energy Ministers in 2019, is a national plan that set a trajectory towards zero energy (and carbon) ready buildings for Australia.

The Trajectory outlines a suite of initiatives to improve the energy efficiency of Australia's buildings and included a measure to:

Establish a national framework for energy efficiency disclosure, building on existing jurisdictional work, including the National Collaborative Approach to Residential Building Ratings and Disclosure – Principles, which outlines the policy parameters for adaptation and implementation by jurisdictions, subject to a jurisdiction regulatory impact statement.

Disclosure of a home's energy efficiency performance at the point of sale can ensure buyers have relevant information to make more informed choices. This information may encourage improvements by either the seller or buyer.

As a recommendation from the Trajectory, a National Framework for Disclosure of Residential Energy Efficiency Information (the Framework) is being prepared. This will build upon established disclosure markets already present in Australia, including the ACT Mandatory disclosure and the voluntary National Scorecard Program. Other active residential building measures listed in the Trajectory that support and/or enable the disclosure of residential building energy efficiency information are:

- Expansion of NatHERS to provide whole of home ratings and whole of home assessments for existing homes
- National Framework for Minimum Rental Requirements
- Updated minimum energy efficiency provisions in National Construction Code (NCC) 2022.

Through the IRG workshops and interviews, and via desktop research, the current activities related to housing energy efficiency in Australia have been identified. Appendix C Current Relevant Activity in Australia, provides the full detail of the current complementary activities that are underway in Australia.

The assessment of this activity shows that there is currently no national, or regional large-scale home retrofit scheme. It also highlights a private sector gap where there is growing demand from homeowners and as well as interest in offering green finance.

The only home retrofit schemes that are currently active are state government run programs that are engaged with industry delivery partners and accredited suppliers and providers. They are mostly targeted at low-income households and small in scale.

However, some aspects of these schemes show precedence for a model that could enable a national retrofit market that could be managed state by state. For example, the Energy Upgrade Finance (EUF) extension to Victorian residential building owners provides

¹ <https://energyministers.gov.au/publications/trajectory-low-energy-buildings>

a financing mechanism that can enable a homeowner who does not have access to cash or other finance options for the purposes of a home retrofit. A large-scale home retrofit scheme could enable, support, and direct such homeowners through a streamlined process, which allows them to leverage the benefit from the EUF as well as stimulating the jobs demand for retrofit work in the local area, improving housing stock and reducing emissions.

The table also highlights the Victorian State Government as being the most active in this space.

4.8.1 Recommendations

- Align with and build from the existing activities in the space – especially voluntary and mandatory disclosure requirements, low-income retrofit programs, solar PV subsidies and finance arrangements
- Align with and support the Framework to create the ecosystem that enables a market for national disclosure
- Analyse how current subsidies and incentives can best be integrated with a large-scale retrofit scheme
- Work with leading organisations and jurisdictions to progress the scheme

4.9 Market Scale and Segmentation

Desktop research was undertaken to analyse the current Australian Bureau of Statistics on Household Estimates from 2019. This work was complemented by insights generated from the IRG and PPC, and from the literature review. Together these provided substantial initial understanding of the market scale and potential segmentation was developed.

4.9.1 Market Scale

National Construction Code (NCC) Class 1a single dwellings that are owner occupied account for up to 6.0 million dwellings and tenanted dwellings account for up to 2.6 million dwellings. This represents 86% of Australian households.

This data was further analysed to understand how these homes are distributed across Australia, with a particular focus on capital cities as their density was seen as important for getting large-scale uptake.

Table 22 Distribution of dwellings across Australian capital cities, by dwelling type

Dwelling Type	Gtr Syd %	Gtr Melb %	Gtr Bris %	Gtr Adl %	Gtr Prth %	Gtr Hbt %	Gtr Dwn %	ACT %
Separate house	26	29	16	10	14	2	1	2
Terrace house	25	39	12	7	12	1	1	3
Flat or apartment	55	23	9	5	5	1	1	2

All types	30	30	15	9	12	2	1	3
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Based on the data on where Class 1 homes are located the roll out rate shown in Table 23 was suggested. This roll-out model provides an initial estimate of the potential market and stages the scale up from smaller initial efforts to test the model, up to very large number of retrofits in later years.

Table 23 Preliminary roll-out proposal for retrofits across major cities in Australia

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Canberra	Other	Regional
0-6 months	250	250	250	250	250	250	250	
6-12 months	1,000	1,000	500	500	500	250	250	
Year 2	10,000	10,000	5,000	1,000	5,000	500	500	5,000
Year 3	50,000	50,000	25,000	5,000	25,000	2,500	2,500	10,000
Year 4	75,000	75,000	50,000	15,000	50,000	7,500	7,500	25,000
Year 5	150,000	150,000	100,000	50,000	100,000	35,000	35,000	50,000
TOTAL	286,250	286,250	180,750	71,750	180,750	46,000	46,000	90,000

While there are up to 8.6 million Class 1a single dwellings in Australia, not all of these require retrofit, not all are suitable for retrofits, and not all homeowners will want to retrofit.

Further analysis should focus on deeper understanding of the likely state of the homes within these markets and their need for retrofitting. It should also explore the current renovation rates and customer appetite for retrofits in these areas to further refine the understanding of the target market to allow effective targeting of marketing and identify the most appropriate delivery mechanisms.

This research also identified that:

1. Social housing is up to 0.4 million dwellings
2. NCC Class 2 apartment buildings that are tenanted or owner-occupied account for 1.2 million dwellings, 12% of Australian households.

Several in the IRG identified that it was important to prioritise low-income households as they would benefit disproportionately from retrofits. *"Recommend commencing with low-income households, most of which are living in older properties which will receive the greatest impact."* However, this was balanced with the acknowledgements that *"Low-income households need 100% funded assistance"* and *"Low-income programs have some inherent challenges that may make roll out more difficult."*

A related perspective from the IRG was to focus on the building quality rather than the homeowners. It was suggested to *“Focus on worst homes first (in terms of star rating) [as this] gives biggest bang for buck.”*

Feedback from the IRG identified that there are substantial complexities in approaching retrofits in apartment buildings. These include the need to work with strata committee and strata management companies as well as substantial variation in construction types. However, the IRG also identified that apartments represent a growing percentage of the building stock: *“I... personally I think the program design should consider apartments as these are a growing proportion of building stock.”* Therefore, it is proposed that Class 2 buildings will be considered as part of a longer-term roll-out of the scheme.

4.9.2 Market Segmentation

Initial market segmentation was focussed on the financial status of the homeowners, as the propensity to pay is a key driver of how they may participate in a scheme and how a scheme would be designed. New financing models may be considered which incentivise homeowners as owner occupiers and/or landlords.

Three segments were identified based on the type of funding or finance that homeowners would likely prefer to access to support retrofits. These are shown below in Figure 8.

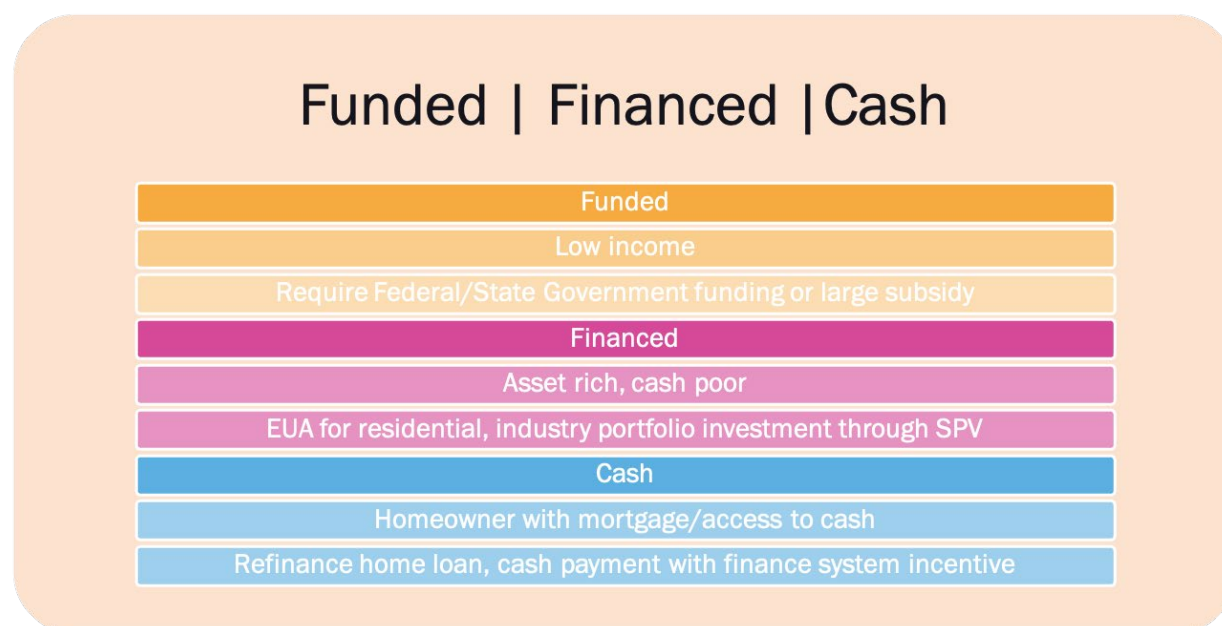


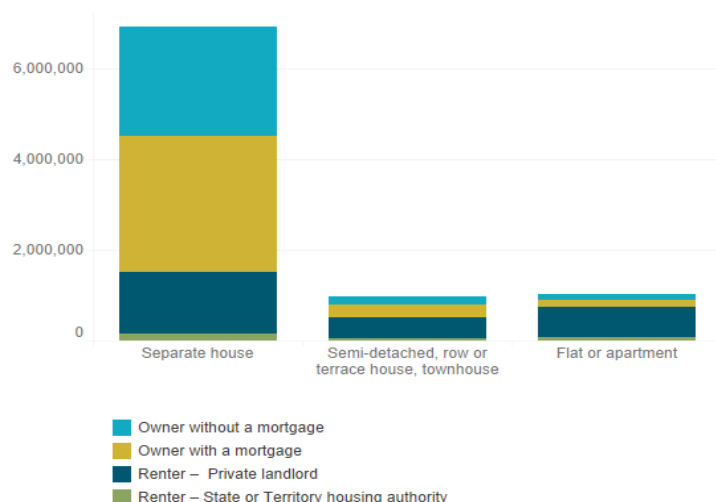
Figure 8 Market segments based on likely payment approach from customer

Which funding or financing approach is more likely driven in part by the ownership status of the home. Therefore, within the nominated focus group of Class 1a homes analysis was undertaken to identify the percentage of homes that were owned outright, have an existing mortgage, or were tenanted. The results are shown below in Figure 9.

- Approximately 29% of all Class 1a dwellings are owned outright,

- 36% of Class 1a dwellings have a mortgage and,
- 20% are tenanted.

Household estimates (number), by dwelling structure, 2017–18
Australia only



Note: The sum of components presented may differ to the estimated total number of households published in the data source. See the data source for detailed information.

See the related data cubes in the source data for the relative standard errors associated with these estimated values. Some estimates should be used with caution.

Household characteristic:
Dwelling structure

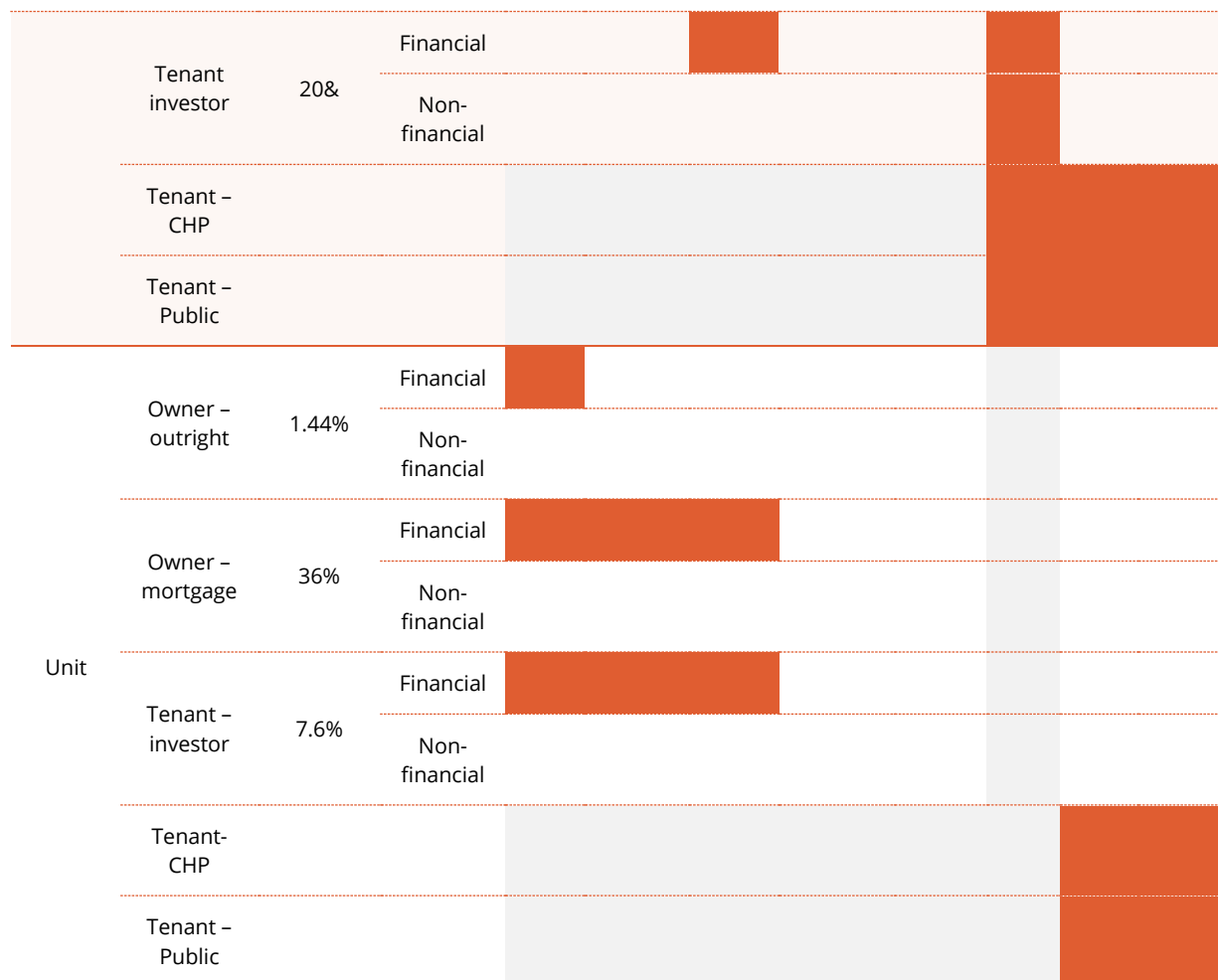
Source: ABS 4130.0 - Housing Occupancy and Costs, 2017–18
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4130.0>
Latest data: 2017–18 (biennial)

Figure 9 Number of dwellings in Australia, by dwelling type and ownership status

Based on this breakdown of ownership status the possible funding or financing options likely to be of interest to each group was mapped. This shows that the range of options available for homeowners with a mortgage is greatest, and that the options available for tenants in public and community housing is most reliant on government or philanthropic support.

Table 24 Breakdown of % of dwellings in each ownership category and associated potential finance or funding mechanisms

Type of Building	Ownership	% of all dwellings	Occupant	Cash	Redraw / Offset	Home loan	Personal loan	Power retail	EUA	Govt	Philan
House	Owner - outright	29.15%	Financial								
			Non-financial								
	Owner – mortgage	36%	Financial								
			Non-financial								



Analysis by the Green Finance Institute (2020) provides further insight into this market segment and breaks down homeowners based not only on whether they own outright but also on how recently they purchased the home and the scale of mortgage left to be repaid. Analysis of this type focussed on the Australian market would provide further insight into the opportunities and approaches required for large-scale retrofits to be effective. A suite of approaches will likely be required to suit the varied needs of households.

Sub-segment / profile features	First-time buyer	High loan to value	Low loan to value	Own outright (recently repaid)	Own outright (sufficient savings)
Decision Maker	Y	Y	Y	Y	Y
Characteristics	Cash poor, generally lower credit rating, more likely to own a new home (Help to Buy etc.)	A: Mixed ability to access credit, typically 30-49 B: highly leveraged property developers	Typically 45-65, first time buyers with parental support, mature career stage	Generally older; often asset rich and cash poor; fixed income; less efficient home	A: Generally older, sufficient savings and/or fixed income; less efficient home / B: cash-rich property developers
Key influencers	Lenders, mortgage brokers, surveyors	Lenders, mortgage brokers, surveyors, architects, supply chain (for property developers)	Surveyors/valuers, architects, advisors of home retrofit	Peers, advisors of home retrofit, financial advisors	Valuers/ surveyors, architects/designers, financial advisors
Level of Awareness	Generally very low EPC data is the only item and not all OOs consider it High climate awareness not linked to home and not translated into action				
Drivers	To buy an already energy efficient home concerned about cost of living growing family	Desire improvements aesthetics, comfort consider dwelling as an investment/ asset value increase rapid turnover	Changing family circumstances recently moved extensions and repurposing	Minimising costs consider home as retirement plan	A: Aesthetics, health, comfort minimising costs B: consider dwelling as an investment/ asset value increase rapid turnover
Trigger Points	About to move / recently moved	Recently moved growing family recently acquired investment	Becoming empty nesters recently moved extensions and repurposing	Becoming empty nester retirement moving to downsize	A: Adapting home for future B: recently acquired investment
Barriers - Financial	Highly leveraged seeking to minimise outgoings limited options/desire for further borrowing	High upfront costs, low certainty of savings combination of financial products required improvements not reflected in asset value	High upfront costs, low certainty of savings combination of financial products required improvements not reflected in asset value	Limited options/desire for borrowing high upfront costs, low certainty of savings	Improvements not reflected in home value
Barriers – Non-financial	Uncertain performance of EE lack of access to good information	Uncertain performance of EE lack of access to good information trust in supply chain	Uncertain performance of EE lack of access to good information hassle trust in supply chain	Uncertain performance of EE lack of access to good information hassle trust in supply chain	Lack of access to good quality information hassle trust in supply chain

Figure 10 Profile of the owner-occupied market segment (from Green Finance Institute, 2020)

4.9.3 Recommendations

- The scheme should target NCC Class 1a single dwellings that are owner occupied or tenanted. This target market reaches most of the private Australian housing stock which would allow for the scale and impact required.
- The Scheme should further explore the sub-sections within the NCC Class1a dwelling sector to identify the best mechanisms to engage these market segments
- Social housing and NCC Class 2 apartment buildings should be considered for inclusion as the scheme delivery progresses.
- Scheme should explore mechanisms to support retrofits in low-income households and for social housing, including opportunities for Government funding.
- Scheme should target poor quality homes to achieve the largest improvement and impact.

4.10 Consumer Profile and Preferences

Insight from the IRG on consumer preferences suggests that energy efficiency is not a high priority for homeowners, and that they are “*Not really interested*” in energy efficiency retrofits. This is supported by evidence gathered through the literature review and desk-top research.

The ARENA ‘DER Customer Insights Series’ investigated the experiences of customers involved in twenty ARENA-funded Distributed Energy Resources (DER) projects, mostly on-grid residential solar and battery storage trials. The projects were across almost all states and territories and involved over 1,300 customers who chose to have DER systems

installed in their homes. The study analysed the values of DER customers and their motivations. It suggests that customer motivations can be a barrier to successful implementation of DER interventions.

Nonetheless, international experience shows that there is significant appetite for retrofits where funding is available - e.g., Warm Up NZ, UK Warm Front and the Green Deal Home Improvement Fund all had significant uptake, in many cases exceeding the capacity of the program.

A significant motivator for customers to engage in these schemes appears to be financial benefits. Where that benefit is not clearly articulated and evidenced, then uptake can be impacted. Webber et al (2015) state that the Green Deal *“failed to persuade large numbers of households to participate, partly due to concerns about financing arrangements and partly because of scepticism that the scheme will actually generate the savings that it claims (c.f. Harvey, 2013; Collinson, 2014)”*.

While financial benefits can be a strong motivator, they have not been found to be the greatest driver of decision making in households. Survey research by the NSW Department of Environment (2014) has shown that the main conscious consumer drivers are comfort, functionality, cost, and perceived value. Reducing the running costs comes in around 8th with 20% saying it is an important factor. This was even more pronounced among households that had undergone major renovations in the past 3 years. If energy efficiency is not a high priority for homeowners, then how should a large-scale retrofit scheme approach and engage with them? The ARENA ‘Distributed Energy Resources (DER) Customer Insights Series’ proposes a values-based approach as an effective way to engage and tailor messages to many types of customers, especially where they may not prioritise energy.

NSW Office of Environment and Heritage (2014) Sustainable Households Survey of homeowners for the NSW Office of Environment and Heritage, NSW OEH

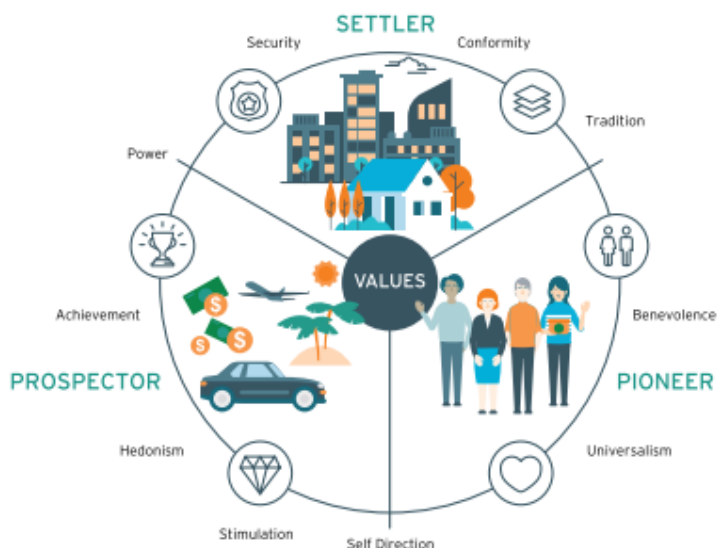


Figure 11 DER customer types and their values (Alexander et al, 2020b)

The analysis revealed:

- Financial benefit is a core motivator for DER customers, however it cuts across values modes and should be communicated in multiple ways.
- Settlers are motivated by security, expressed as a desire for reliability and 'maintaining the status quo'.
- Prospectors who will be driving the first wave of mainstream DER adoption are excited by 'getting ahead' or 'making a smart investment'.
- Pioneers desire fairness and are willing to support 'the greater good'.
- Trust also cuts across the values modes and is critical to successfully achieve a customer-centred energy future (Alexander et al, 2020b).

In addition to those things that motivate them, homeowners will also face barriers to engaging with a home retrofit scheme. The Green Finance Institute (2020) identifies a range of financial and non-financial barriers that can be experienced by owner-occupiers (Table 25). Similar barriers exist for other sections of the market.

Table 25 Financial and nonfinancial barriers to retrofit projects in the owner-occupied households

Financial Barriers	Non-financial barriers
High upfront costs for improvements.	Low awareness among homeowners, and disconnect between a genuine concern about climate change and the energy efficiency of their property
Lack of access to capital.	Professional influencers fail to inform and educate homeowners of benefits.
Low confidence in energy bill savings: A barrier or homeowners seeking full repayment via energy savings.	Lack of good quality information and support on products, choices, and suppliers. to embark on a renovation 'journey'.
Duration of tenancy: Energy bill savings may not accrue to the original homeowner if they move property.	Duration, hassle and complexity (i.e., supply chain, installation, finances) of retrofit projects.
Property value-add: Efficiency improvements not considered to increase and/or protect property values.	Lack of confidence in the supply chain.
Availability and accessibility of products: Low penetration and availability of attractive financial offers for efficiency measures.	Leaseholders gaining permission: Getting collective agreement amongst groups of share-of-freeholders.

The scheme will need to acknowledge and address household scale barriers to reach scale. The ARENA 'DER Customer Insights Series' also drew-on and analysed almost one-hundred reports arising from twenty of ARENA's DER projects. The following summary (Table 26 and Table 27) outlines barriers and opportunities of the "customer journey" for the implementation of DER interventions (Alexander et al, 2020a).

Table 26 Part 1 Barriers and opportunities of the “customer journey” for the implementation of DER interventions
(Alexander et al, 2020a)

What worked	The Customer Journey	What didn't work
<ul style="list-style-type: none"> - Undertaking detailed customer research and segmentation - Carefully planned, regular communication and engagement - Communicating your offer, options, and pricing simply - Providing customers with a single, accessible, point of contact - Responding and addressing frequently asked questions quickly and effectively - Maintaining online resources that are relevant, accessible, and up to date - Creating excitement of the offer with the target customer group/ community - Working with trusted partners/ local champions - Established and smooth process for acquiring customers 	<p>Engagement & Acquisition</p> <p>This stage involves all steps in the lead up to product's installation, including all awareness raising up to the point of the financial transaction and signing of contracts.</p>	<ul style="list-style-type: none"> - Complex messaging - Providing too many options - Slow and/or cumbersome acquisition processes - An irregular or impersonal point of contact
<ul style="list-style-type: none"> - Including installers in the design phase of the main project - Investing suitable resources in the installation process - Providing comprehensive training and upskilling of installers - Quick, effective, non-intrusive installation with a single site visit - Consideration of home aesthetics - Transparency over final installation requirements and cost - Plan ahead for common pitfalls, such as internet connectivity issues where required - Responding and addressing any installation issues quickly and effectively - Customer research before and after installation to identify any concerns early 	<p>Installation</p> <p>This stage involves all the steps directly related to the installation, including any pre-installation site visit.</p>	<ul style="list-style-type: none"> - Underestimating the time, complexity, and cost - A slow, drawn-out, and “diffuse” process requiring multiple site visits - Over-stretched supply chains that can be slow to respond - Variable installer quality, some offering lower levels of service, ability, knowledge, and technical competence - Poor aesthetics of installed equipment that doesn't fit with an existing home's look and feel

Table 27 Part 2 Barriers and opportunities of the “customer journey” for the implementation of DER interventions
(Alexander et al, 2020a)

What worked	The Customer Journey	What didn't work
<ul style="list-style-type: none"> - Responding and addressing any operational issues quickly and effectively - Providing accessible technical information and updated FAQs to allow customer troubleshooting - Comprehensive technical and customer engagement training for installers and support service personnel - Providing all project partners, stakeholders, and subcontractors in the supply chain with clear, end to end processes 	<p>Operation and Maintenance</p> <p>This stage covers all ongoing activities related to the operation of the DEP system (firmware and hardware), including any scheduled or unscheduled maintenance</p>	<ul style="list-style-type: none"> - Poorly managed processes, and undefined supply chain partner roles and responsibilities - Lack of training for customer-facing roles - Intermittent issues with DEP functionality and continuity of operation - Issues and discomfort with third-party ownership / control of the DER.
<ul style="list-style-type: none"> - Certainty of financial costs and returns preferred to variable rates, even if those variable rates offer greater benefit - Ongoing and planned engagement directed at customer retention and advocacy - Changing consumer behaviour, such as through time-of-use tariffs - Tailored engagement depending on customer preferences, such as through different degrees of control offered for optimised their DER 	<p>Retention</p> <p>This stage covers the post-installation phase that ensures customers continue to be satisfied with their product and service.</p>	<ul style="list-style-type: none"> - Complex pricing structures or value propositions that change over time - Designing optimisation algorithms without customer participation or acknowledging different types of customers - Not planning for legacy and how customers will be supported at the conclusion of each trial

Knowing what messages might be impactful is part of the challenge, the other is knowing how and when to delivery those messages. International experience has shown that good communication is essential for encouraging participation. This includes knowing when homeowners are likely to be receptive to messages about retrofits. Potential trigger points for home assessment and retrofits include selling/buying a home, renting a home, replacing old or broken fixtures and/or undertaking other home renovations intended for aesthetic or functional purposes only. Mechanisms need to be identified to integrate energy efficiency retrofit messages into these processes, either through partnerships, disclosure requirements or training and certification of service providers.

Knowledge and social networks can also play an important role in shaping the ways in which energy-related renovations are carried out, or not. Interventions can raise homeowners’ awareness of their energy use and enable them to be more informed consumers. Homeowners being involved in taking decisions based on technical input, is the best framing of energy retrofits.

Information about the opportunity of energy efficiency also needs to reach homeowners from their trusted information sources. Surveys suggest that when deciding what to do in a home renovation, and who to hire to do the work, family, friends, and neighbours are highly influential along with trades people that they have used before (OEH, 2014).

Internet searches, TV shows and home improvement magazines were also among the most influential sources of information. This suggests that messages need to be targeted through these groups, and that operating regionally, or on a community scale could assist the transmission of information about the benefits of retrofits as people would be likely to hear about them from friends and neighbours, as well as local tradies.

This framing may, however, fail to consider some of the more complex influences of societal norms on individual decision-making and action. In an analysis of the impact of the Kirklees Warm Zone scheme, Webber et al (2015) included a literature review that points out the focus of key assessments of residential energy efficiency schemes *which emphasise the significance of the often deeply embedded social practices that shape energy use in buildings (c.f. Spaargaren, 2011; Judson and Maller, 2014; Vlasova and Gram-Hanssen, 2014; Bartiaux et al., 2014).*

Bartiaux et al (2014) analyse energy-related renovations in Europe with a conceptual framework drawn from social practice theories. They conclude that homeowners should be seen not as isolated individuals who should ‘choose’ to carry out energy-related renovations but rather as ‘carriers’ of social norms of what is normal to do and say, and of established routines and knowhow. The importance of knowledge and social networks in providing advice and help before and during renovations (e.g., friends, family, and specialist craftsmen/tradesmen) shape the ways in which energy-related renovations are carried out, or not.

A study by Vlasova and Gram-Hanssen (2014) also looked at the importance of social practice theory and how everyday practices of households have to be understood in relation to the physical layout of buildings and technologies. They concluded that context-rich retrofits, in which homeowners are involved in taking decisions on the basis of technical input, are the best framing of energy retrofits. The facilitation of everyday practices (and appropriate feedback loops) can help to reduce consumption. But the underlying case for government intervention to help to promote retrofit and the diffusion of more energy efficient practices is still apparent, even though the forms of intervention advocated are often very different to those that emerge from a more technical or economic perspective.

It is important to note that the research and insights that were available to inform this project all date from before the current coronavirus pandemic. Since the beginning of the pandemic, people are spending a much greater proportion of their time at home, including working from home. This may well be driving changes in the way people view their home and the priority that they give to comfort and energy efficiency. Current information is required to fully inform the design of a successful home retrofit scheme.

4.10.1 Recommendations:

- Using a values-based approach to understand customer motivations is an effective way to overcome intervention barriers.

- Engage homeowners at key decision points including selling/buying a home, renting a home, replacing old or broken fixtures and/or undertaking other home renovations.
- Target messaging through influential sources by operating at a community (including online communities) or regional scale. This will allow information to flow from family, friends, and neighbours as well as local trades people
- Consider the opportunity for messaging through more general channels such as TV and internet information sources
- Do specific customer preference and insight analysis for the target markets identified, exploring the detail of which retrofits are preferred, what specific messages about their benefits are impactful, and from whom it would be best to hear the messages
- Establish clear success criteria to assist with monitoring the scheme's progress against expectations.
- Promote, develop, maintain, and recognise quality and performance so owners have confidence in the scheme.

4.11 Funding and Finance Models

Currently in Australia there are some financial products available commercially or through government to encourage energy efficiency and thermal efficiency retrofits. Bank Australia with the support of the Clean Energy Finance Corporation offers a Green Home Loan. The homeowner receives a 0.4 percentage point discount on their home loan rate if their home is either:

- NatHERS 7 Star+ (new homes)
- Have made ambitious green upgrades in the last 12 months and can show a 1-star improvement based on Residential Efficiency Scorecard assessments (existing homes)

To date 140 homes have taken up the offer.

The Commonwealth Bank offers a Green Loan where customers with an eligible CommBank home loan or investment home loan can buy and install eligible clean energy products at the property secured by their existing home loan.

The loan offers a 0.99% PA 10-year fixed rate no establishment fee, monthly loan service fee or early repayment fee. The minimum loan size is \$5,000, maximum loan size is \$20,000.

Some State governments have also created structures that allow finance to be accessed for energy retrofits. In Victoria from 6 April 2020, Environmental Upgrade Finance (EUF) able to be offered to homeowners. EUF is a council-based financing mechanism where the lender provides finance to the property owner and the local council collects repayments through the rates system. The council then passes the repayments onto the lender.

As EUF loan repayments are attached to the property, not the person, they may be attractive to homeowners who may wish to sell the property within the period of the loan.

In NSW the Energy Savings Scheme is a certificate trading scheme designed to reduce electricity and/or gas use by creating financial incentives for households and organisations to invest in upgrades to save energy.

Home Energy Efficiency Retrofit (HEER) activities can be delivered under the Energy Savings Scheme (ESS) by Accredited Certificate Providers (ACPs) to help NSW households and small businesses save energy by supporting a range of energy efficiency upgrades, including lighting, draught proofing, and equipment upgrades.

The home occupant nominates the ACP as the energy saver for the upgrade to enable them to create Energy Savings Certificates (ESCs) from the energy savings that will be made. This certificate can then be sold into the off-sets market.

Work by the Green Finance Institute (2020) has summarised the large number of potential financial product available to support energy efficiency retrofits in owner-occupied and rented homes.

Table 28 Example financial products to support energy efficiency retrofits

Name	Description
OWNER-OCCUPIED HOMES	
Property assessed clean energy financing	Property Assessed Clean Energy (PACE) financing enables homeowners to receive financing to support 100% of the upfront costs for a retrofit project. The liability is secured against the property and repaid through an additional property tax, typically over extended timescales (e.g., 15-25 years) that make repayments more affordable. Importantly, the liability remains with the property if there is a change of ownership. In the US, PACE schemes have mobilised over \$5 billion into domestic retrofits and trials, and other 'property-linked' financing mechanisms are being trialled around the world.
Green Equity Release	Equity Release allows homeowners over the age of 55 to unlock the equity in their property without the requirement to move home. A Green Equity Release product would unlock cash for investment into energy efficient improvements, with favourable terms to incentivise retrofit and the ability to protect the property's value for posterity.
'Help to Green' Loan	A 'Help to Green' Equity Loan would enable homeowners to borrow against the equity in their property to invest into energy efficiency improvements, for which the Home Energy Efficiency for Scotland Equity Loan pilot offers a template. In addition, if the UK Government supported Help to Green Equity Loans for first-time buyer deposits towards the purchase of existing (rather than newly built) homes that meet energy efficiency criteria, either pre- or post-sale, then favourable borrowing terms could be offered such as interest-free periods, whilst lenders could leverage the existing operational infrastructure of the Help to Buy scheme.
Add-to-my-mortgage platform	A Further Advance, or additional borrowing on an existing mortgage, is a simple route for many households to access finance for energy efficiency improvements. The Add-to-my-Mortgage digital platform aims to streamline the process for homeowners to apply for a Further Advance at the 'point of sale' of energy efficiency measures.
Domestic Energy Efficiency Salary Sacrifice Scheme	A salary sacrifice scheme that allows employees to draw a loan through their employer for investment into home energy improvements, which is repaid via gross salary contributions. The effective discount and ease of access to finance should appeal to employees, while overcoming communication challenges by marketing the scheme

	through employers who already have existing relationships with the homeowner. Parallels exist in the successful Ride to Work scheme.
Comfort as a Service	The construction or refurbishment of homes to high energy performance standards, with energy controls that support remote optimisation of the building performance, can deliver significant energy savings that outweigh the cost of home energy optimisation. Financial mechanisms that unlock these cashflows can support the investment case for housebuilders and homeowners to achieve high efficiency standards.
PRIVATELY LEASED HOMES	
Green Leases	Green Leases with an 'Energy Alignment Clause' enable landlords to recover the cost of a retrofit, based on the predicted energy savings of the retrofit measures. To protect tenants against underperformance and allow them to also benefit from the retrofit, only 80% of annual predicted savings are passed through to the landlord, offering a 20% performance buffer. Similar models have been successfully piloted for commercial tenancies in New York state.
Minimum Energy Efficiency Standards (MEES) Compliant Funding	An energy performance guarantee would allow private-rental landlords to procure long-term compliance with MEES requirements. The landlord would pay an ongoing service charge or premium to the guarantor, who would cover the capital investment required to retrofit the property should MEES regulations be tightened. Similar models are adopted for landlord boiler insurance and energy performance contracting models.
Energy Saving ISAs	Private-rented tenants are typically unaware of the financial benefits associated with energy efficiency measures, therefore have limited incentive to request energy improvements from their landlord. An Energy Saving ISA, which directs energy bill savings into an ISA or savings product following the retrofit of a private-rented property, could help tenants build up their savings for a mortgage deposit or other investments.
Long-term retail investment	Crowdsourcing investment for community-based renewable energy projects has grown in popularity over recent years. An investment product could be structured that allows retail investors to provide capital for retrofits and receive predictable long-term returns from energy efficient private-rented properties.

In addition to private sector finance, governments have played a role in supporting the financing of retrofits, in particular seeking to address the barrier of high up-front costs through low/no-interest loans and subsidies. In the low-income and social housing space government has been particularly active in offering grants and subsidies to support improvements in energy efficiency and lower energy bills through retrofits.

Internationally, retrofit schemes have employed a variety of financial mechanisms, as summarised in Table 29. There were free and subsidised measures, low interest loans, and payback tied to energy bills and property taxes. The total value of investments has tended to be very large, and success and uptake has varied. Government funding or backing, or philanthropic funding is prevalent, as is partnership with community groups, local government, and utilities

Table 29 Finance Arrangement used in a selection of international retrofit programs

Finance arrangements								
	Green Deal	EnEv Energy Conservation Act	Warm Front	EnergieSprong	Kirklees Warm Zone (KWZ) scheme	Warm up NZ	Property Assessed Clean Energy (PACE)	EcoBonus
Finance mechanism	Paid from projected savings on energy bills over 25 years or less	Low interest loan up to €50,000 with a 10-year repayment period	Grants of up to £3500 (£6000 for some technologies)	government-backed 40-year loans to housing associations funded by WSW Social Bank, European projects and philanthropists	Free	Subsidises 1/3 cost up to NZ\$1,300 (more for low income)	100% financed upfront under a local government bond; repaid on property tax bill over 10-20 years	Superbonus: tax deduction of 110% (incl structural work) Ecobonus 65% tax deduction (EE only) Can be sold to third parties so accessible to non-taxpayers
Interest rate on loan	7-9% APR	Publicly subsidised low interest rate (1-4%)	nil		n/a			
Attachment point of loan	Electricity meter	Person or organisation					Property	
Total cost of scheme	Value of investment: €380 - €525m/year	Average of €1.4 bn/year. Value of loans and grants: ~€3 bn	£2.2 billion total to 2009	€6b	budget of £21m	NZ\$347 million over 4 years	\$5b (total to 2019)	new tax credits for €140 million at start of 2021 (over 6 months)

Part of the reason for the variability in uptake and success of these programs is due to the context in which they are deployed. Finance mechanisms will require supportive environments to find the appropriate customers. In addition, systemic approaches will be required to engage homeowners in the issues and provide certainty and comfort in the value provided by retrofits to have confidence to take on loans.

Green Finance Institute (2020) notes that “Systemic change to mobilise the flow of capital into upgrading our housing stock to be ‘future-ready’ requires a step-change in how finance, government, supply chain and households work together around the shared ambition for net-zero emissions and climate-safety... concerted energy efficiency effort across government and industry can meet many of the criteria for economic recovery, while meeting existing long-term policy commitments and targets.”

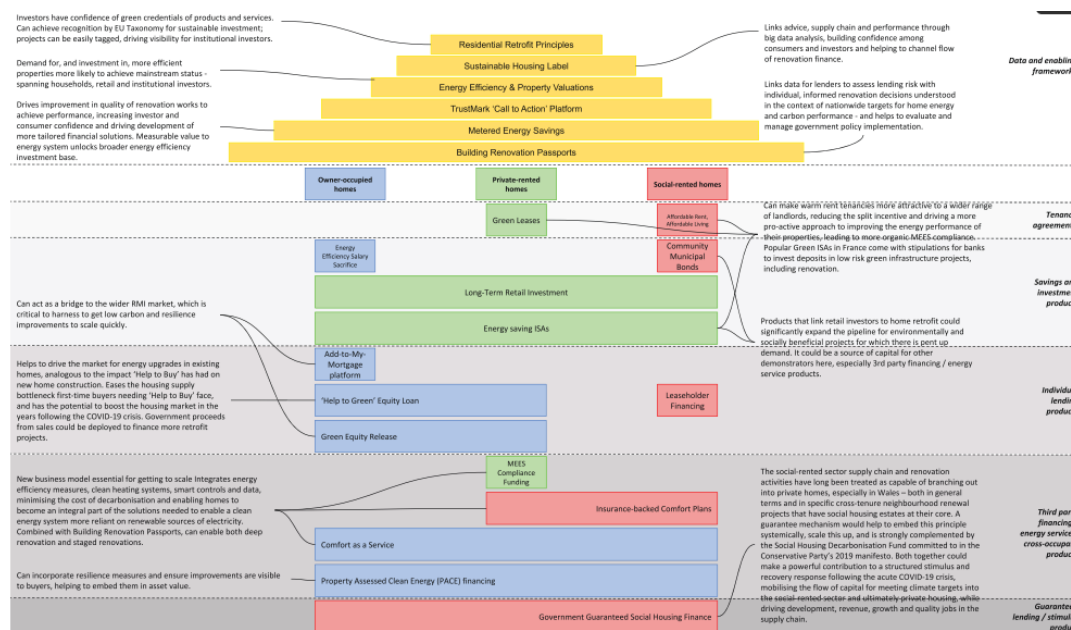


Figure 12 Summary of the ways that a portfolio of finance options, underpinned by a supportive policy and regulatory environment can create large-scale retrofit opportunities. (Green Energy Finance, 2020)

4.11.1 Recommendations

- Scheme design should seek to understand and offer the appropriate financial mechanisms for different circumstances and facilitate access in seamless ways.
- Cost must be competitive with commercial loans.
- Scheme design should seek to engage with governments on ways to maximise the value of their investments in retrofits, especially exploring opportunities to leverage private investments through loan guarantees and risk mitigation.

5 Delivery Model Recommendations

“The cheapest and cleanest energy is the energy that we do not use”.

The following content provides recommendations and requirements that are deemed essential to delivering a large-scale home retrofit scheme across Australia.

5.1 Scheme Goals

The home retrofit scheme aims to create:

- Future ready homes that are comfortable and healthy, as well as highly thermal and energy efficient, with a path toward electrification
- An improved NatHERS rating for each home (based on remote or in home assessment)
- Large-scale delivery of home retrofits across all states and regions in Australia

The large-scale home retrofit scheme will aim to create *future ready homes*. Future ready homes mean existing homes that are comfortable as well as highly thermal and energy efficient, with a path toward electrification. Comfortable homes that can improve or at least support occupant's health and without the need to excessively heat or cool rooms.

As a recommendation from the Trajectory, a National Framework for Disclosure of Residential Energy Efficiency Information (the Framework) is being prepared. This will build upon established disclosure markets already present in Australia, including the ACT Mandatory disclosure and the voluntary National Scorecard Program as well as the proposed expansion of NatHERS to provide whole of home ratings and whole of home assessments for existing homes, the National Framework for Minimum Rental Requirements, and the updated minimum energy efficiency provisions in National Construction Code (NCC) 2022.

It is important that the ecosystem required to support the ratings and disclosure is delivered in parallel. Considering this, and although the disclosure may begin as voluntary, achieving an improved NatHERS rating (based on remote or in home assessment) for all eligible homes that participate in the process is deemed to be a goal for the scheme.

The energy industry is transforming, and existing homes are currently lagging in the transition, they are not yet representing or supporting our present and/or future needs for comfort, efficiency, and resilience. This scheme can enable an opportunity to transform our existing homes to align with the energy transition and to better support our future requirements as prosumers and consumers playing a role in the distributed energy grid. Enabling a path towards electrification, with thermal and energy efficiency maximised in homes first, will support the energy grid as the operators, retailers, and industry power through the transition away from fossil fuels and toward net zero energy.

Enabling a large-scale delivery of the scheme is a critical element of the schemes direction that can only allow the scheme to tap into private finance. A place-based roll out will

enable addressing issues of capacity and the ability to work with community groups to enable shared success.

5.2 Target Market

The scheme will target NCC Class 1a single dwellings that are owner occupied/tenanted only. This target market reaches most of the private Australian housing stock which would allow for the scale and impact required.

- NCC Class 1a single dwellings that are owner occupied includes up to 6.0 million dwellings and up to 2.6 million dwellings that are tenanted. This accounts for 86% of Australian households

The scheme will target homeowners with access to cash or refinance on their homes, as well as those requiring finance through the scheme. This will include landlords as well as owner occupiers.

The scheme will also target homes that are deemed to be poor quality. This may be based on assessment and NatHERS rating. Improving poorer quality homes will achieve a greater overall impact for ROI at economy and household scale, as well as improved occupant comfort and health benefits.

5.3 Retrofit Recommendations

Based on the modelling, input from the IRG and PPC and desk-top research the following retrofit items have been identified. While these represent the full and possible recommendations that support the scheme goals it is not expected that all homeowners will require or want to install all items. The scheme intention is to provide a degree of flexibility to homeowners for their custom retrofit based on the home assessment as well as their expectations. This is due to:

- Variation between homes, which may make certain retrofit items unsuitable
- Appetite of homeowners for different retrofits

More work is required to identify the most appropriate balance between flexibility and scalability. The findings of the literature review indicate that some degree of standardisation will likely be required if the ambitious scale of the scheme is to be reached.

The priority items are agreed within the industry to provide highly beneficial improvements without the requirement for user ability. They also take into consideration the importance that the building fabric has on the thermal comfort of the home and in mitigating heat and cold stress. The building also has a relatively long lifespan especially when compared to technology-based installations.

The retrofit assessment and design will involve two steps prior to finance, supply, and installation.

Step 1: Whole of home assessment

These will be of two common types available, either a walk-through assessment or a desktop assessment. The appropriate type of assessment will be determined by a mixture of homeowner appetite, location, budget, homeowner limitations/requirements, and logistics. The two types of assessment are detailed below:

- **In Home assessment**

A trained assessor visits the home and completes a walk-through assessment using the National Scorecard that is adapted for the purposes of this scheme, a star rating is given, technical guidance and advice regarding what retrofit items will suit the home and the homeowners' requirements is provided with a specification and referral to the next stage in the process.

- **Desktop assessment**

A remote assessment performed by the homeowners using Australian software that is adapted for the purposes of this scheme enables them to answer a targeted set of questions about their building and appliances via a web app. Independent technical guidance and specification is provided via the app and referral to the next stage in the process. A trained assessor is also available to answer any questions and provide independent technical guidance on the phone.

Table 30 Proposed whole of home assessment intention and estimated costs

Step 1: Whole of Home Assessment		
Assessor Items	Comments for Scheme Intention	Estimated Cost*
Remote assessment	<p>A desktop assessment will be suitable for a homeowner that is either confident in their ability to assessment their home, or where cost and budget is an important consideration.</p> <p>Ratings may be possible dependent on future accreditation of these tools.</p>	\$30 per home
In home assessment	<p>Trained and employed home energy assessors will be required to conduct a walk-through assessment. This provides the most accurate assessment but has a larger cost impact.</p> <p>Ratings will be possible based on the use of an accredited tool.</p>	\$400 per home
Hybrid assessment	A mix of remote and walk-through assessment to compliment homeowners with unique requirements	<\$400 per home

Step 2 – Homeowner bespoke retrofit package development

Step 2 will offer the retrofit items that are deemed to provide best value for the purpose of thermal and energy efficiency of the home. The bespoke package will be chosen by the homeowner from the list below. Building envelope improvements will be prioritised (where appropriate to the building) before big ticket technology additions to ensure retrofit items provide suitable building and homeowner benefits.

Table 31 Proposed retrofit items for the homeowner's bespoke retrofit package

Step 2: Retrofit recommendation drawing from items below	
TOWARDS COMFORT – THERMAL AND ENERGY EFFICIENCY IMPROVEMENTS FOR THE BUILDING	
Retrofit Items	Comments for Scheme Intention
Roof insulation	High priority item, where feasible
Wall insulation	High priority item, where feasible
Floor insulation	High priority item, where feasible
Pipe lagging	High priority item, where feasible
Draught sealing/ proofing	High priority item, where feasible
Window treatments	High priority item, where feasible (blinds/curtains intended for insulation and/or window tints)
Led lighting	High priority item, where feasible
Shower head/taps	High priority item, where feasible
Clothesline	Where suitable
Ceiling fans	High priority item, where feasible
Glazing upgrade	May require further expert technical guidance for specification
TOWARDS ELECTRIFICATION – ENABLING IMPROVED ENERGY EFFICIENCY THROUGH THE BENEFIT OF TECHNOLOGY	
Smart home energy management/monitoring system	Mandatory with solar PV
Solar PV	If completed with/after other thermal/energy efficiency upgrades
Split/reverse cycle air con	If completed/sized with/after other thermal/energy efficiency upgrades and solar PV
Appliances (plug in) upgrade	Washing machine
	Dryer

	Fridge
	Dishwasher
Pool pump upgrade	Where applicable
Smart meter upgrade/ meter check	State dependent but possibly a requirement due to standards, is it mandatory at the home's location?
Hot water heat pump	If completed with/after other thermal/energy efficiency upgrades and solar PV
Induction cooktop	If completed with/after solar PV
Home battery (VPP capable)	If completed with/after other thermal/energy efficiency upgrades and solar PV (where solar PV is not already present)
EV infrastructure/charger	If completed with/after solar PV
Home electrification	Replacement of gas fuelled appliances; induction cooktop, split/reverse cycle air con, hot water heat pump, isolating gas supply (where safe to do so) and disconnecting from gas supplier. Electrification following efficiency measures to avoid an increase in electricity use.

5.4 Financial Model

The scheme will require investment and/or seed funding to get it to the scale required to attract private investment that will enable the large-scale delivery model. A proposed structure that will be able to manage the risk profile of this scheme as well as the governance required for success is a Special Purpose Vehicle (SPV).

A special purpose vehicle is a subsidiary created by a parent company to isolate financial risk. Its legal status as a separate company makes its obligations secure even if the parent company goes bankrupt.

- *An SPV is created as a separate company with its own balance sheet.*
- *It may be used to undertake a risky venture while reducing any negative financial impact upon the parent company and its investors.*
- *Alternately, the SPV may be a holding company for the securitization of debt so that investors can be assured of repayment.*

An SPV in this instance can be viewed as a method of disaggregating the risks of an underlying pool of exposures held by the SPV and reallocating them to investors willing to take on those risks. This allows investors access to investment opportunities which would not otherwise exist, such as green home loans. The scheme would also enable homeowners with access to cash or refinancing through their mortgage as well as those requiring private finance. A proposed system model is shown below in Figure 13.

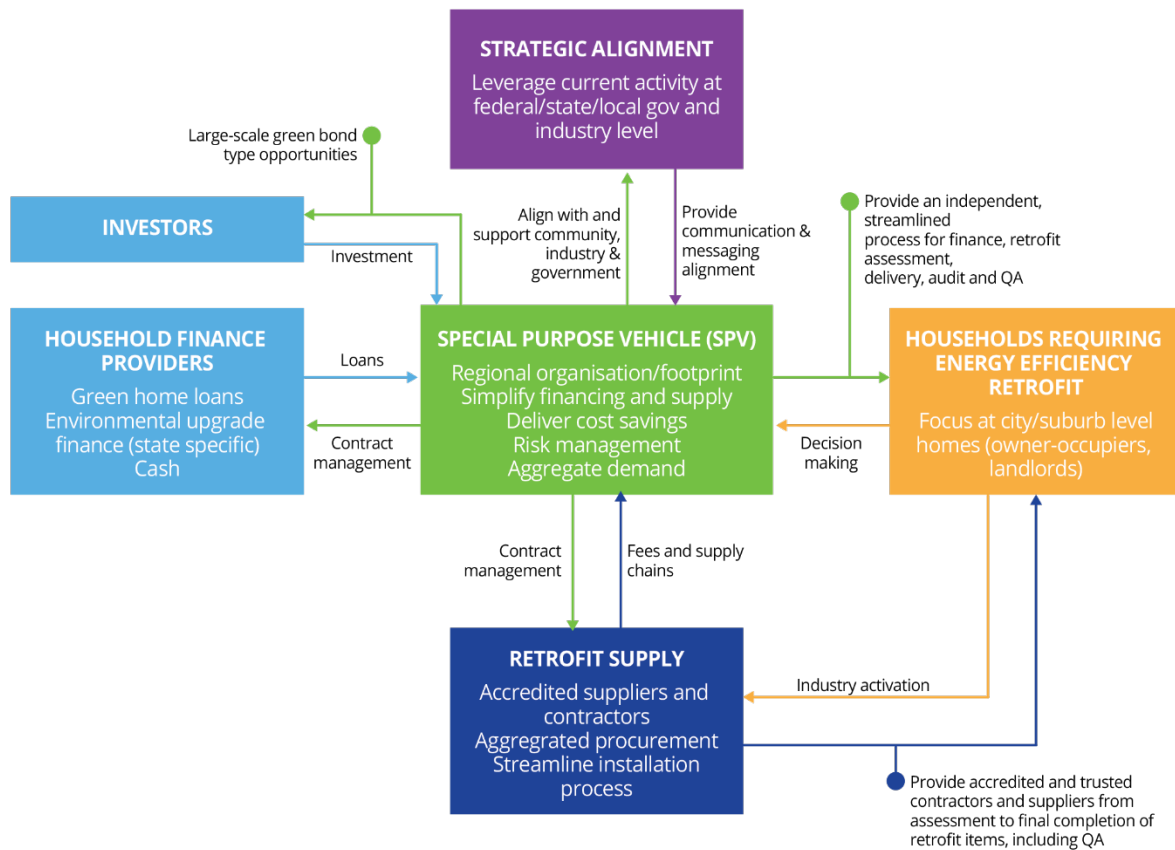


Figure 13 The proposed system model

5.5 Scheme Process

A scheme process is shown below to explain the steps required for the delivery of a large-scale home retrofit scheme. This process also includes stakeholder involvement.

Table 32 The proposed scheme process

Step	Owner Occupier Scheme Process	Alternative Steps in Scheme Process	Landlord Scheme Process
1	Engage with industry, state and local govt, community groups-marketing campaigns		Engage with industry, state and local govt, community groups-marketing campaigns
2	SPV works with local govt, community groups, or others to engage community for retrofit roadshow		SPV engages with property managers Property managers engage landlords
3	Community provide EOI to SPV		Property managers provide EOI from landlords to SPV
4	SPV contacts community EOI participants	Homeowner contacts SPV regarding retrofit EOI	

5	Trained assessor performs remote or in-house walk-through assessment	Homeowner performs remote assessment using accredited software	Trained assessor property managers perform walk through assessment at next tenant
6	Trained assessor provides independent technical guidance based on home assessment	Software provides independent technical guidance based on home assessment	Trained assessor provides independent technical guidance based on home assessment
7	Trained assessor provides specification for retrofit based on discussion with homeowner	Software provides specification for retrofit based on direction from homeowner	Trained assessor provides specification for retrofit based on discussion with homeowner
8	SPV contacts homeowner regarding funding/finance options	SPV contacts homeowner regarding funding/finance options	SPV contacts homeowner regarding funding/finance options
9	Homeowner assesses One Million Homes+ app to find local accredited trades person for retrofit	SPV searches accredited trades person panel on behalf of homeowner	Property Manager accesses One Million Homes+ app to find local accredited tradesperson for retrofit
10	Tradesperson agrees quote with homeowner, home retrofit scheme app approves	SPV agrees and signs funding/finance/discount with SPV partners and homeowner	Tradesperson agrees quote with property Manager, One Million Homes+ app approves
11	Retrofit is installed, completed	Waste items are/is recycled/repurposed	Retrofit is installed, completed
12	Contractor QA process with certified photographic evidence of renovation	Independent auditor certifies renovation for consistency of standard	Contractor QA process with certified photographic evidence of renovation
13	SPV provide funding/finance as per agreement	Homeowner pays final bill Bank/insurer/ATO provides discounts/write off as per agreement	SPV provide funding/finance as per agreement
14	SPV follows up with homeowner, contractor, and measures impact	SPV follows up with homeowner and contractor	SPV follows up with homeowner, contractor, and measures impact

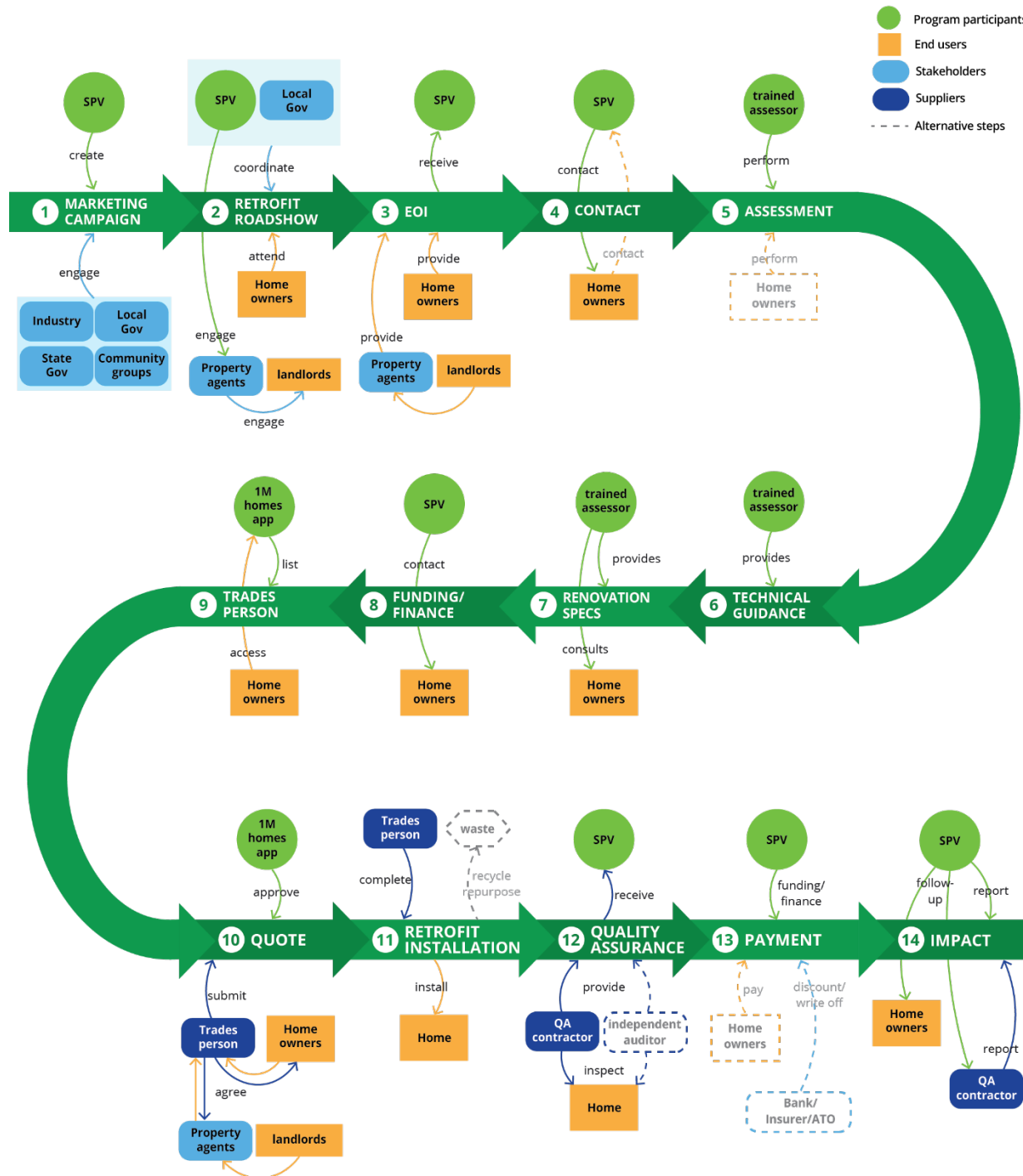


Figure 14 The proposed scheme process

6 Recommendations for Next Steps

“None of this is rocket science! It is most important to communicate and engage with people about this.”

From the findings of our collective research, we have been able to identify the barriers and opportunities and to propose a large-scale home retrofit scheme delivery model. This has led us to identify twenty work packages that will be detailed in this section. These packages form a portfolio of interconnected work that will require overall governance and aligned implementation to support a large-scale home retrofit scheme.

As part of the proposed work package priorities, further engagement and development roles would continue to enable industry involvement as well as further research with progression toward prototypes and a large-scale pilot for the delivery model.

6.1 A Portfolio of Research

To maintain momentum, it is also proposed to progress research that is required to support scheme development and roll out, including exploring:

- Quantify the potential economy scale health benefits of a large-scale home retrofit scheme being delivered in Australia.
- Deeper analysis of the retrofit packages that provide optimal ROI at the household scale in different climate environments and for different housing types.
- Model how home energy efficiency measures alongside home electrification (including EV charging and solar PV with storage) can or will support and impact the grid.
- How to design the scheme to also ensure benefits to the indoor air quality (IAQ) and moisture management of a home when retrofitting for the purpose of thermal and energy efficiency, as well as optimising health and comfort benefits.
- How does the scheme determine a poor-quality home? Do we consider dates based around NCC guideline changes, for example pre/post 2010? Do we consider dwelling construction type based on available data?

As part of the proposed work package priorities, further engagement and development roles would continue to enable industry involvement as well as continuation of research with progression toward prototypes and a large-scale pilot for the delivery model.

6.2 A Portfolio of Action

Our portfolio approach has identified six leverage points with twenty work packages between them, these packages are shown below in Figure 15. These packages cover **portfolio oversight**, which includes understanding and ensuring alignment and learning across the range of activities outlined in the other work packages.

The **operational model** group of work packages aims to understand the detail of the operational model of a retrofit scheme, while the **delivery** group of work is focussed on

prototyping, piloting, improving and then expanding the delivery of large-scale home retrofits. Alongside the operational and delivery work are packages of work aimed at creating the enabling environment for large-scale retrofits and building new narratives and norms that support the scheme. These include the **communications and engagement** activities aimed at building a national narrative while also understanding local and community scale nuances that will allow impactful messaging about retrofits. There is also work to understand and engage with the **policy and regulatory** environment. This includes appreciating the current conditions what will need to be accounted for in the scheme design, as well as understanding what the optimal environment is, and how to transition towards it. Finally, there is a package of work aimed at improving **technical** understanding of supply chains, managing waste, and retiring and recycling items and monitoring and measuring impact.



Figure 15 The large-scale home retrofit scheme portfolio of 20 work packages

Table 33 and Figure 16 shown below details the priority work package items that will maintain momentum of the work undertaken in the fast-track project, whilst transitioning to the standard-track project to enable further research, industry and government engagement and delivery of a large-scale pilot. They include:

Table 33 Priorities to maintain momentum

Market analysis and discovery
Engage with customer focus groups and public surveys, what are the consumer preferences and where is the target market demand in the current landscape (COVID)?
Test the delivery model at household and community level
Driving the narrative and building profile
Work with partners to engage the target market(s), create a movement around energy and thermal efficiency broadly, and build the profile of the large-scale home retrofit scheme
Identify, align with and support policy and regulatory changes
work with enablers to progress disclosure and other policy changes
Recommend and enable industry standards and accreditation
Engage and align with industry to support and advise on progress towards achieving the required standards and accreditations
Finance system, customer segmentation model
Explore the proposed finance models with potential investors and/or financiers
Business development – Partnerships and funding
Climate-KIC Australia and its partners are exploring the opportunity to progress the work as a standard track project for implementation in the RACE for 2030

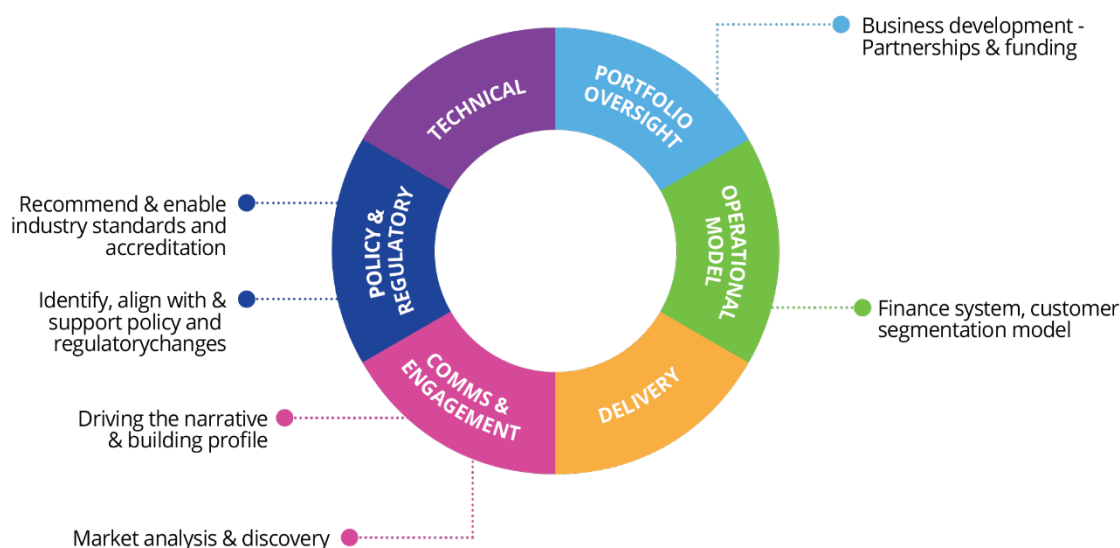


Figure 16 Priorities to maintain momentum

Figure 17 shown below indicates the approximate timeline of partnership activity and governance required to support and enable a large-scale home retrofit scheme inception.

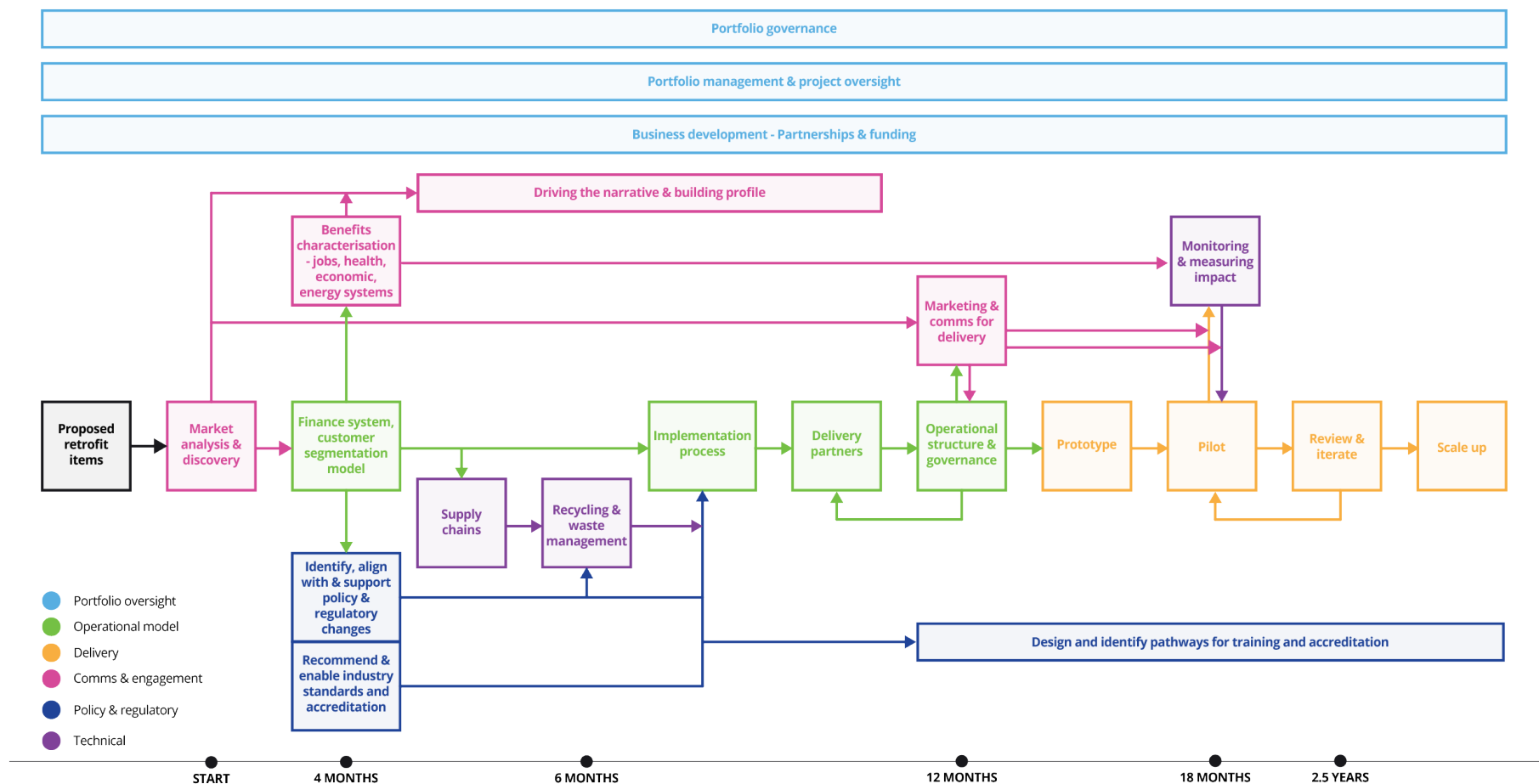


Figure 17 Preliminary timeline of implementation of work packages, and interrelationships

7 Conclusions

The fast-track project has provided opportunity to explore and learn from previous and existing programs as well as consider the current landscape, the portfolio of action and the delivery model required for a large-scale home retrofit scheme in Australia. This has shown us that the task ahead is large and highly complex, yet feasible through collaborative efforts. And now more than ever before.

The fast-track project has allowed the development of scheme design principles which will guide further scheme development, testing and piloting. The home retrofit scheme must have clear and demonstrable goals as is shown in Table 34.

Table 34 Scheme design principles

The home retrofit scheme aims to create:
<ul style="list-style-type: none"> Future ready homes, meaning homes that are comfortable as well as highly thermal and energy efficient, with a path toward electrification Improved NatHERS rating for each home Market transformation Culture shift toward demanding comfortable and energy efficient homes Large-scale delivery of home retrofits across all states and regions in Australia
The home retrofit scheme will target:
<ul style="list-style-type: none"> National Construction Code (NCC) Class 1a single dwellings that are owner occupied or tenanted, mortgaged, or owned outright Poor quality homes
The home retrofit scheme must build and maintain trust with homeowners:
<ul style="list-style-type: none"> Scheme must benefit the homeowner through a streamlined process, including finance and retrofit options Scheme must provide an offering that the homeowner wants and/or needs Retrofit options provide best case outcomes with comfort and ROI benefits understood for each homeowner
The home retrofit scheme must engage at trigger points:
<ul style="list-style-type: none"> Point of sale/purchase of home Point of advertisement for lease Point of renovation
The home retrofit scheme and its partners and advocates must provide clear messaging and influence for government, industry, and homeowners:
<ul style="list-style-type: none"> Use a values-based approach to understand customer motivations and an effective way to overcome intervention barriers Optimised Australian home comfort benefits must be further researched and communicated to the target market and government
Whole of home assessments and a quality control process is critical:

An accredited assessment process that enables the homeowner to understand and receive independent technical guidance

A scalable yet stringent quality control process is required to ensure consistent and continued quality of workmanship and the scheme delivery model

The application of these design principles will be refined and developed through further research and market discovery, then tested in pilot applications before broader roll-out.

Alongside this development and refinement process the broader suite of enabling actions must progress. In combination this will create the environment and the mechanism to allow for the thermal and energy efficiency retrofit of millions of homes across Australia.

Appendix A Project Partner Committee and Industry Reference Group Members

Project Partner Committee

Organisation	Name	Role
Climate-KIC Australia	Karla Fox-Reynolds	Principal Innovation Projects
NSW DPIE	Anne-Marie Poirrier	Manager – Home Energy Action Project
Vic DELWP	Katrina Woolfe	Manager Residential Energy Efficiency
UTS ISF	Kerryn Wilmot	Research Principal
Curtin University	Roberto Minunno	Researcher

Industry Reference Group

Organisation	Name	Role
BZE	Sanaya Khisty	Chief Strategy Officer
	Kelvin Wicks	Research Assistant
	Tom Quinn	Chief Research Officer
Australian Energy Foundation	Daniel Chadwick	General Manager – Major Projects
Bank Australia	Darren Dawson	Head of Impact Finance
Independent Investor	Jeremy Burke	
Small Giants	Kaj Lofgren	Head of Strategy
BOOMPower	Alex Houlston	Co-Founder and Director
Ecologic	John McKibbin	Founder and CEO
eleXsys Energy Pty Ltd trading as Planet Ark Power	Richard Romanowski	Executive Director and Co-founder
	Paul Hodgson	Director – Business Development
Sustainability Victoria	Toby Cumming	Research Data Advisor Sustainable Homes
Energy Efficiency Council	Rob Murray-Leach	Head of Policy
Jason Windows	Joe Reardon	Product Development and Quality Manager
EnergyOS	Martin De Groot	Chief Technical Officer

PowerPal	Pete Neal	Chief Executive Officer
Green Gurus	Chiara Pacifici	Director
Energy Policy WA	Vicki Greenhalgh	Senior Policy Analyst
	James Eastcott	Energy Specialist
Climate Council	Morgan Koegel	Senior Campaigner
Light House Architecture and Science	Jenny Edwards	Director

Appendix B Stakeholder Map – Strengths and Weaknesses

Stakeholder	Strengths	Weaknesses	Potential role
Federal Government	<ul style="list-style-type: none"> • Able to establish large, national schemes • Larger scale funding and/or finance support possible under the right conditions 	<ul style="list-style-type: none"> • Currently energy efficiency retrofits for housing are not a political priority • Less experience in energy efficiency program design (than states) • Priorities change over time, which can lead to lost funding or support • Involvement of public money requires stringent oversight and probity 	<ul style="list-style-type: none"> • Loan securitisation • Funding support for establishment • Setting supportive policy and legislative arrangements
State Government	<ul style="list-style-type: none"> • Access to data (although variable between states) • Funding available, although currently not a priority area in most States • Good capability for policy and program design • Potential for large-scale influence • Ability to support projects through legislation, trade accreditation, training programs etc 	<ul style="list-style-type: none"> • Priorities change over time, which can lead to lost funding or support • Involvement of public money requires stringent oversight and probity • Often risk averse 	<ul style="list-style-type: none"> • Housing energy and thermal efficiency standards • Trade licencing and accreditation • Link to existing schemes • Setting supportive policy and legislative arrangements
Local Government	<ul style="list-style-type: none"> • Well positioned to mobilise community • Trusted avenue for communication • Very strong links with homeowners at the local level • High levels of trust form the community • Can support mobilising local suppliers 	<ul style="list-style-type: none"> • Lack resources to administer and deliver (especially small councils) - limited cash and staff • Limited marketing skills and resourcing • Not all residents engage with the council • Many competing priorities • May be too locally focussed if delivery scale requires regional approaches 	<ul style="list-style-type: none"> • Recruiting homeowners • Engaging local suppliers
Community NGOs	<ul style="list-style-type: none"> • Good at community engagement and grassroots activity • Experienced in campaigning to government for action • Experience working with vulnerable populations and low-income households • Good at effectively communicating complex messages to target audiences. 	<ul style="list-style-type: none"> • Limited resources to perform rigorous data collection or modelling 	<ul style="list-style-type: none"> • Recruiting homeowners • Supportive messaging to government

Electricity network operators	<ul style="list-style-type: none"> Access to data to inform programs 	<ul style="list-style-type: none"> Not always incentivised to reduce energy consumption Limited relationship with end customer Risk of vertically integrated monopolies if too involved in household retrofits 	Data collection
Electricity Retailers	<ul style="list-style-type: none"> Large customer base Access to capital Easier to access data, although still requires careful management Want to build customer loyalty 	<ul style="list-style-type: none"> Limited customer trust Low margin, high churn business often with very short-term time horizons Limited customer engagement / typically shallow relationship 	<p>Allow retrofits repayments through energy savings on bills</p> <p>Communications with customers</p>
Gas Retailers	<ul style="list-style-type: none"> Large customer base Easier to access data, although still requires careful management 	<ul style="list-style-type: none"> No smart meters Lack of interest in improving transparency of energy consumption Net-zero GHG requires shift from gas to electricity 	
Banks	<ul style="list-style-type: none"> Large capital available Can offer finance based on evidence (eg Bank Australia Clean Energy Loans) 	<ul style="list-style-type: none"> Often need high starting value of programs (hundreds of millions of dollars of value) Prefer low risk investments Programs need to turn a profit 	<p>Finance for retrofits – through home loans or separate loans</p> <p>Financial assessments</p>
Superannuation	<ul style="list-style-type: none"> Large capital available 	<ul style="list-style-type: none"> Minimum \$200 million investment as a start to cover their admin costs, so not great during start up Low appetite for risk, need bankable, high-scale investments 	Finance loans
Industry Associations	<ul style="list-style-type: none"> Can become strong advocates and can be a trusted voice to government Usually have representatives on government standard and other committees Can support improved compliance from and engagement with industry Motivated to engage with consumers and build trust 	<ul style="list-style-type: none"> Are at the direction of their members interests, which may not align with a retrofit program or more stringent energy efficiency requirements Can be fragmented and not wholly representative of industry Low trust from consumers 	<p>Inform program design and roll out</p> <p>Aligned messaging to government for standards etc</p>
Manufacturers	<ul style="list-style-type: none"> Potential for economies of scale at the wholesale level Home building activity may decrease, in the near future. Recent increased capacity will need a new market 	<ul style="list-style-type: none"> Tendency to want to sell specific product rather than comprehensive package Few products are locally manufactures – limited scope to influence bespoke products for Australian 	Scale up production as required by retrofit demand

		environments. E.g., no local manufacturers of air conditioners and few of hot water	Aligned messaging on benefits of retrofit
Retrofit service providers (incl assessors)	<ul style="list-style-type: none"> Can become a 'one stop shop' to deliver range of services for households Can provide scalable and tailored advice and support which enables actions Some orgs can provide assessment through to analysis plus upgrades 	<ul style="list-style-type: none"> Tendency to rely on 'boots on the ground' traditionally, which can add significant admin costs / overheads Fragmented and often focussed on specific services (rare that they can package up different upgrades) Only a few that provide high-quality work Customer services is not a core strength and initial engagement can turn off households Some services are new and emerging - e.g., draught sealing 	<p>Simplify experience for homeowners</p> <p>Provide advice</p>
Installers / builders	<ul style="list-style-type: none"> Often used for large scale rollouts Experienced in physical realities of installation 	<ul style="list-style-type: none"> Often used to selling and installing specific products (not full packages) Limited skills in upselling high-performance products Lack of quality control Currently low capacity / skill, especially for insulation and draught proofing 	<p>Engage homeowners through broader renovation discussions</p> <p>Communicate benefits</p>
Auditors	<ul style="list-style-type: none"> Great allies for these types of programs Valuable expertise Can assist in verification of installations for evaluation Can leverage state government inspections (i.e., plumbing audits) 	<ul style="list-style-type: none"> Emerging field Not many available Can be expensive 	<p>Assess retrofit requirements</p> <p>Communications with energy users</p> <p>Check quality of installations</p>
Homeowner – occupiers	<ul style="list-style-type: none"> Close to the ground Able to make decisions quickly 	<ul style="list-style-type: none"> Cash poor Lack knowledge of what's in their homes Low interest in general in energy and thermal efficiency retrofits 	<p>Self-assessment?</p> <p>Decide finance arrangement for their property</p> <p>Fund some upgrades</p>
Homeowner – landlords	<ul style="list-style-type: none"> Able to make decision about upgrades Improving the 'asset value' is a motivator 	<ul style="list-style-type: none"> Hard to reach unless through property managers – property managers can act as 'gate keepers' and make decisions for landlords Many are also low income and do not have money to upgrade Generally, not knowledgeable about their house 	<p>Fund some upgrades</p> <p>Decide finance arrangement for their property</p>

		<ul style="list-style-type: none"> Some don't care about their tenants Don't pay electricity bills, or experience thermal comfort 	
Renters	<ul style="list-style-type: none"> Keen for affordability Introduction of rental standards can support action 	<ul style="list-style-type: none"> Can't make decisions about many retrofits May not want to 'rock the boat' by asking for things from landlord Can be hard to reach 	Pressure landlords for energy efficiency upgrades through rental property preferences
Social Housing providers	<ul style="list-style-type: none"> Have ability to organise maintenance so could engage with limited pain Clear altruistic focus on benefitting their tenants 	<ul style="list-style-type: none"> Lack of time, money and focus on energy efficiency – core business is more housing and standard upgrades (as it should be) Can find energy efficiency complicated 	Support piloting of model retrofits where funding is available
Registered Training Organisations	<ul style="list-style-type: none"> Can help skill up quickly – lots of training online 	<ul style="list-style-type: none"> Quality of training can be variable – some are just ticking boxes 	Training for assessors, auditors, and installers
Universities	<ul style="list-style-type: none"> Provide quality training Can help build evidence base for retrofits at scale Support pilots 	<ul style="list-style-type: none"> New accredited courses are slow to get up and running Need publication outcomes Can be constrained in capacity 	<p>Monitoring and evaluation</p> <p>Training and course design</p>

Appendix C Current Relevant Activity in Australia

Scheme or Program Title	Location	Partners	Purpose and Status
Clean Energy Home Loan	Australia	Bank Australia Clean Energy Finance Corporation (CEFC)	<p>With the support of the CEFC through a \$60 million investment that was later extended to \$90 million due to the strong take-up, Bank Australia was able to support Australians to get a discounted home loan if they buy or build housing that meets high energy efficiency standards, with low interest rates. The home owner receives a 0.4 percentage point discount on its home loan rate. To earn the discount, a home must fit in to one of the following two options:</p> <ul style="list-style-type: none"> NatHERS 7 Star+ - for newer homes that meet a high standard of energy efficiency Property Upgrade - for existing homes that have made ambitious green upgrades in the last 12 months and can show a 1-star improvement based on Residential Efficiency Scorecard assessments <p>140 households have taken up the Clean Energy Home Loan which represents 1.3% of the bank's loan book, and 10% of the of the overall loan growth in FY 2021.</p>
CommBank Green Loan	Australia	Commonwealth Bank	<p>Customers with an eligible CommBank home loan or investment home loan can use the CommBank Green Loan to buy and install eligible clean energy products at the property secured by their existing home loan.</p> <p>The loan offers a 0.99% PA 10-year fixed rate no establishment fee, monthly loan service fee or early repayment fee. The minimum loan size is \$5,000, maximum loan size is \$20,000.</p>
Renovate or Rebuild TV series	Australia	NSW Department Planning, Industry and Environment (DPIE) CRC Low Carbon Living	'Renovate or Rebuild' aims to crack open sustainable building options to a broad mainstream audience. It combines reality-TV with behavioural science by encouraging Australian homeowners to choose healthier and more energy efficient homes.
My Efficient Electric Home	Facebook	(FB Group Admins) Tim Forcey Katy Daily Richard Keech	<p>Formed in 2015, membership at the Facebook group "My Efficient Electric Home" has over 35,000 members, with over 300 new members joining in most weeks.</p> <p>The group has become a comprehensive database of information about improving the comfort and energy performance of Australian homes. Members help each other with issues and openly</p>

		Alison Dredge Simon Samson Talina Edwards Alessandra Whiting	discuss methods to achieve a thermal and energy efficient home, including the transition to an all-electric home.
Insulation Roadmap	Australia	NSW Govt Victorian Govt Insulation Australasia (IA) Insulation Council of Australia and New Zealand (ICANZ) Energy Efficiency Council (EEC) Australian Sustainable Built Environment Council (ASBEC)	‘Ensuring quality control and safety in insulation installation. A research report to support an industry-led roadmap for healthy, comfortable buildings.’ The aim of the industry-led insulation roadmap is to facilitate actions from industry, government and the community that will ensure that insulation is installed following appropriate quality-control and safety processes.
Further, faster, together: Opportunities for collaboration between Germany and Australia on energy efficiency in buildings	Australia/ Germany	German Federal Ministry for Economic Affairs and Energy (BMWi) German-Australian Chamber of Industry and Commerce (AHK) EEC adelphi	The report provides: <ul style="list-style-type: none"> • A high-level survey of selected initiatives as a means of orienting experts in each nation as to the policy landscape in the other; and • Recommendations on where collaborative efforts should focus, considering the relative strengths and priorities of each nation. <p>Recommendation 1: Commission research and facilitate dialogue on energy efficiency financing in Germany, and lessons for Australia.</p> <p>Australia is exploring the role of finance in facilitating energy efficiency upgrades and construction of residential buildings. Germany has a well-established and sophisticated market for energy efficiency finance, driven by its KfW Bank. Research and engagement on this topic will support Australia's efforts on the creation of a home energy rating scheme, and finance systems that support home energy upgrades. It will also build relationships between policymakers and financiers in the two nations</p>
Trajectory for Low Energy Buildings	Australia	Australian Government	The former Council of Australian Governments Energy Council (COAG Energy Council) developed and endorsed the Trajectory for Low Energy Buildings (Trajectory) and the Addendum to the Trajectory for Low Energy Buildings—Existing Buildings (Trajectory Addendum). This is a national

			plan that aims to achieve zero energy and carbon-ready commercial and residential buildings in Australia.
NCC 2022	Australia	Australian Building Codes Board (ABCB)	In accordance with the policy direction of Ministers, the Australian Building Codes Board (ABCB) is currently investigating possible changes to the residential energy efficiency provisions in the 2022 version of the National Construction Code. (NCC 2022).
The National Scorecard	Australia	Collaboration of the Commonwealth, State and Territory Governments	<p>The Residential Efficiency Scorecard (the Scorecard) provides an energy star rating for homes. Assessments and information on ways to reduce energy costs and increase home comfort are tailored specifically for each home and are delivered by accredited assessors.</p> <p>A field trial to pilot using the Scorecard across Australia concluded in June 2021. The results are currently being evaluated and will inform work to extend NatHERS, ahead of the National Scorecard seeking accreditation under NatHERS for existing homes.</p> <p>The National Scorecard covers Australia and is based on the Victorian Scorecard and previous national pilots.</p>
NatHERS extension to existing homes	Australia	Collaboration of the Commonwealth, State and Territory Governments	<p>Extending NatHERS to assess existing homes creates an opportunity for governments to support a range of both government-driven and market-driven initiatives that encourage improved energy efficiency.</p> <p>Soon NatHERS will also provide information about the overall energy performance of the home, including appliances and renewable power generation, and assessment processes that cater for existing homes.</p> <p>An assessment and rating for an existing home will provide information about the thermal performance, appliances and renewable power generation, and also provide the additional benefit of being able to identify what improvements can be made after the home has been built.</p> <p>To support the delivery of home energy ratings for existing homes under NatHERS, a Scoping Report was developed. This report found the option to extend NatHERS to existing homes, while continuing to test and learn from the national version of the Residential Efficiency Scorecard, is the most efficient and effective use of resources.</p> <p>Work is now underway to establish NatHERS protocols and processes for existing home assessments. This includes further testing and refining of the national version of the Residential Efficiency Scorecard, so that it may be accredited under NatHERS. Following a transition period, any tool operator in the market may then develop other energy rating tools for existing homes and seek accreditation under NatHERS.</p> <p>The first version of the requirements for NatHERS to be extended to existing homes is due to be finalised in mid-late 2021, following analysis and stakeholder consultation.</p>

Environmental Upgrade Finance (EUF) (otherwise known as Environmental Upgrade Agreements)	Victoria	Vic Department Environment, Land, Water and Planning (DELWP)	<p>Prior to 6 April 2020, EUF was only available to commercial property owners, however, recent amendments to the <i>Local Government Act 2020</i> enable EUF to be offered to homeowners too.</p> <p>Environmental Upgrade Finance (EUF) is a council-based financing mechanism that gives commercial and residential building owners access to finance for sustainability or climate adaptation upgrades to existing commercial and residential buildings. Under an EUF agreement, the lender provides finance to the property owner and the local council collects repayments through the rates system. The council then passes the repayments onto the lender.</p> <p>As EUF loan repayments are attached to the property, not the person or company, they may be attractive to businesses, landlords or homeowners who may wish to sell the property within the period of the loan.</p> <p>EUF also provides a way to address differing incentives between landlords and tenants. Tenants benefit from EUF through reduced energy, water and waste costs, and improved living or working conditions (such as increased thermal comfort). Building owners increase the value of their asset and, in some cases, reduce other operational/maintenance costs.</p> <p>Broader public benefits of EUF include job creation and increased access to finance for building improvements.</p>
Energy Savings Scheme (ESS)	New South Wales	NSW Government	<p>The ESS is a certificate trading scheme designed to reduce electricity and/or gas use by creating financial incentives for households and organisations to invest in upgrades to save energy.</p> <p>Home Energy Efficiency Retrofit (HEER) activities can be delivered under the ESS by Accredited Certificate Providers (ACPs) to help NSW households and small businesses save energy by supporting a range of energy efficiency upgrades, including lighting, draught proofing and equipment upgrades.</p> <p>The home occupant nominates the ACP as the energy saver for the upgrade to enable them to create Energy Savings Certificates (ESCs) from the energy savings that will be made.</p>
Home Energy Action Appliances Program (concluded June 2021)	New South Wales	NSW Department of Planning, Industry and Environment (DELWP)	<p>Between 2016 and 2021, the Appliance Replacement Offer teamed up with partners across NSW including Charities and Community Service Organisations to make energy efficient appliances available to the most vulnerable households in our community.</p> <p>DELWP thanked the partners for their support which helped them to meet the goal of assisting vulnerable households. Many of the partners contributed substantial resources to training staff, as well as covering the financial gap for some participants.</p>

Latrobe Valley Home Energy Upgrade Program (concluded 2020)	Victoria	<p>Sustainability Victoria</p> <p>Latrobe Valley Authority</p> <p>Latrobe City, Wellington, and Baw Baw local Governments</p> <p>Hills Energy Solutions</p>	<p>The \$5 million Latrobe Valley Home Energy Upgrade Trial Program supported 1000 low-income households to reduce energy costs and/or improve the thermal comfort of their home. The program successfully delivered energy efficiency upgrades up to \$4500 per household.</p> <p>With every living situation different, upgrades included but were not limited to:</p> <ul style="list-style-type: none"> replacing older fixed appliances, such as heating, cooling and water heating improving the performance of the building, such as insulation installing solar PV systems or heat pump water heaters. <p>This led to 2706 products installed across the 1000 homes, with many homes receiving the benefit of a heating upgrade (split system) and an improvement to the home's thermal shell (insulation).</p> <p>Key findings:</p> <ul style="list-style-type: none"> There were high levels of participant satisfaction, with people reporting increased comfort and well-being. The broad range of offerings made the program complex but allowed more opportunity to meet the needs of participants. On average, there was an 11% reduction in electricity usage. <p>Considerations:</p> <p>Not all energy consumption went down:</p> <ul style="list-style-type: none"> Some residents had inefficient heaters and couldn't afford to heat their home for long. But with the updates, they were able to heat their home for longer, for the same amount of money. Some residents now have access to air-conditioning and cooling, when previously they had gone without. <p>The condition of homes also determined what upgrades could be installed. To ensure safety of installers or occupants, part of the allocated \$4500 needed to be spent on updating switchboards, wiring or gas piping. This took away from available spend on energy efficiency or thermal comfort upgrades. It would be recommended that future programs include a contingency for such safety works.</p>
Household Energy Efficiency Scheme (HEES)	Western Australia	Energy Policy WA	Reducing energy costs – a \$13 million program to improve energy efficiency for households facing hardship, the program seeks to help around 10,000 households over four years.

		WA Council of Social Services (WACOSS) Synergy Horizon Power	<p>Detailed design and planning for the program and small-scale pilots are underway and being led by Energy Policy WA in close partnership with Synergy, Horizon Power, and the Western Australian Council of Social Service. The commencement of small-scale pilots are anticipated in late 2021, with learnings to inform how the program can be scaled up across Western Australia.</p> <p>Building NGO capability and capacity in the delivery of energy efficiency advice and support to their clients is an important focus of the program to achieve scalability.</p>
Sustainable Household Scheme	Australian Capital Territory	ACT Government Brighte	<p>The scheme is providing zero-interest loans of between \$2,000 to \$15,000 to eligible ACT households to help with the upfront costs of investing in energy efficient home upgrades. The scheme will be open for five years and loans must be repaid over 10 years.</p> <p>Currently in pilot stage to test user and product experience. Loans will be available through the scheme for the following products:</p> <ul style="list-style-type: none"> • Rooftop solar panels • Household battery storage systems • Electric heating and cooling systems • Hot Water Heat Pumps (HWHP) • Electric stove tops • Electric vehicles • Electric vehicle charging infrastructure • Installation costs for these products.
<p>The Victorian Government Home Energy Assist Program which began in 2017, is investing \$17 million over four years to support 3,300 Victorian households who are most in need. This is part of their ongoing commitment to improve well-being for Victorians on low income through more affordable energy bills and more comfortable homes. The program includes the following 3 programs:</p>			
Healthy Homes Program	Victoria	Sustainability Victoria Australian Energy Foundation	<p>The program is a home energy efficiency program. It provides free home energy upgrades to up to 1000 Victorians who live with complex healthcare needs and have low incomes, in Melbourne's western suburbs and the Goulburn Valley.</p> <p>The program aims to improve indoor winter temperatures and reduce household energy bills. Recruitment of eligible households began in January 2018 and was completed in March 2020. Upgrades to successful households will take place until late 2021.</p>

			Potential participants within the program's target areas, were contacted by their local council or community health provider and referred to the program if they expressed interest and met the eligibility criteria.
EnergySmart Public Housing Project – Concluded in 2020	Victoria	Vic Department Health and Human Services (HSS) Australian Energy Foundation	<p>The project replaced inefficient electric water heaters and electric heaters in 1,300 public housing properties and delivered tailored upgrades that included roof insulation to a further 200.</p> <p>The project achieved substantial benefits for tenants and reduced environmental impact for the state of Victoria and was a finalist in the Premiers Sustainability Awards 2020.</p>
Energy Savvy Upgrades Program	Victoria	Vic DELWP	<p>The Victorian Government is providing assistance to households experiencing energy stress. The program is partnering with community organisations to offer subsidised energy efficiency and renewable energy upgrades to a limited number of households struggling to pay energy bills. Participating households can expect to receive:</p> <ul style="list-style-type: none"> • an in-home energy assessment. The cost of the assessment is \$100, however households conducting upgrades as a result of the assessment will have the fee credited against the cost of the upgrades • free guidance on the best energy plan to suit their needs • a generous Government subsidy towards the cost of a home retrofit, which could include renovations such as sealing draughts, improving insulation and upgrading appliances to more energy efficient models. Upgrades will be performed by licensed and qualified tradespeople, and arranged by program staff on behalf of participating households • free assistance to participate in the solar homes package <p>The programs pre and post upgrade energy data collection progression is currently being impacted by COVID.</p>

Appendix D Key Messages from the IRG Interviews and Workshops

A successful scheme will need to have clear and demonstrable goals and target market that have been adapted from other programs learnings	'Use learning from other successful or failed programs'
	'A lot of this depends on the specific goals of the program as well, is it increasing the speed and scale of retrofits within a period of time or widespread take up'

	<p>'Cash (homeowners with mortgage, access to cash) is easiest to target first but leaves behind those who are probably living in the worst housing stock'</p>
Pilot(s) are required to test the delivery model of the proposed scheme	<p>'The program needs to be able to measure impact post upgrade' – a pilot could enable this part of the process</p> <p>'Trial and understand the complexities of the upgrade work being completed and enable something within the process to support those high priority items so that minor issues don't make them too hard'</p> <p>'Would you look for a government to fund some places in the pilot?'</p> <p>'The delivery model could take on a sequence as follows:</p> <ul style="list-style-type: none"> - Assessment and rating - Detailed advice and specification - Implementation and installation' <p>'Need to test a variety of delivery models'</p> <p>'Use a pilot scheme to gather data and to develop case studies for messaging'</p>
The scheme should address draught sealing and insulation first before the big-ticket items	<p>'Sometimes the strength of individual retrofit elements (e.g., Insulation, draught proofing) is that they don't require householder interaction with smart technology'</p> <p>'Insulation and performance glass and windows are for the life of a building'</p> <p>'Over reliance on technology misses' opportunities for upgrades that are not reliant on user capabilities'</p>
The housing stock in Australia demands bespoke requirements because housing is so heterogeneous	<p>'A pilot scheme is critical; it would be very useful to enable understanding of the different types of homes across the states and their inefficient quirks'</p> <p>'Every house is different and needs an individual approach, you find strange spots around the house through doing a home assessment'</p> <p>'There are big differences between all states in Australia'</p>
Homeowners want a streamlined process from assessment to finance and installation, and quality assurance included	<p>'Customers will be interested in exactly what benefits them and optimises their house. Need to keep the engagement stage simple and tailor solutions to buildings/users'</p> <p>'A well-designed scheme could enable homeowners to leverage options such as the EUP'</p>

	'A model that enables a central party to educate homeowners and listen to their needs is valuable'
	'For a mass market program, do we need an automated package selection and customisation tool?'
	'Better that a single party is responsible for engaging trades. Ease of execution will overcome some consumer resistance, rather than having to chase around after quotes and delivery themselves'
	'The small scale retrofit side of the industry has a lot of room to grow due to demand. Clients are sick of being cold and uncomfortable'
	'Require a desk top audit from the contractor on completion of every job, including photos. This enables a quality assurance process for the program, homeowner and contractor'
	'Audit 10% of upgrades to ensure standard of work delivered'
Current market demand analysis and strong messaging in the mainstream is required	'How many homeowners want to do a home retrofit for the purpose of energy efficiency?'
	'You must understand the consumer demand, growth projections and roll out; what drives consumer behaviour in this area?'
	'None of this is rocket science! It is most important to communicate and engage with people about this'
	'A very strong marketing campaign is required for successful engagement with market'
	'Recommend that you use some focus groups or customer testing for all of this'
	'Is there benefit to an overarching awareness campaign that sits above providers?'
	'Priority marketing message on home comfort for building life expectancy. Sustainability of the benefit'
	'Engagement will be the most challenging thing'
	'Comfort and savings message also about value it adds to your home - high resale value (atm this is negligible - need this to be a driver)'
	'Challenging messaging around net zero'
	'Environmental incentives can be a driver but be careful to appear as greenwash'

	'Deploying retrofits in locations/communities where education and engagement can be supported peer-peer'
This program needs to use industry accredited assessors and installers only	'Some accreditations are yet to be developed'
	'Need a rigorous training and certification scheme for all retrofit providers (e.g., insulation installers)'
	'Importance of compliance auditing to manage risks (and ability to take action where required)'
	'Residential Efficiency Scorecard to become a national rating program for existing homes'
	'Well trained assessors will be able to explain the unique situation in a house, and the dynamic between appliances and house structure / design'
	'Do we need specialist input regarding particular items after recommendation? i.e., windows, PV and battery sizing'
	'Are there enough assessors? Are they sufficiently competent? Training needed to have more'
	'Poor compliance could derail the whole scheme'
The challenge requires a sustainable funding model consisting of public/private finance, with a mix of incentives for the varied market	'Banks, investors, superannuation funds and philanthropists are keen to support and invest in large scale finance for home retrofits, if they don't have to be customer facing'
	'The challenge requires a sustainable funding model, not reliant on government funding'
	'Who will fund the assessments?'
	'Low-income programs have some inherent challenges that may make roll out more difficult'
	'Finance model is a priority – making the model work for the customer and building confidence for them'
	'Gov \$\$ are going to be critical to meet low-income families'
	'We need to mobilise private sector capital to make this work - admin costs make this hard for large orgs like CEFC with big overheads, so we need a nimble and innovative finance group, which can grow with the program, and facilitate super funds etc when the scale necessary is achieved'
	'Finance needs to be attached to the house, mortgage or residential EUA/EUF'

	'An SPV could be funded by investors at a scale of >\$50 million. How do we fund the scheme to get to that point?'
	'Consider a securitisation model, impact investor for the first \$5 million'
Homeowners need independent, practical, technical guidance to inform them of the best upgrade for their property	'Energy advice services fall flat because of lack of engagement; incentives are required and a clear demonstration of value to consumer'
	'We need a cultural shift toward energy efficient and healthy homes'
	'The customer needs to be able to trust the program provider and parties involved'
	'Every home and customer is different, the approach needs to allow for a mix of solutions tailored for each home'
	'Homeowner interface to assist user to make informed decision on justifying what value they will obtain from their investment'
	'The process of a retrofit is currently very hard to navigate, there is nobody available to guide the homeowner through the process. We need to be able to provide a specification to the homeowner and then how they go ahead with the retrofit, at least'
Large-scale retrofits can generate new jobs in the supply chain, more jobs in the market and opportunities to sufficiently train the workforce that is required	'Current workforce requires upskilling'
	'Also, worth thinking through how to ensure the delivery model does not exclude local delivery partners and agencies at the expense of efficiency and scale'
	'Fed Gov focus on manufacturing is a good link for home retrofits with strong local procurement targets'
	'Need to consider the 'end of life' for removed and installed products (product stewardship)'
	'Drive innovation in design of product to minimise environmental impacts such as reduction of waste etc.'
	'We require a functional industry to deliver it'
	'A well-trained assessor will be able explain the unique situation in a house, and the dynamic between appliances and house structure/design.'

National household data is lacking in Australia – A home assessment (remote/in home) is a vital tool in the process that can provide some of the data required as well as the ability to provide the right options/advice for a homeowner	<p>‘Strongly recommend using the NatHERS existing homes program for assessors - and get a rating. It will eventually link to mandatory disclosure and the broader financial sector. A large scale retrofit scheme would ideally leverage this scheme as a recruitment channel to support both sides’</p> <p>‘Perform a home assessment early in discussions with the homeowner’</p> <p>‘Use of a robust home assessment tool will be required’</p> <p>‘Assessments and ability to show people the benefits is helpful’</p> <p>‘Who will fund the assessments?’</p> <p>‘Delivery of assessments is key, doesn’t need to be expensive walk-through process. Utilise a hybrid model for remote and walk-through assessment’</p> <p>‘During a home assessment don’t miss the opportunities to make simple adjustments that could be moving furniture to use a sunny space in a room, trim a bush that is blocking a window for example’</p> <p>‘The Scorecard can be used to model the impact of upgrades and can use the original assessment as a basis for a post-upgrade assessment’</p>
Australian evidence to support the health benefits of a thermal and energy efficient home is required	<p>‘NZ research shows health and social benefits outweigh energy cost savings of retrofits’</p> <p>‘Require a pilot scheme with the ability to collect data and measure impact to generate health-benefit evidence’</p> <p>‘Cost benefit analysis for health impacts is required for government engagement’</p>
Home comfort is now a priority driver for homeowners and regulators	<p>‘Clients want to reduce their energy bills, but comfort is their driver’</p> <p>‘Climate change has started to create the demand due to the uncomfortableness not felt previously’</p> <p>‘NCC 2022 is driving Home comfort as a priority driver over energy cost off set. Thermal comfort for achieving suitable ratings cannot be compromised by fitting PV’</p> <p>‘A/C; PV & other heaters, heat pumps, etc, are not long-term suitable solutions and have limited-service life. This is why home comfort is driving the priority with NCC 2022 provisions’</p>

The scheme should enable a path to electrification for residential buildings, ultimately allowing for gas to be used for heavy industry that requires gas as part of the transition to net zero carbon

'Our priority is seeing mass elimination of fossil fuels so would be interested in removing gas in locations where there are highest penetrations of gas appliances'

'This is an opportunity to shift from gas to electricity'

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1 Your details

Title	Mr
First name	Esteban
Last name	Olmos
Email	esteban@mskarchitects.com.au
State	NSW
Postcode	2158

2 Your enquiry

Subject	Design and Place SEPP
Type of enquiry	Comment
Message	<p>As architects, we hold sustainability, resilience, and quality of places at the forefront of development. Our shared responsibility to sustain healthy and thriving communities, and to care for our environment underpins the values. The Design and Place SEPP will apply to all of NSW and spans places of all scales, from precincts, large developments and buildings, to</p> <p>infrastructure and public space. We support the DP SEPP and encourage the government to hold its ground against lobbying to have these important reforms recalled from public exhibition in an effort to ensure they do not proceed.</p> <p>We support the Australian Institute of Architects letter dated 17 January 2022 responding to the public exhibition of the DP SEPP.</p>
I would like a response	Yes



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Monday 17th January 2022

The Hon. Anthony Roberts, MP
52 Martin Place
SYDNEY NSW 2000

Response to:

Public Exhibition – Design and Place SEPP

On behalf of:

Institute of Architects NSW Chapter and the Planning Institute of Australia (NSW)

Dear Minister Roberts,

The Australian Institute of Architects (the Institute) and the Planning Institute of Australia (PIA) and their members are dedicated to raising the quality of our communities. We seek to improve the enduring health and wellbeing of all Australians. The design of the built environment and the landscape within which it is situated shapes the places where we live, work and meet. Between us, we represent almost 20 000 members nationally, united in ensuring the design of these places best meets the needs of our communities now and into the future.

We welcome the Department of Planning, Industry and Environment's (DPIE) release of the Design and Place SEPP for public feedback and each of our organisations is in the process of preparing independent and detailed submissions.

We would like to commend the GANSW and DPIE for elevating ecological sustainability, the protection of the environment and our connection with Country to the forefront of place-based design planning. We all understand these will be critical elements to creating resilient and equitable places into the future.

We recognise this is a large body of work and we applaud its ambitious scope and nature, particularly given public opposition from some parts of the broader industry. **We ask that the government remains steadfast in its resolve to implement these reforms.**

We thank the GANSW and DPIE for showing leadership in this area and for striving to bring focus to place-based design. We believe this work will be vital into the future as we continue to face complex challenges, such as climate change.

The Australian Institute of Architects (the Institute) and the Planning Institute of Australia (PIA) look forward to continuing to work closely with government for the benefit of all NSW communities.

Yours sincerely



Laura Cockburn FRAIA
NSW Chapter President
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Sharon Smith (RPIA) Fellow
PIA NSW President
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We respectfully acknowledge the Traditional Custodians of the lands on which we work and pay respect to their Elders past, present and emerging.

Submitted on Mon, 28/02/2022 - 17:58

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

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Last name

Olsson

I would like my submission to remain confidential

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Suburb/Town & Postcode

SURRY HILLS 2010

Please provide your view on the project

I am just providing comments

Submission file

[olsson-adg-2021-submission-20220228.pdf](#)

Submission

Please refer to the attached submission.

I agree to the above statement

Yes

OLSSON

ARCHITECTURE | URBAN PROJECTS

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Ref No: 2108
Date : 28/02/2022
From : RO
Pages : 3

Re: The Design and Place SEPP 2021
Subject : Apartment Design Guide (ADG) 2021 DRAFT Submission

Dear Sir / Madam,

As architects and urban designers we have extensively reviewed section '2.7 Natural ventilation' and the means of calculation outlined in 'Appendix 4.2 Natural cross-ventilation'.

Our comments are as follows.

Typical NSW Apartment Building Types

In our experience, the; 'perimeter block' and; '8 apartment per floor with central corridor' buildings are two very common apartment building typologies below 10 storeys.

For this reason, there needs to be architectural design solutions for these types to comply with the 'natural cross-ventilation' requirements using flat plate apartment plans. Solutions could include slots and indentations in the built form. Realistic dimensions for slots and indentations should be provided to allow these building typologies to work.

Possible typological solutions

The solutions we have arrived at to overcome the natural cross-ventilation requirements of the ADG 2021 DRAFT are – :

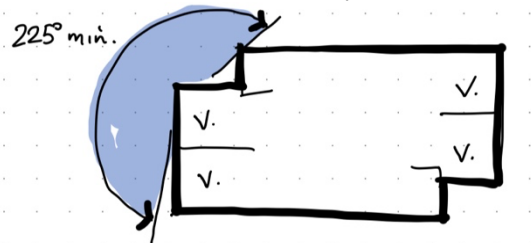
- **'Up and over apartments'.**

We believe it is unreasonable to require this apartment layout for a high percentage of apartments in lower tower levels or perimeter blocks they are limited by:

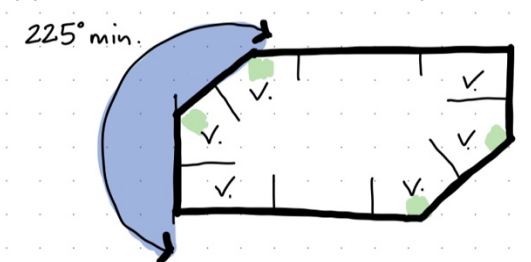
- Wasteful usage of gross building area (GBA) lost to stairs and circulation.
- Adaptability challenges inherent in multi-storey design.
- Often negative public (and therefore developer) perception as a result of the above bullet points and related costs.

- **'8 apartment per floor with central corridor' with odd geometries.**

- Plans with stepped rectilinear apartments in the Draft ADG do not achieve the 60% natural cross-ventilation in these building typologies, as external corners cancel out adjacent corners from achieving the 225 degrees ventilation exposure.



- The only '8 apartment per floor with central corridor' apartment layout we can see may be able to achieve compliance is one with opposing chamfered corners displayed in the diagram below.



As urban design experts, we believe few councils, if any, will desire odd-shaped building envelopes to provide site owners site yield certainty and mitigate the required usage and time consuming un-certainty of Wind Consultant computational fluid dynamics (CFD) modelling.

In summary, this is an undesirable built form outcome.

Referring to specific clauses of the ADG 2021 DRAFT...

2.7 Natural ventilation

Under 'Design Guidance' it is stated

"For courtyards or building indentations, provide a width-to-depth ratio of less than 2:1 to ensure effective air circulation and avoid trapping pollutants."

We believe smells in slots is typically a false issue.

Using 2:1 ratio indentations as a means to achieve the natural ventilation of apartments has been a common approach by architects and councils alike since the implementation of the previous ADG.

As previously mentioned, the inability to use building indentations as a method of achieving natural cross-ventilation restricts common apartment building typologies below 10 storeys.

Appendix 4.2 Natural cross-ventilation

As stated previously, to our reading of this appendix, all typical 'perimeter block' and; '8 apartment per floor with central corridor' apartment typologies will require a Wind Consultant as 60% do not comply with 'Figure A4.2.2: 225 degrees of unobstructed exposure to wind – how to use this tool'.

In addition, the diagrams displaying compliance should actually achieve compliance according to the ADG 2021 criteria. In Appendix 4.2, Figure A4.2.3, Plan – Scenarios B and C do not comply with the 225°. And if they do, it should be demonstrated how.

Closing comments

The alternative, of engaging a wind consultant to demonstrate performance, is wasteful and should be unnecessary. However, if the only solution is to engage a consultant, this should be stated up front, with the guidance recommendations such as; the Figure A4.2.2 '225 degree diagrams'; and the 2: 1 ratio façade indentations in the 'Design Guidance, Natural Ventilation' category, removed or amended.

We thank you for your consideration of these matters and look forward to further refinement in next version of the ADG 2021.

Yours faithfully,

A handwritten signature in black ink, reading 'Russell Olsson'. The signature is fluid and cursive, with the first name 'Russell' written in a larger, more prominent script than the last name 'Olsson'.

Russell Olsson
Principal

From: noreply@feedback.planningportal.nsw.gov.au
To: [PDPS DRDE Design and Place SEPP Mailbox](#)
Cc: [DPE PS ePlanning Exhibitions Mailbox](#)
Subject: Webform submission from: The Design and Place SEPP 2021
Date: Thursday, 13 January 2022 10:45:48 AM

Submitted on Thu, 13/01/2022 - 10:45

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Mark

Last name

Petersen

I would like my submission to remain confidential

No

Info

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Suburb/Town & Postcode

Sapphire Beach 2450

Please provide your view on the project

I am just providing comments

Submission

Application of Guide:

The present Guide makes clear that Parts 3 and 4 apply to DA's. The present draft Guide does not. This is important as the draft Guide now ropes in a heap of requirements that are currently not in Parts 3 and 4, and makes them considerations for a DA. This includes such things as building separation. By way of example, many regional councils have their own setback requirements, so confusion occurs where the draft Guide now seems to include additional considerations which overlap local controls. If this wider application is intended, clause 23 of the draft SEPP should be revisited, or otherwise it be made somehow clearer that the provisions/controls of the SEPP and Guide prevail over any other (local) provision/control.

Communal Open Space:

The Apartment Design Guide should be clearer in relation communal open space that such space is not necessary for smaller sites; steeper sites or for development containing a small amount of apartment. Within regional areas medium - high density sites are typically small, steep, and often located in areas containing large amounts of public open space. The inclusion of communal open space in such developments provides little benefit to the small number of residents, and becomes a cost burden in terms of maintenance. Its overall contribution to social interaction and the like is extremely limited. The present version of the Apartment Design Guide does a better job of making clear that such space is not necessary in the above circumstances (and the various images used in the relevant section show such space provided in relation to large apartment developments).

This may require revisiting the opening parts of the draft Guide where it states that meeting the objectives is required - page 8 provides:

"Where an alternative is proposed, the development application (and specifically the design verification statement) must demonstrate how this delivers a neutral or beneficial planning outcome when assessed against the objective."

I agree to the above statement

Yes



Response to the public exhibition of the Design and Place State Environmental Planning Policy (DP SEPP) 2021 and supporting guides

22 March 2022

The Resilient Sydney Office consulted with metropolitan Sydney council officers during January and February 2022 to review urban resilience in the proposed SEPP regulation and the Urban Design Guide. This document is based on feedback received at these events. It does not represent the views of any one council, however it provides an overview of the range of views from practitioners with an interest in resilience from local governments in Sydney. The document was approved for issue by the Resilient Sydney Steering Committee on 22 March 2022.

Background

The Resilient Sydney program is a collaboration with metropolitan Councils, the NSW Government, the business and community sectors. Since 2015, the Resilient Sydney Office has been hosted by the City of Sydney on behalf of all 33 local governments of Greater Sydney. The program is funded by contributions from local government. The [Resilient Sydney Strategy](#) was published in 2018 and lays out a vision to create a more connected, inclusive and Resilient Sydney. It describes a city of residents, businesses and institutions that will understand and be prepared to manage our resilience challenges.

The Context

The Resilient Sydney program aims to guide a thorough and effective resilience approach with a vision to ensure Greater Sydney is a global exemplar of urban resilience. The Department of Planning and Environment has been a vital member of the Steering Committee for the program for over six years now. The program successfully supports local governments in Greater Sydney to effectively implement the resilience related policy and program work of the Department. Our organisations are co-investing in collaborations and projects to create tools, guidance and support for improved council resilience planning, capacity building, data and investment in Sydney.

The Opportunity

The proposed SEPP regulation and supporting guides are an important opportunity to institutionalise a resilience approach into planning decisions to deliver risk reductions to property and people in our city. Our communities are increasingly subject to climate and weather-related extreme shock events that require a new risk-aware and anticipatory approach to zoning and planning decisions. Local government looks to the NSW Government to provide clearer guidance and regulations to improve the ability of councils to implement planning decisions that reduce the exposure of infrastructure, property and people to current and emerging risks (especially climate risks) and improve insurability and long term financing security for householders and businesses.

Resilient Sydney

A Resilient Cities Network initiative with metropolitan Sydney
Hosted by the City of Sydney

resilientcitiesnetwork.org
resilientsydney.com.au



General Comments on the SEPP

There is general support for the Design and Place SEPP. Comments covered structural, principles and intent, and usability or implementation issues.

Structural comments

- The SEPP and Guides make an important contribution to improving planning standardisation across the city, especially for new builds and greenfield developments.
- The inclusion of a design consideration 'resilience and adapting to change' is commended and noted as vitally important to improve capacity for planning activities to build resilience of new development in NSW. This will assist, but not deliver, resilience outcomes across the Planning System. Excellent leadership is demonstrated through this approach.
- A Resilient Planning system should enable adaptability, redundancy, modularity and subsidiarity. Currently adaptability for resilience over time is not reflected and the inclusion of words that anticipate exposure, or that reflect the design life of a development or useful life of materials may serve to ensure resilience is long lasting and does not expire at a certain point.
- The principles in the document could be improved and strengthened by referring to or adopting the Ministers Planning Principles more directly. The need to include "anticipate", avoid and reduce exposure to natural hazards, was especially noted.
- The articulation of Resilience Outcomes is supported and well stated – however the status of the guidance document is unclear. We support the intent of the resilience guidance here: <https://www.planning.nsw.gov.au/-/media/files/dpe/reports/policy-and-legislation/resilience-outcomes-for-the-planning-system-2021-12.pdf> however a reference to the 'design for resilience' template and accompanying guidance in the UDG was unclear and request this be made available for consultation and review.
- Mechanisms in the SEPP and UDG focus on interventions for new, large scale developments and provide no reference to existing built form and smaller scale or incremental developments. In many LGAs of Sydney, based on the size thresholds only a small number of developments in any one year will be required to implement the changes proposed, leaving a significant proportion of urban infill development projects without guidance or any requirement to use the SEPP and guides. This will lead to inequities in the quality of development, and resilience planning in Sydney.
- The coherence of state instruction is undermined where the SEPP and guidance documents don't adequately or directly align with the recently released guidance on [Strategic planning for natural hazards](#) (package released December 2021). We commend the department on this package, however further effort is required to clarify the role of all layers of government in implementing this approach – not only relying on local government to act.
- Further guidance documents for local government on the SEPP were considered critical for practitioners to effectively implement the principles in the SEPP – noting particularly the absence of the resilience template in the exhibition package and request this be circulated for review and co-design with local government.

Principles and resilience content comments

- Extreme and urban heat is Sydney's top shock, yet guidance on mitigating heat in the documents is inadequate. A number of planning guidance and tools and mechanisms already exist or are in testing with industry. These could be applied to

more robustly design out heat and assess heat responses, including the Cool Suburbs tool (WSROC/ Resilient Sydney) and GBCA Homes resilience credits which could be called on in the documents.

- The extent of site coverage by buildings and built form on sites is reducing the capacity of development to mitigate heat and be more resilient. Reducing thresholds for site coverage would enable heat mitigation to be prioritised.
- The expectation that green infrastructure will mitigate and reduce heat alone is erroneous - trees can't do everything and other interventions are also necessary and could be more directly called upon in the guidance and SEPP.
- There is no clear requirement to manage or anticipate emerging risks, especially climate risks in the new SEPP. The NSW government have published guidelines for state agencies to adapt to climate change including the following:

"NSW state government agencies need to adapt to the impact of climate change to support NSW's people, environments and economy. State government agencies are required to consider climate risks in their planning, operations and management of assets."

"...state government agencies need to understand, plan for and build resilience to the impacts that climate change will have on public infrastructure and services."

"...existing urban and environmental planning processes and principles may need to be changed to accommodate climate risks such as increased heatwaves." from [Adapt NSW](#)

- Land areas for development that are at risk of being uninsurable within the lifetime of developments need mechanisms that allow adaptive shorter-term planning approvals, and longer term mitigation of risks and costs of property losses. True resilience in planning would be developing these mechanisms to enable transitions in land use linked to emerging (known) risks from natural hazards and extreme weather. These mechanisms are not provided in the documents.
- Including examples of design that can build community resilience (such as shared spaces or common areas for interactions) could be strengthened to improve social resilience and reflect this critical need in communities and place design.
- The ability to "build back better" post disasters would provide mechanisms for communities to improve their resilience and reduce risks through disaster recovery. This is not directly enabled in the SEPP and guides.
- Mitigation of climate impacts is critical to longer term resilience. Net Zero targets and strong thresholds and standards in BASIX and other tools are vital to ensure changes are implemented and measured in all developments in the city.

Usability/implementation comments

- It is welcome that the SEPP mentions resilience, however more work is required to give local government clarity for practical application. Local government needs supporting 'development standards' to deliver resilience outcomes through planning.
- Concern that local government will need support and resourcing to build capacity and capability to effectively implement the intent of the documents.
- The Urban Design Guide approach is particularly relevant to areas undergoing greenfield development, and this is welcomed. However improvements may not be realised in areas of the city that have more detailed requirements already in place.
- Delivery of the intent of the SEPP and guides will be increased where more sophisticated digital templates and development compliance forms are provided for all councils to use as standard. This would also reduce the complexity burden of compliance on proponents.

Urban Design Guide – comments and text additions for consideration

Comments

- Strongly commend the incorporation of Resilience considerations into the Urban Design Guide through **Objective 4**.
- Adding words that *anticipate* exposure, or that reflect the *design life* of a development or *useful life* of materials may serve to ensure resilience is long lasting and does not expire at a certain point.
- Inclusion of direct references to other hazard related guidance documents (e.g. Floodplain Management, Bushfire Protection) would strengthen coherence and implementation of this objective.
- Including examples of design that can build community resilience (such as a shared spaces/ commons for interactions) could further align section 4.2 with the SEPP design consideration.
- Assessment and design guidance under **Objective 4** would benefit from greater alignment to resilience principles articulated in the Ministers Planning Principles (Principle 4) and the NSW Government's recently released Natural Hazards Package.

Recommended text changes **Design Guidance Objective 4:**

DESIGN GUIDANCE

Recommended text changes within Design Guidance Objective 4:	Text removed/ moved
4.1 Anticipate, avoid and reduce exposure to natural and human induced hazards <ul style="list-style-type: none">• Adopt an 'all-hazards' approach, that considers the potential for cumulative impacts, including interactions with other risk factors and changes to hazard risk over time.• Assess existing and future natural hazard risks early and incorporate available data, mapping, scientific and scenario modelling, historical information, Aboriginal knowledge of the landscape and climate change impacts, trends and projections.• Base natural hazard and climate change risk identification, assessment and adaptation on the best available science, impacts, accurate and contemporary natural hazard data and detailed analysis of land uses or communities that are more exposed or vulnerable to risks from hazards.• Consider climate change risks such as changes to the intensity and frequency of natural hazard events over time and the potential to increase existing vulnerabilities and risk exposure.• Implement strategies that <i>anticipate</i>, manage, reduce or mitigate hazards such as bushfires, drought or flooding (whether natural or human-induced), and hazards such as air pollution, land contamination and gas or fuel pipelines.• Undertake a risk assessment of industrial hazards and associated pollution, sites or risk factors including acid sulfate soils, naturally occurring asbestos, mine	Text in green are additions/ modifications

subsidence areas, unstable land, proximity to hazardous land uses, or contaminated land.	
[moved this concept to 4.2]	“Carefully locate development, distribute land uses and site built form to minimise risk.”
[moved this concept to 4.2].	“Locate density away from vulnerable areas such as flood-prone land”
[moved this concept to 4.3]	“Use engineering tools, such as rain garden, tree pits, swales, detention tanks and popped networks to manage the speed and volume of stormwater. See Objective 11 for further guidance.”
4.2 Ensure safety and resilience underpin new communities <ul style="list-style-type: none"> Engage with the local community and community partners to capture local risks, values and knowledge about impacts from natural hazards, including lived experience from past events. Locate new development away from high-risk areas to avoid community exposure to natural hazards as far as is practical. Where avoidance is not possible, mitigate risk to acceptable levels. Ensure that land use is compatible with the level of risk of an area, such as open space or playing fields in flood prone locations. Incorporate rigorous design and construction standards for hazard prone land, protection of environmental assets and natural buffers, or structural and engineering works. Consider community resilience at all scales of development. For a new subdivision or major urban renewal, use the layout and composition of development to provide an opportunity for designated safe zones for use in emergency management. A safe zone is a designated area in case of an emergency that prioritises safety considerations. Incorporate materials and incorporate design approaches that consider asset and development resilience and lifespan Consider emergency response and evacuation in consultation with the relevant local emergency management committees 	Text in green are additions/ modifications
4.3 Facilitate or enable natural geographic processes and systems to support community resilience <ul style="list-style-type: none"> Acknowledge the value of features such as coastal dune structures and riverine floodplains, and the 	Deleted: “Protect natural ecology as a system”

protective and productive benefits they provide to local ecosystems and economies.

- Carefully plan development along the coast to ensure natural character values are maintained or enhanced; see the Coastal Design Guidelines for further guidance.
- Use hazard-prone and other environmentally sensitive areas to add value and outlook to the development, rather than by introducing barriers such as fencing.
- Use engineering tools, such as rain gardens, tree pits, swales, detention tanks and piped networks, to manage the speed and volume of stormwater. See Objective 11 for further guidance.
- Provide buffers to sensitive ecological areas.
- Set subdivision patterns and building setbacks to enable contiguous planting of vegetation to enhance habitat and ecology.
- Improve interconnections between urban habitat areas to support ecological resilience.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 5:04 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 20220228-rwdi-draftadgreview.pdf

Submitted on Mon, 28/02/2022 - 17:02

Submitted by: Anonymous

Submitted values are:

Submission Type

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Peddie

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I am just providing comments

Submission file

[20220228-rwdi-draftadgreview.pdf](#)

Submission

We appreciate the opportunity to provide feedback on the draft Apartment Design Guide and Urban Design Guide as part of the new Design and Place SEPP.

Please find attached commentary on behalf of RWDI in relation to Wind, Solar, Natural Ventilation and Noise/Acoustics.

We look forward to the opportunity to continue to be involved in the development of this document.

I agree to the above statement

Yes



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MEMORANDUM

DATE:

28 February 2022

RWDI REFERENCE #:**TO:**

Abbie Galvin

Position: Government Architect NSW

FROM:

Kevin Peddie

Position: Director of Operations
Australia and New Zealand

RE:

***Draft Apartment Design Guide and Urban Design Guide
Public Exhibition Comments***

Dear Abbie

RWDI appreciates the body of work that has been undertaken by the Government Architect NSW team who have aimed to address the known issues and concerns from industry on the current version of the document. Furthermore, we appreciate the opportunity to participate in the Policy Working Groups to raise our initial concerns on the draft document and also discuss these in a collective manner.

Commentary has been provided on both the Urban Design Guide document as well as the Apartment Design Guide for consideration. The commentary provided is aimed at enhancing these two documents (in our specialist areas of expertise) to help ensure that the intended objectives can be achieved while also ensuring there is both guidance and flexibility in the guidelines for planners and the development community alike.

We encourage our involvement in further updates to the documents to help ensure the most beneficial outcome prior to these documents being finalised.

Urban Design Guide

A review of the Urban Design Guide has focused on the section relating to wind engineering which RWDI are the global leader in, hence the focus on Section 17.5 which discusses wind comfort requirements.

17.5 Create positive climatic conditions through layout, siting and appropriate built form

It is encouraging to see that the Department is trying to outline a set of wind comfort and safety criteria to ensure that future built forms provide suitable amenity for pedestrians and their intended uses. Furthermore, establishing a state-wide framework for this will help remove the inconsistencies in requirements (or lack thereof) that can be seen between councils, including when a wind assessment or study should be undertaken and also what metric this should be measured against.

The intended objective is certainly a step in the right direction, however the wording needs to be cleaned to clarify the metrics and avoid the issues that already exist. Noting that this document is aimed at setting objectives and providing guidance, some minimum parameters that should be noted include the following:

- When a study should be done (based on the building height, surrounding context or sensitive outdoor areas)
- Reference should be made to a safety criterion that should be achieved. This could be in line with that outlined in “Guidelines for Pedestrian Wind Effects Criteria” which has been generally agreed to by the wind engineering community. This guideline also establishes minimum extents of study area around a development.
- Reference should be made to ensure that any modelling is undertaken in line with the Australasian Wind Engineering Society (AWES) QAM which will help ensure the guidelines objectives are achieved without making the document prescriptive in nature.

Should a more prescriptive approach be desired, reference can be made to the recently developed microclimate guidelines for the City of London (Wind Microclimate Guidelines for Developments in the City of London) which helps to clarify when studies should be done, methodology and presentation of results to ensure consistency in the industry and achieve a better climatic outcome for the city. This was also aimed at making it easier for planners to assess reports for developments, given it establishes a minimum baseline.

Further to this, noting the consideration of heat island effects in our urban context, as highlighted by Western Sydney Regional Organisation of Councils (WSROC) and the Climate Council of Australia, importance should be placed on the establishment of Thermal Comfort Guidelines to achieve Objective 17. The Thermal Comfort Guidelines for the City of London explores the importance of this (including future climate) and presents guidelines to ensure consistency of studies undertaken.

Apartment Design Guide

The review and commentary provided has focused on three main areas and drawn on the expertise from RWDI colleagues globally:

- Sunlight, Daylight and Thermal Comfort
- Natural Ventilation
- Acoustic Privacy, Noise and Pollution

Section 2.6 – Sunlight, Daylight, Shade and Thermal Comfort (incl Appendix A3)

- The title of Section 2.6 is somewhat misleading and should be reconsidered. Apart from the requirement to ensure shading in summer, there is no discussion or requirements for thermal comfort in this section at all and should be reworded to reflect the body of this section. The Thermal Comfort aspects which could be considered for this section include Thermal Reflectance or reference to the balance between BASIX requirements and solar heat load, however this is not currently referenced.
- It is noted that there is an allowance for extension of the solar access assessment period, in some cases, to commence from 8am instead of 9am. However, there is no consideration for this extension in the afternoon (i.e. until 4pm). Given the assessment is based on the winter solstice, this period would be beneficial to help reduce heating requirements in the winter months. Any concerns for additional heat load are irrelevant given this will exist whether its part of the assessment period or not, and would need to be addressed via the BASIX modelling. Recommend rewording the Alternative Design Response section to be as follows which would address the concerns noted during the Policy Working Group meetings:

Where the local street grid or subdivision pattern limits potential sunlight access to a building, the assessment period to satisfy the minimum 2 hours or 3 hours of direct sunlight in midwinter can be extended by up to 1 hour (from 8 am and up to 4 pm). The design should also consider a built form response to increase solar access performance during these circumstances.

Consideration should be made (through modelling) of the potential impact on satisfying Objective 1.2.2 for any future residential development on adjacent sites.

- The wording between Section 2.6 and Appendix 3 needs to be reviewed due to a conflict with the shading requirements. Section 2.6 notes that if an apartment has >30% glass then 30% needs to be shaded to “block 30% of the summer sun”, however Appendix A3 states you can only have 30% unshaded window area.
- Objective 2.6.1 encourages high-quality daylight access, however what is deemed high-quality is not defined in the document. There are global guidelines for daylight levels (illuminance) to enable a range of activities to be undertaken, removing the reliance on artificial lighting, these should be referenced to make this statement relevant.

- The 'seasonal' shading test for windows (Appendix 3.2) doesn't define the range of dates/times for what is considered the 'summer season'. It also doesn't distinguish between 'blocking the sun' and limiting the energy that makes it into the building (which is presumably the point). Depending on orientation, the remaining 'unblocked' sun could be occurring at times where the sun can really pour into the apartments and heat them. This approach doesn't acknowledge the sustainability work which is required to be undertaken as part of the design which address thermal heat loading or the impact of heat transfer through these sunshade elements.
- The summer times referenced in Appendix 3.2 should be explicit about if they are in standard or daylight-saving time for correctness.

Section 2.7 – Natural Ventilation (incl Appendix A4)

- The natural ventilation section outlines a number of key elements that it is aiming to achieve, including:
 - Responding to the local climate
 - Reducing the need for mechanical ventilation and air conditioning by improving thermal comfort
 - Creating resilience
 - Being a wind driven mechanism
 - Optimising indoor air quality
- The initial assessment approach does not appear to consider a number of these key elements, with the primary one being the local wind climate. The wind climate varies substantially around New South Wales including wind speed, directionality and frequency of occurrence, not to mention seasonal variance. Given that this is the fundamental element for natural ventilation, the assessment of exposure for windows should be based on this local climate and not a random angle range (225°).
The verification section also goes as far as to state that "no thermal effects are considered" for natural cross ventilated apartments (Appendix 4.2) despite it being an objective of natural ventilation for apartments.
- There is no consideration for the external temperature variance at the site to determine if natural ventilation is a suitable approach throughout the year. This may likely fall under the undefined "Alternative Design Approach" however no discussion has been made to this effect. Parts of NSW do not tend itself to use natural ventilation throughout the year as it can become too cold or too hot for this to be feasible.
- The 225 degree rule has been noted as a pathway forward for when "Apartment exposure is inconsistent with acceptable apartment types", however this does not appear to be defined. Based on a number of test cases carried out by industry, it is unclear when this pathway would ever be applicable and hence appears to only be unnecessary red tape. A pathway which requires confirmation that the window openings have exposure to the local prevailing winds would be a

far more suitable and practical approach, and one which considers the local wind climate instead of just a line-of-sight approach. **It is important to note that the 225 degree rule approach will also restrict any potential design approaches to satisfy the solar access requirement (Section 2.6) which can be achieved through a stepped form profile of the façade, especially when the street corridor is offset from solar north.**

- The current layout of the methodology for the performance pathway is somewhat disjointed. It is recommended that this is cleaned up and made to be easier to follow otherwise it will cause issues with future planning submissions. These issues include:
 - Cross-over apartments are not included in the acceptable apartment types (the document notes these as a different typology to the others noted).
 - An example is that the 5% EOA requirement can be challenged if the performance can be demonstrated with the verification requirements. However if there is suitable building separation, this wouldn't be an option to consider or verify through modelling based on the decision tree? This would also include the opening balance requirement.
- The opening requirement for wintergardens and protected balconies being 25% of the external face or twice the EOQ of openings to that space should be tested as this could prove a design challenge.
- Figure A4.2 provides glazing examples to achieve different Equivalent Openable Areas for consideration. It is **strongly recommended** that this section is reviewed with the façade and sustainability community to ensure that these options are feasible and that there are products which meet Australian Standards for air permeability and water penetration. Discussion with others has highlighted the concern of the operable louvre option achieving the air-tightness requirements from a sustainability perspective.
- The definition of Natural Cross-Ventilation in the Glossary should be re-written. The current wording suggests this can only be achieved via a metric, however the decision tree notes this is not the case. The glossary should clarify terms, not present metrics. It is also worth noting that the National Construction Code provides a definition for natural ventilation and states that where these minimum requirements can not be met, mechanical ventilation is required.
- The definition of a corner apartment is incorrect. This would imply that a building with 90degree corners does not have a corner apartment (given its less than 100 degrees). The definition should be corrected to be more like "...with aspects 140 degrees or less apart" as you would be measuring the internal wall angle. This would also enable some circular buildings to be included.
- The assessment criteria outlined is understood to historically have been developed based on AS1668.2:2012 (Part 2: Mechanical Ventilation in Buildings) and not AS1668.4:2012 (Part 4: Natural Ventilation of Buildings). This can be referenced from "Natural Ventilation of Apartments Performance Pathway and

Supplementary Information” dated 19 June 2018, prepared by FLUX for the City of Sydney. This body of work focuses on the criteria from the mechanical ventilation standard to establish the criteria (which is the same that is stated in Appendix 4.1 of this document.)

It is unclear why this has been done given this section is about natural ventilation and not mechanical ventilation that the apartments are being designed to meet. Furthermore, Appendix A of AS1668.4:2012 is titled “A Performance Based Approach to Natural Ventilation Design Systems” and references 3 international standards which provide criteria based on occupancy and room sizes.

- The objective of this section is to optimise thermal comfort (including other items) for the occupants. Therefore any assessment should account for seasonal variance of the external temperature, with wind directionality to achieve this objective. However, the sectional does not consider temperature variance with the seasons to confirm the suitability of natural ventilation. High ventilation rates in winter would not be advantageous to the occupants who would likely close the windows to reduce heat loss.

Verification Pathway

- The decision tree (Figure A4.2.1) in Appendix 4.2 references apartment typologies that are considered to satisfy natural cross ventilation. Based on this pathway, it can be assumed that the 225 degree rule would not apply or need to be checked. In the glossary, these apartments are defined as being “dual aspect apartments” which are defined as apartments with “2 major external walls”. The document does not specify what a major external wall is, while the NCC refers to an External Wall as “an outer wall of a building which is not a common wall” (Volume One). A minimum length (say 3 metres) would be a suitable metric to clarify this. Note that the aspect will still need to meet the EOA requirement.
- The dynamic thermal simulation approach is very beneficial to pick up the internal flow performance and can overlay thermal comfort outcomes (similar to CFD). However, requirement for the façade pressure coefficients at the opening locations to be based on wind tunnel or CFD testing should be **MUST** and not **MAY**, otherwise the fundamental driver for natural ventilation, wind pressure, would be estimated at best and lead to likely errors in this approach.
- The wind climate data used for any approach (dynamic thermal simulation, wind tunnel or CFD) should have the same basis for assumption which is currently not the case how the document is worded, with the wind climate only referenced for the wind tunnel approach.

Firstly, it should not state *Sydney Airport* given this guide applies to all of NSW and not just Sydney Metro region. Using Sydney Airport for Western Sydney or the North/South Coast would be inappropriate and provide very inaccurate results. Reference can be made to the Australian Wind Engineering Society (AWES)

Quality Assurance Manual (QAM) 2019 which provides minimum requirements for wind climate. This is important given the incorrect selection of meteorology stations used for some modelling which has been seen to date.

- The methodology outlined for the CFD approach is currently quite vague and hence will likely lead to issues for the Planning Departments being able to properly assess if the modelling undertaken has been done correctly. This should at least direct the user to a best practice guide or other planning documents, examples include:
 - The COST 732 Best Practice Guideline for CFD Simulation of flows in the Urban Environment
 - Wind Microclimate Guidelines for Developments in the City of London
- Appendix 4.2 states a Reference Single-Aspect Apartment for the baseline of the development, however little specification is provided. Some level of detail on the balcony layout or façade profile/articulation should be stated to enable greater consistency for the baseline.

It would be better for the requirement to refer to a minimum number of air changes to determine if an apartment can be considered to achieve natural cross ventilation. The question is if the objective is to establish a minimum performing apartment for cross ventilation or just improve a poor performing apartment?

Section 2.8 – Acoustic Privacy, Noise and Pollution

- The Design Guidance notes that for mixed use developments, noise transfer between commercial operations and apartments should be minimised. A far better approach and outcome is the development of acoustic masterplans. This would manage expectations regarding urban living, realistic noise outcomes during daytime/evening and enable late night economy zones. This has already been successfully implemented on other projects in Sydney with great success. It is recommended that the approach to undertake an Acoustic Masterplan for developments be included as an Alternative Design Response pathway. This will aid in the process for future projects.
- Alternative Design Responses: This section notes that alternative solutions can be sought for natural cross ventilation and sunlight access, in the event of noisy environments where planning is constraint, however there is no clarification of what defines this situation and hence is vague at best. As such it is likely that this clause will never achieve the objective of enabling some flexibility in the design, within reason.



We appreciate the opportunity to be involved with the Policy Working Group Discusses for the Draft Apartment Design Guide and encourage that RWDI be part of the review of the final wording of these sections to help ensure the suitability of the guidelines to achieve the design objectives for our future apartments but also be robust enough to enable flexibility in the design process.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Kevin Peddie', with a stylized flourish at the end.

Kevin Peddie,
B.E.(Aero), MSEM, CPEng NER RPEQ RPEV RPEN
Director of Operations

Claire Krelle

From: Paulo Macchia
Sent: Tuesday, 1 March 2022 12:56 PM
To: Diana Snape; Claire Krelle
Subject: FW: D & P SEPP Formal Submission

FYI

From: Emma Fox <emma.fox@shac.com.au>
Sent: Tuesday, 1 March 2022 12:45 PM
To: Paulo Macchia <Paulo.Macchia@planning.nsw.gov.au>
Cc: Justin Hamilton <Justin@shac.com.au>; Matthew Travis <Matt@shac.com.au>; Elizabeth Brown <Elizabeth@shac.com.au>; Christopher Vlatko <Chris@shac.com.au>; Joel de Carle <Joel@shac.com.au>; Nicholas Smith <Nick@shac.com.au>
Subject: D & P SEPP Formal Submission

Hi Paulo,

I am contacting you on behalf of SHAC Architects. We tried to make a formal submission before the submission portal closed yesterday however the submission bounced back but we wanted to make sure you received our support. Please see the comments below:

It is encouraging to see the design language and framework has been developed to recognise the value of good design, and clearly articulate the merits of delivering better public space. By offering this vocabulary and understanding, Councils, professionals, developers and public are better able to evaluate the merits of proposals which is critical to improving the next chapter of our cities.

For the Apartment Design Guide, we welcome the improved provisions particularly in regards to landscape, communal open space, and recognition of family living. The introduction of the agreed method for establishing cross-ventilation is a strong decision to help remove opinion (the magic wavy-line) from proposals or assessment of cross-ventilation in designs. In addition, the templates provided for design verification statements are also an appreciated tool to confirm that our existing practice methodology for reviewing and preparing these documents is consistent with industry best-practice.

We wish you all the best with getting the Design & Place SEPP over the line it is a tremendous achievement.

SHAC Directors:
Justin Hamilton
Matthew Travis
Elizabeth Brown
Joel de Carle
Chris Vlatko
Nick Smith

Kind Regards,

Emma Fox
Architectural Assistant
B Design (Arch)

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EDUCATION ECOSYSTEMS: SPCC CESSNOCK, SENIOR BUILDING

Environments that foster creativity, innovation and inspiration

Nominated Architect Justin Hamilton (6160)

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From: noreply@feedback.planningportal.nsw.gov.au
To: [PDPS DRDE Design and Place SEPP Mailbox](#)
Cc: [DPE PS ePlanning Exhibitions Mailbox](#)
Subject: Webform submission from: The Design and Place SEPP 2021
Date: Thursday, 3 February 2022 10:57:30 AM
Attachments: [draft-dp-sepp-submission-smec-2-feb-2022.docx](#)

Submitted on Thu, 03/02/2022 - 10:54

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Jayne

Last name

Klein

I would like my submission to remain confidential

No

Info

Email

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North Sydney/NSW 2060

Please provide your view on the project

I support it

Submission file

[draft-dp-sepp-submission-smec-2-feb-2022.docx](#)

Submission

Draft DP SEPP submission SMEC 2 Feb 2022

I agree to the above statement

Yes

0032158M

3 February 2022

Department of Planning Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

To whom it may concern,

RE: Submission on Draft Design and Place Statement of Environmental Planning Policy 2021

SMEC supports the overall intent of the Draft Design and Place SEPP 2021 and associated documents. Specific submission points are raised below for the consideration of the Department.

Table 1: Submission points [underlining added for emphasis]

Clause	Comment
DRAFT DESIGN AND PLACE SEPP 2021	
5 Meaning of “residential apartment development” (1) In this Policy, residential apartment development means development for the purposes of residential flat buildings, shop top housing or mixed use development with a residential accommodation component if— (a) the development consists of one or more of the following— (i) the erection of a new building, (ii) the substantial redevelopment or refurbishment of an existing building, (iii) the <u>conversion of an existing building</u> , and	Explain what is meant by “the conversion of an existing building” in clause 5(1)(a)(iii) to clarify how this differs from “redevelopment or refurbishment”.
12 Design principles and design considerations (1) The principles for design in New South Wales are the following— (a) to <u>deliver beauty</u> and amenity to create a sense of belonging for people,	It is difficult to objectively define “to deliver beauty” in clause 12(1)(a). Suggest different terminology be used.

Clause	Comment
14 Design consideration—overall design quality The consent authority must consider whether overall— ... (d) the development represents an effective and <u>economical use of space</u> that responds to the constraints of the site, and	Further guidance is needed in the SEPP on how “economical use of space” in clause 14(d) is measured.
16 Design consideration—culture, character and heritage The consent authority must consider whether— (a) the development <u>detracts from</u> the desired character of the area, and	Suggest that “or enhances” be added in after “detracts from”.
17 Design consideration—public spaces and public life The consent authority must be satisfied of the following— ... (b) for development involving public space—the public space is <u>designed to facilitate social interaction</u> ,	Public spaces do not always have to facilitate social interaction. Suggest that consideration be given to places for quiet contemplation.
18 Design consideration – vibrant and affordable neighbourhoods	Affordability is not referenced explicitly in the following description. This statement can also be interpreted to convey a planning practice which promotes the segregation of people based on socio-economic status. Suggest this is rewritten to incorporate “affordable housing” instead of “affordable neighbourhoods”.
19 Design consideration—sustainable transport and walkability The consent authority must consider whether the development— ... (b) <u>minimises the impact of car parking on public space</u> , and	The impact of cars more generally should be referenced, not just the impact on car parking.
20 Design consideration—green infrastructure 21 Design consideration—resource efficiency and emissions reduction 22 Design consideration—resilience and adapting to change	These clauses are highly supported.
DRAFT URBAN DESIGN GUIDE	
Objective 4: Place-based risks are mitigated, and ecological values sustained to ensure resilient communities	What is meant by ‘risks’ in this context? Needs more explanation of what these risks are.

Clause	Comment
To establish an integrated approach to building long-term resilience	Assume this means resilience of the natural environment. Clarification needed.
To consider cumulative place-based risks	Assume this means risks to the natural environment. Clarification needed.
Objective 6: block patterns and fine-grain street networks define legible, permeable neighbourhoods 6.2 Create a fine-grain street layout that facilitates ease of access to key destinations	Suggest it be emphasised that when new streets are built, they be as narrow as possible (depending on their purpose), to ensure a human scale of development.
Objective 7: Walking and cycling is prioritised, safe and comfortable for people of all abilities To make streets and places pedestrian-friendly.	Add in streets and places to be 'bicycle-friendly'.
Objective 8: Parking is minimised, adaptable and integrated	Reference to provision of disabled parking should be made within this section.
Objective 13 – Streets are safe, active and attractive spaces for people To create more attractive, productive and active high streets.	Suggest the prioritisation of active transport options like cycling. Suggest the document supports the seamless integration of mixed transport types.
Objective 16 – There is a strong sense of place structured around heritage and culture	Convey the idea that culturally significant and/or heritage-listed areas and structures will also be maintained to <u>preserve</u> a sense of place.
DRAFT APARTMENT DESIGN GUIDE	
2.4 Design apartments that are functional and flexible over the life of the building, with generous internal dimensions and proportions, a high level of internal amenity, natural ventilation, and daylight access.	Note that the building's life can be lengthened by using higher quality design ideas and materials and innovative floorplans.
19.3 Minimise embodied carbon in materials	It is also important to note the carbon footprint produced by constructing the building. Convey goals to lengthen the life of a building, thus reducing carbon footprints caused by the reconstruction of buildings.

Yours sincerely,



Jayne Klein

Associate Director

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Mobile: +61 425 144 592

Email: jayne.klein@smec.com

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:47 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: design-and-place-sepp-submission_stockland.pdf

Submitted on Mon, 28/02/2022 - 16:14

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Samantha

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Please provide your view on the project

I am just providing comments

Submission file

[design-and-place-sepp-submission_stockland.pdf](#)

Submission

Please refer attached submission

I agree to the above statement

Yes

Stockland

Level 25, 133 Castlereagh Street
Sydney NSW 2000

www.stockland.com.au



28 February 2022

Ms Abbie Galvin
NSW Government Architect
NSW Department of Planning and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Ms Galvin,

Stockland Submission to Design and Place SEPP Policy Package

Stockland appreciates the opportunity to make a submission in relation to the draft Design and Place State Environmental Planning Policy (**DPSEPP**) and the supporting draft legislation, draft Urban Design Guide (**UDG**), proposed amendments to the Apartment Design Guide (**ADG**), and draft Design Review Panel Manual for Local Government (**DRM**). Together these documents form the Design and Place Policy Package, currently on public exhibition.

Stockland is Australia's largest diversified property group and largest residential developer, with residential, retail, retirement, logistics and workplace portfolios in NSW and across the nation.

Place-making and design quality are integral to the way we approach the design of our residential communities and town centres at Stockland. In the greenfield communities space, we are a leading residential developer, focused on delivering a range of master planned communities and medium density housing in growth areas across the country, with a residential development pipeline including land, apartment and mixed use developments. Stockland is one of the largest retail property owners, developers and managers in Australia, and have a large and growing portfolio of logistics and office assets and development sites, including campus style development in Macquarie Park, and planned CBD landmarks in North Sydney and the City of Sydney.

Stockland is a global leader in sustainability, with sector leader acknowledgement for many years running in the Dow Jones Sustainability Index, the Global Real Estate Sustainability Benchmark (**GRESB**), the Climate A-List compiled by CDP, and an award for 'Best of the Best', a 10-Year Sustainability Achievement Award by the NSW Office of Environment and Heritage in 2019.

Given the reach of Stockland's investment in NSW, our development history and our commitment to our purpose "*We believe there is a better way to live*", we welcome any policy which seeks to ensure that good design and sustainability is hard wired into the way that development is planned and delivered. As such, we wish to provide feedback on a number of the specific initiatives outlined in the Design and Place Policy Package.

Overall, Stockland believes the intent and objectives of the Policy Package are admirable, including putting sustainability, resilience, and quality of places at the forefront of development. The design principles proposed in the DPSEPP are sound ambitions, worthy of consideration in the NSW Planning System.

However, Stockland remains concerned that the Policy Package falls short of addressing key aims of the reform to simplify, consolidate, and make delivering sustainable and good quality development easier. To the contrary, the Policy Package as currently drafted will result in longer programmes for development, more costly and therefore less affordable development, additional administrative functions, more uncertain and higher risk outcomes, and a further erosion of the legibility of the NSW Planning System.

This submission has been prepared to provide constructive and specific recommendations for amendments to the Policy Package to reduce complexity, remove unnecessary steps and layering of controls, and to highlight concerns regarding the interpretation of the proposed provisions. We support reform that will simplify the NSW Planning System and incentivise innovation in the development of our neighbourhoods, town centres, and regions. Improvements to design quality however should not be at the expense of timely and effective decision making.

In summary, we make a series of recommendations within this submission as summarised in Section 1 and as discussed in the subsequent sections in greater detail. We welcome any opportunity to discuss this submission with you, as the Policy Package is reviewed, amended and finalised.

1. SUMMARY OF RECOMMENDATIONS

Suggested amendments to the Draft Design and Place SEPP:

1. The meaning of “urban design development” in draft clause 6(1)(b) should be revised to include development on land in an industrial zone that has a capital investment value of \$50 million or more, and a site area greater than 1 hectare (if not excluded from industrial zones entirely).
2. The meaning of “urban design development” stated in draft clause 6(1)(c) should be revised to provide an exemption for the *Sydney Local Environmental Plan 2012 (SLEP 2012)*.
3. The land to which this policy applies as outlined in draft clause 8(2)(a) should exclude RU5 Large Lot Residential, IN1 General Industrial and IN2 Light Industrial zones. Upon the implementation of the Employment Zones Reform this should be revised to exclude both the E4 General Industrial and E5 Heavy Industrial zones.
4. Development to which the policy does not apply as outlined in draft clause 8(2)(b) should include all exempt and complying development under an environmental planning instrument (not just those listed) to avoid a circumstance where certifiers are making assessments against the DPSEPP.
5. Additional exemptions should be listed in draft clause 8(2), including subdivision of land less than 10 hectare (rather than only 1 hectare), and development proposed on a site greater than 1 hectare but only affecting less than 50% of the site (or some other exemption to ensure the UDG does not apply to small development and alterations and additions on allotments greater than 1 hectare).
6. The design considerations should be amended to remove statements that require a consent authority ‘to be satisfied’, in addition to revision of problematic wording that may result in concerning interpretation during assessment.
7. Draft clause 25 must be reworded to clarify that all urban design development does not trigger a staged DA as outlined in section 4.23 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, or site-specific DCP (**DCP**) to be prepared, unless required under another environmental planning instrument.
8. The introduction of the wording “achieves a neutral or more beneficial outcome than meeting the design criteria and design guidance” in draft clause 24(2)(b) and draft clause 30(2)(b) should be removed or revised to ensure that the criteria and design guidance in the ADG and UDG are not interpreted as needing to be individually achieved (and to a higher or more beneficial standard).
9. Design review processes should not apply to the full list of development outlined in draft clause 34(1). It is recommended that the design review processes outlined in the DPSEPP applies only in relation to State Significant Development, residential apartment development, and development specified by another environmental planning instrument as being development to which this section applies.
10. Savings provisions outlined in draft clause 38(1)(b) and 38(1)(c) should be updated to apply to the life of a concept development application (**DA**) for a staged development, and DA for the purpose of a modification application. A development consent should be certain and not

subjected to intractable design compliance risk introduced by future legislative changes. This will also provide a more reasonable period for transition to the DPSEPP given that consents typically only lapse after 5 years. Further, the UDG should not apply to land that has been the subject of a master planning or rezoning process within the past 5 years.

Suggested amendments to the EP&A Regulations:

11. The definition of an 'urban designer' should be updated to include reference to a person with a specific 'urban design' tertiary qualification and who has at least 5 years' experience in precinct or master planning.
12. If the preparation of a DCP must consider the UDG (draft clause 16(3) of the *Environmental Planning and Assessment Regulation 2021 (EP&A Regulations)*, then additional provisions should be added that a DA prepared to address such a DCP need only to consider the UDG in relation to any parts of the development that depart from the provisions of the plan (rather than requiring duplication of assessment).

Suggested amendments to the Section 9.1 Ministerial Direction:

13. Given the early stage of development, it is not considered appropriate for a planning proposal to demonstrate consistency with the objectives of the UDG if it requires a full assessment against all design criteria and design guidance. It is proposed that draft clause 5(b) of the Section 9.1 Ministerial Direction be removed, while draft clause 6 remains to provide weight to the relevant components of the UDG at this stage of the planning proposal process (also noting that the proposed EP&A Regulations require DCPs to have consideration of the UDG).
14. A mandatory referral to a design review panel of all planning proposals affecting land greater than 1 hectare in area is not considered necessary and should be removed from the draft Section 9.1 Ministerial Direction.

Suggested amendments to the draft Urban Design Guide:

15. The application of the draft UDG should be, at minimum, limited to fewer development types, development scales, and applied only at a single specific development stage (such as during the preparation of DCPs). This will allow a more targeted application of the guide at the relevant stage, rather than creating multiple additional layers of controls on development.
16. It should be clarified that in the assessment of DAs design guidance is not required to be 'met' (or exceeded to achieve a better outcome) but rather the guidance may help inform design thinking and function as genuine 'design guidance' to professionals. The DPSEPP and supporting documentation should be amended to clarify this role of the design guidance.
17. Specific criteria and numeric design guidance should be reconsidered as outlined in Table 1 of this submission.

Suggested amendments to the draft Apartment Design Guide:

18. As per the previous point on the draft UDG, the relationship between the objectives, criteria, and design guidance of the ADG should be further clarified to ensure there is not an expectation that applications must demonstrate consistency with every design guidance (including clarification that there is not a requirement for an alternative that achieves a better outcome for any individual point of design guidance not 'achieved').
19. Specific criteria and numeric design guidance should be reconsidered as outlined in Table 2 of this submission.

Suggested amendments to the Local Government Design Review Panel Manual:

20. Applicants should only be required to present to a Design Review Panel (**DRP**) once prior to the lodgement of a DA. Additional reviews may be recommended or requested by the applicant, however up to one DRP session should be considered mandatory (for affected development) prior to lodgement of the DA to avoid elongated and unnecessary delays.

2. DRAFT DESIGN AND PLACE SEPP

The intention and objectives of the DPSEPP and Policy Package are admirable. Stockland supports the inclusion of design principles in the assessment of DAs to bring design quality and sustainability to the forefront of development.

Notwithstanding, Stockland has identified several components of the draft DPSEPP that may result in problematic interpretation and implications for the assessment of development which will likely result in prolonged assessment processes and uncertain development outcomes. These concerns are outlined in the following sections.

2.1. Application of the DPSEPP

Moving to a principles-based planning system is an ambitious move from an existing system that is characterised by oftentimes numeric and strict compliance assessment. The proposed broad application of the DPSEPP will likely cause disruption in the assessment of the applications in the short and medium term, as the industry and consent authorities consider the implications of the relevant Guides and principles to a large breadth of different development types.

In order to streamline the assessment of applications, keep development moving, and remove problematic additional criteria to developments that are often not perceived in the public realm, we suggest that the exceptions from the application of the DPSEPP outlined in draft clause 8 be expanded to also exclude:

- Land zoned RU5 Large Lot Residential, IN1 General Industrial, and IN2 Light Industrial zones.
- Upon the implementation of the Employment Zones Reform this should be revised to exclude both the E4 General Industrial and E5 Heavy Industrial zones.
- All exempt and complying development under an environmental planning instrument (not just those listed) to avoid a circumstance where certifiers are making assessments against the DPSEPP. This may affect exempt and complying development identified in LEPs, the Education SEPP, Infrastructure SEPP etc.
- Development on a site greater than 1 hectare if it affects less than 50% of the site (or some other exemption to ensure the UDG does not apply to small development and alterations and additions on allotments greater than 1 hectare).
- Subdivision of land less than 10 hectare (rather than only 1 hectare).

2.2. Design Considerations

Development consent must not be granted for development to which the DPSEPP applies unless the consent authority is satisfied that the development is consistent with the design principles outlined in the DPSEPP. In determining whether the development 'is consistent with' the design principles, the consent authority must 'take into account' the design considerations for each design principle.

This approach to supporting the design principles with practical design considerations is understood however the current drafting of the design considerations, including multiple 'tests' and detailed subclauses, raises concerns that consent authorities will be required to provide a detailed assessment against matters that are either not relevant to the development or may be inappropriate in the circumstances of the site or development.

The design considerations should be amended to resolve the following concerns:

- The use of the terminology ‘overall’ in draft clause 14 is vague and could require a new test to be applied by consent authorities. Until (and even after) this is tested by the Land and Environment Court, clause 14 could result in highly unpredictable outcomes.
- The ‘desired character of the area’ is difficult to define, yet a consent authority ‘must consider whether’ development detracts from such character under draft clause 16. This introduces problematic interpretation where the desired character of an area is either ill-defined, is stated as a ‘future desired character’, or is not defined at all. This is additionally problematic when applying design guidance from the UDG which requires diversity of built form, tenure etc.
- Any design consideration that requires a consent authority ‘to be satisfied’ such as draft clauses 17, 22, and 23 does not cater for exceptions where it may not be necessary or appropriate to do so. Further, this wording may result in additional legal challenge as to how a consent authority has become ‘satisfied’. **Wording that requires ‘consideration of’ is far more appropriate than mandating ‘satisfaction’ in relation to very broad principles and design considerations for a State-wide planning policy.**
- Draft clause 17(c) requires a consent authority to ‘be satisfied’ that the development ‘does not result in an adverse impact’ on public open space. This is exceptionally limiting. For example, a development may be construed as having an ‘adverse impact’ by casting a small additional shadow, even to a part of public open space that is not protected by a sun access plane or overshadowing control, or outside the control period for protected spaces.
- Wording used throughout the design considerations is problematic, including to ‘maximise...’, ‘minimise...’, ‘...near the site’, ‘close to...’, and ‘...appropriate residential density’.
- Further, requiring a consent authority to ‘consider whether’ something is achieved results in a ‘yes or no’ answer to a design consideration, rather than allowing for interpretation that a matter may simply not be relevant to the application.

2.3. Development Assessment

An aim of the DPSEPP is to provide a consistent set of principles and considerations to guide the design of the built environment. Stockland supports the application of consistent principles, however, believes that the considerations should be only applied as relevant to the proposed development. Many of the design considerations are only relevant to a particular land use and/or type of development, but they will apply to all development that the DPSEPP applies.

In relation to “urban design development”, “residential apartment development”, and “non-residential development” further additional assessment beyond the design considerations is required by the draft DPSEPP. It is not clear in the Policy Package that the satisfactory assessment of development under Part 3 of the DPSEPP (whether by consistency with the Guides or via the assessment of alternatives) will inherently satisfy the principles and design considerations of Part 2 of the DPSEPP. The relationship between Part 2 and Part 3 of the DPSEPP should be clearer to remove duplication of assessment.

Specific commentary regarding the assessment of “urban design development”, “residential apartment development”, and “non-residential development” is outlined below.

2.3.1. Urban Design Development

The meaning of “urban design development” in the DPSEPP will capture a significant amount of development, of varying scales, different land uses, and at different stages of development. For this reason, there is concern regarding the broad application of the DPSEPP and the UDG to each of these categories of development.

It is recommended that at a minimum the definition of “urban design development” be revised to reduce the scope of the application of the UDG to only significant new development. Further it is recommended that the stage at which the UDG is applied should be clarified and streamlined to reduce duplication of assessment. Specific recommendation regarding the meaning of “urban design development” includes:

- The meaning of “urban design development” as stated in draft clause 6(1)(b) should be revised to include development on land in an industrial zone that has a capital investment value of \$50 million or more, and a site area greater than 1 hectare (if not excluded entirely). This threshold for “urban design development” if retained for industrial development should be increased to capture only large scale and significant development.
- The meaning of “urban design development” stated in draft clause 6(1)(c) should be revised to provide an exemption for SLEP 2012. Under clause 7.20 of SLEP 2012, development with a height more than 55m in Central Sydney and more than 25m outside of Central Sydney triggers the requirement for the preparation of a DCP (amongst other triggers). The application of the UDG for such development, which can occur on land only 1,000sqm in area in Central Sydney (for e.g.) is not appropriate and will only further complicated the existing detailed staged DA process in the City of Sydney local government area.
- Draft clause 25 of the DPSEPP must be reworded to clarify that all “urban design development” does not trigger a staged DA as outlined in section 4.23 of the EP&A Act, or a site-specific DCP to be prepared, unless required in another environmental planning instrument. Existing environmental planning instruments use similar language when requiring the preparation of site-specific DCPs (again refer to clause 7.20 of SLEP 2012). Stockland strongly objects to a requirement for all “urban design development” to be the subject of a staged DA process or requiring the preparation of a site-specific DCP.
- If the preparation of a development controls plan must consider the UDG (draft clause 16(3) of the EP&A Regulations), then additional provisions should be added to the DPSEPP or EP&A Regulations that a DA prepared to address such a DCP need only to consider the UDG in relation to any parts of the development that depart from the provisions of the DCP (rather than requiring duplication of assessment).
- Given the early stage of development, it is not considered appropriate for a planning proposal to demonstrate consistency with the objectives of the UDG if it requires a full assessment against all design criteria and design guidance. It is proposed that draft clause 5(b) of the Ministerial Direction be removed, while draft clause 6 remains to provide weight to the relevant components of the UDG at this stage of the planning proposal process (also noting that the proposed EP&A Regulations require DCPs to have consideration of the UDG).
- The introduction of the wording “achieves a neutral or more beneficial outcome than meeting the design criteria” in draft clause 24(2)(b) should be removed or revised to ensure that the criteria and design guidance in the UDG are not interpreted as needing to be individually achieved to a higher or more beneficial standard. Specifically, there is concern that consent authorities will only consider alternatives to individual criteria or guidance where a better outcome to that specific criteria or guidance can be demonstrated, rather than a better outcome can be delivered for the development or to neighbouring properties etc.

2.3.2. Residential Apartment Development

The continuation of provisions that clarify DCPs have no effect where inconsistent with matters prescribed in the ADG is supported, though it is noted that this Policy Package provides an opportunity to expand this list of consistent criteria.

The continuation of non-discretionary development standards for residential apartment development in the DPSEPP is supported.

The introduction of the wording “achieves a neutral or more beneficial outcome than meeting the design criteria and design guidance” in draft clause 30(2)(b) establishes a new test for development assessment, which may result in all criteria and design guidance in the ADG being interpreted as a minimum threshold. This may be interpreted by consent authorities as only alternatives that exceed this criterion will be considered, rather than providing alternatives where this criterion cannot be reasonably met without adversely impacting another component of the development. **At minimum, if retained, this new ‘test’ should be revised to clarify that ‘neutral or more beneficial outcome’ is for the whole development or community and not specific to the individual objective of the Guide.**

2.3.3. Non-Residential Development

It is unclear in the drafting of the DPSEPP if the provisions of draft clause 26 applies to all “non-residential development” as defined by draft clause 7, or only to “non-residential development” that is **also** defined as “urban design development”.

2.4. Design Review Processes

A considerable expansion is proposed to the kinds of development that are:

- Required to be designed and verified by appropriately qualified design professionals, including architects, urban designers and landscape architects, and
- Reviewed by a design review panel.

The expansion of local design review processes is concerning, given the current capacity of Council DRPs, slow response periods, and inconsistent experiences across the same and different panels. We support the preparation of a Local Government Design Review Panel Manual to create some consistency in the management of design review processes across different local government areas, however we have concerns regarding the proposed process and current drafting of the Manual and suggest the following amendments:

- Design review processes should not apply to the full list of development outlined in draft clause 34(1). There is significant concern that the industry does not have sufficient qualified individuals with the capacity to sit on each of these panels and review applications for the amount of development that this proposal is proposed to apply.
- It is recommended that the design review processes outlined in the DPSEPP applies only in relation to State Significant Development, residential apartment development, and development specified by another environmental planning instrument as being development to which this section applies. Once it can be demonstrated that the Panels have sufficient capacity and resourcing to review development within these categories while delivering upon the committed timeframes in the Manual, then and only then, should consideration be given to expanding the programme to more development types and scales.
- Applicants should only be required to present to a DRP one time prior to the lodgement of a DA. Then, as required by the EP&A Regulations the feedback from the Panel must be addressed by the applicant within the DA package.
- The Manual should be updated so that there is not an expectation of multiple Panel reviews pre-lodgement, during assessment, and potentially post approval of the application. Multiple DRP reviews prior to the lodgement of a DA results in a frustrating process of back and forth that will make lodgement of DAs less timely and may build up an expectation from Applicants that after a lengthy review process pre-lodgement that the determination of their application is a *fait accompli*. Timely and efficient design advice can aid in the preparation of a DA, but seemingly never-ending back and forth with a Panel that is struggling with their capacity and timeliness is not appropriate. The Manual may state further DRP meetings may be

recommended or requested by Applicant for contentious or large-scale projects, but this should not be mandatory.

- The Manual outlines expectations for DRPs to comprise members with a diversity of experience. We encourage the Manual to stipulate that the pool of Panellists must have experience not only in residential development. Existing DRPs often comprise a range of architects, landscape architects, and urban designers with experience primarily in high density residential development. Feedback from such DRPs will not often be as valuable or relevant for non-residential development and this is considered particularly important if DRPs will be required to review a broader range of applications as per the current drafting of the DPSEPP.

2.5. Sustainability

It is acknowledged that the DPSEPP increases sustainability targets for both BASIX affected development and non-residential development. Requirements are updated for energy and thermal performance to align with the new National Construction Code (NCC2022), on the trajectory to net zero.

It is acknowledged that an embodied carbon emissions disclosure will be introduced to facilitate reporting on embodied emissions of material. This includes extraction of raw materials that are used to construct the building, manufacturer of the materials used to construct the building as well as the transportation of materials to be manufactured. The policy does not provide clarity on the process for revising the reporting and assessments should the materials change through design development, and at what point materials need to be verified.

While several areas of clarification could be provided to outline how the new reporting requirements will be considered, overall, the new sustainability initiatives validate the importance of good design and legitimises best practice, much of which is already undertaken by Stockland.

A separate submission specific to the proposed increase in sustainability targets and reporting requirements will be provided by Stockland under a separate cover.

3. DRAFT URBAN DESIGN GUIDE

The draft UDG is proposed to apply to DAs for “urban design development”, which includes:

- Development on land that has a site area greater than 1 ha (must also have a CIV of more than \$30 million if in an industrial zone)
- Development that requires a DCP or master plan to be prepared for the land before consent may be granted (including Concept DA).

The draft UDG is also required to be taken into consideration in the preparation of:

- New DCPs; and
- Planning proposals affecting land greater than 1 ha.

Firstly, as noted previously in this submission, a DCP prepared with consideration of the UDG, or a precinct plan, master plan, indicative layout plan, or Concept DA prepared within the past 5 years or with consideration of the UDG should override the requirement to consider the UDG in a subsequent DA. Without this important clarification, assessment under the UDG results in an additional layer of planning policy, an additional step that functions to increase administration, assessment times, DA requirements and so on, without any benefit to design outcomes on the ground.

Where a development may look to depart from the provisions of a DCP, precinct plan, master plan, indicative layout plan, or approved Concept DA, assessment against the objectives of the UDG may be appropriate, but only as relevant to the proposed variation.

With regards to the specific provisions of the UDG it is noted that 120 pages of guidance is cumbersome. While much of the design guidance may be considered best practice, there is concern that assessment against each of the points of 'design guidance' will be requested by consent authorities. If so, it is unlikely that a development will achieve each bullet point of all 120 pages of guidance. This may provide consent authorities unfounded justification to reject DAs that do not adhere to the guidance (without a neutral or beneficial outcome achieved for each single point).

Some concerning design criteria and guidance is provided in the table below as **examples** of draft UDG criteria and guidance that may not be able to be achieved for developments yet may give rise to consent authorities to criticise development, elongate assessment timeframes, and create uncertainty of outcomes. It is recommended that the stated criteria and design guidance be updated accordingly if retained.

Table 1 – Detailed Comments on the draft Urban Design Guide

Objective	Proposed Criteria/Guidance	Comment
3. Compact and diverse neighbourhoods connect to good amenity	Design Criteria: Minimum gross residential densities of 30 dwellings per hectare are provided: <ul style="list-style-type: none"> - in and around activity centres within 5 minutes' walk of neighbourhood shops, neighbourhood centres or local centres - within 10 minutes' walk of strategic and metropolitan centres, regional towns and cities - within 10 minutes' walk of high frequency public transport. 	Requires clarification as to whether this relates to the residential parts (zones) of a centre, or relates to 30 residential dwelling per hectare within the 400/800m catchment irrespective of other uses/zones (e.g. public open space, educational uses etc).
5. Walkable neighbourhoods are vibrant and productive	Design Criteria: All homes are within 15 to 20 minutes walk of a collection of local shops, a primary school, public transport, a supermarket or grocery store.	Admirable objective, however may not always be achievable across large scale subdivisions or in existing communities.
6. Block patterns and fine-grain street networks define legible, permeable neighbourhoods	Design Criteria: Maximum block length for industrial areas is 220–250m.	There are certain types of industrial development that require larger lots. The UDG takes an approach of 'one size fits all' which may not be very practical for industrial precincts.
7. Walking and cycling is prioritised, safe and comfortable for people of all abilities	Design Guidance: Integrate behavioural traffic calming within streets e.g. yield streets, narrow lanes, street trees or indented street parking bays. Where possible, adopt speed limits that minimise the risk of	This level of detail is typically not known/addressed at a Concept DA, DCP, or Planning Proposal stage. The design of future public streets, and notably speed limits, to be dedicated to Councils or to TfNSW is often outside of the control, or controlled to a lesser

Objective	Proposed Criteria/Guidance	Comment
	fatality for vulnerable road users (e.g. 30 or 40 km/hour or less).	extent by developers seeking approval for “urban design development”.
9. Landscape features and microclimates enhance human health and biodiversity	Design Guidance: Optimise local breezes and urban cooling through green infrastructure placement and street orientation to catch prevailing breezes.	This additional guidance may be at odds with informing the street orientation on topographic and solar aspects.
10. Tree canopy supports sustainable, liveable and cool neighbourhoods	Design Criteria: For new residential streets (underground power) a min. 70% canopy cover	We support and advocate for increased tree canopies. The design criteria is well conceived however, the benchmarks may be prohibitive and/or unrealistic. In a typical new residential community approximately 20% of the street reserve is available for deep soil planting (nature strip). Achieving 70% is unrealistic given the constraints of suitable street tree selection, infrastructure, footpath and road maintenance requirements. It is suggested a more achievable target would be 50%, depending on location. This is supported by the UTS ISF ‘Benchmarking Australia’s Urban Tree Canopy, An i-Tree Assessment’, 2014 study which identified that very few established Sydney suburbs achieved above 50% overall canopy and those that did have traditional suburban lot sizes with relatively large garden components.
	Design Criteria: Additional criteria for attached dwellings.	Typical DCP front setbacks for attached dwellings are 3m and allow for a small tree with a mature diameter of 2-3m. The rear courtyard area is typically 4.5 – 6m wide x 4-6m deep, allowing 28-36m ² of landscaped space. A 6m diameter tree canopy covers 28m ² area which is effectively the whole courtyard. This appears unfeasible given the requirements for paving, pergola, other planting and some solar access to outdoor and living areas. It would be more realistic and achievable to seek at least one small tree per dwelling with a diameter of 3m.
12. Public open space is high-quality, varied and adaptable	Design Criteria: For development over 5 ha, deliver a minimum of 15 per cent of the net developable land (NDL) as freely accessible public open space, with the majority of this as dedicated RE1-zoned land (small, local, district and linear parks).	There is no capacity for DAs for “urban design development” to dedicate land as RE1 zoned land as part of a DA. Further, some Councils may not wish to accept dedication of land as a result of development.

Objective	Proposed Criteria/Guidance	Comment
15. The lot layout supports green neighbourhoods and a diversity of built form and uses	15.3 Provide a mix and diversity of lots and buildings: For lot patterns in residential areas, include a range of lot sizes, orientations, and access arrangements to deliver a mix of building types and tenures, both across neighbourhoods and within each block. In consolidated sites and higher density development, provide a mix of building types within the block, such as an apartment building on primary roads and maisonettes on side streets or mews.	Providing a diverse range of lot sizes, orientations, access arrangements, and building types may not suit the 'desired character of an area' (refer DPSEPP Design Consideration No. 16). Further, a DA for a site greater than 1 hectare may not include a diversity of 'tenure' or building types within a development, as this may not be the desired form or the expertise of the development to provide mixed tenure developments on large sites.

Each design guidance in the draft UDG has multiple components and lists of considerations, resulting in an array of requirements which may be hard to comprehend against each of the other requirements of the draft UDG. The length of the document also raises difficulty in designing development as it attempts to apply guidance for varying land uses, across varying urban and peri-urban contexts, and at different stages of the development process including at a rezoning stage, DCP or concept DA stage, and detailed development stage for sites greater than 1 hectare in area.

This results in a document that is trying to do a lot, and as such it leaves significant opportunity for consent authorities to disrupt assessment of applications (if they are so inclined) by pointing to very specific 'guidance' in the document that isn't achieved by a particular development or application.

As such, it is suggested that the application of the draft UDG should be, at minimum, limited to fewer development types, development scales, and/or at a single specific development stage (such as during the preparation of DCPs). This will allow a more targeted application of the guide at the relevant stage, rather than creating multiple additional layers of controls on development. It will further streamline the assessment of DAs where guidance is not required to be 'met' (or exceeded to achieve a better outcome) but rather may help inform design thinking and function as genuine 'design guidance' to professionals.

4. REVISION OF THE APARTMENT DESIGN GUIDE

We commend the GANSW and Department of Planning and Environment for working with the industry to address concerns regarding the Explanation of Intended Effects released in early 2021, and stepping back some of the previously proposed amendments to the ADG.

Stockland supports the streamlining of the ADG and inclusion of fewer objectives (reduced from 82 to 36) in the document, however, notes that many of the existing challenges of interpretation and application of the ADG may remain as a result of the proposed new ADG. Further, some additional new impacts are anticipated as a result of proposed changes.

Specifically with regards to how the ADG is to be used it is stated that the "design criteria are quantitative benchmarks that if met, will achieve the objective", however we note:

- In some cases, the design criteria do not reference all the objectives it is providing a benchmark for. This should be clarified in each section.
- Under '1.2 Built Form and Siting' the objectives refer to "appropriate height, bulk, setbacks and separation... overshadowing in winter and privacy" However, the criteria only refer to "Separation

between windows and balconies ensures visual privacy." This may lead to a situation where assessment officers determine that meeting the design criteria only demonstrates compliance with a small portion of the objectives. In this case there would be heavy reliance on the design guidance to achieve the balance of the objective. In many cases the design guidance is very subjective and in some cases is more limited than, or contradictory to the design criteria.

As such the relationship between the objectives, criteria, and design guidance should be further clarified to ensure there is not an expectation that applications must demonstrate consistency with every point under the whole document (including clarification that there is not a requirement for an alternative that achieves a better outcome for any individual point of design guidance not 'achieved').

Furthermore, the design guidance often contains tables that are very specific (i.e. not qualitative) which is contradictory to the statement that for "some objectives, only design guidance applies. The design guidance offers qualitative advice for how objectives can be achieved through appropriate design responses." In the absence of design criteria, detailed quantitative guidance may be applied as though they are design criteria or a prescriptive control.

In addition to comments relating to how the ADG is used, we also would like to raise some concern regarding some notable design criteria and design guidance proposed (not exhaustive) and suggest specific amendments as per the following table.

Table 2 – Detailed Comments on the proposed amendments to the Apartment Design Guide

Objective	Proposed Criteria/Guidance	Comment
1.2.1 The built form responds to the historic, cultural, and planning context, streetscape and open spaces with appropriate building height, bulk, setbacks, and separation.	Design Guidance: Define an overall height, street wall or podium height in relation to existing datum lines, such as eaves, parapets or cornices. Align floor-to-floor heights of new development with existing built form.	This design guidance presumably will not override local DCPs which prescribe street wall heights. While this design criteria states to align floor-to-floor heights with existing built form, Table 1.2.2. recommends floor-to-floor heights which may be inconsistent with existing built form. This comment is not intended to be pedantic, but it highlights an example where a consent authority may decide differently whether a development should adhere to the heights prescribed by a DCP, an existing streetscape, or Table 1.2.2. Further, the standard instrument definition of 'mixed use development' is very broad, as it captures any development which contains a second use e.g. a single corner store in a large development). Provide clarity as to whether the recommended ground level floor-to-floor heights in Table 1.2.2 apply to the whole ground floor in this example, as this interpretation would be a very onerous requirement.
1.5 Provide and retain sustainable landscaping, planting and trees, including planting on structures and	Design Criteria: Note: Table 1.5.1 deep soil targets are a minimum recommendation. Local controls reflect variations in character and local context, and take precedence where their	The proposed amendment to the ADG doubles the existing requirement for deep soil zones on sites greater than 1,500sqm in area. This is a significant increase, and it is particularly concerning that in this instance the

Objective	Proposed Criteria/Guidance	Comment
in deep, connected soil.	requirements are greater than these. Tree canopy spread is calculated at maturity (refer Table 1.5.2) and includes newly planted as well as retained trees on site.	<p>draft ADG provides an opportunity for local controls to override this Guide. Stockland objects to local controls being able to prescribe even greater deep soil provisions than this significant increase from existing controls.</p> <p>The increased deep soil and canopy requirements would make some FSR's unachievable in inner city LGA's due to reduction in achievable building footprints. In the City of Sydney, for example, LEP and DCP controls such as FSR and height are extremely tight, with minimal capacity for variation without loss of floor space. A full review of achievable densities would need to be undertaken to determine the broader impact of this criteria.</p>
	For sites where it is not possible to provide sufficient deep soil, e.g. mixed use developments where the basement or building envelope fills the site, use alternative options for green cover, such as planting on structures, including for landscaped communal open space offering amenity and outlook for residents.	Often the need to 'fill the site' is driven by economic and environmental concerns rather than just zoning. Guidance should be added to support the justification of deep soil on structure, i.e. contamination, water table, basement parking efficiency (embodied energy, cost and time implications).
	Table 1.5.2: Tree size and mature canopy spread Table 1.5.3: Tree Planting Rates	<p>These tables provide specific numerical guidance in relation to the design criteria in Table 1.5.1. The nominated tree canopy densities would impact the ability to achieve reasonable building footprints and result in reduced FSR's.</p> <p>In particular, the prescribed tree planting rate is problematic from the point of view that all the trees are required to be planted in the deep soil zones. This is unrealistic and should be able to be spread more evenly across the site.</p>
2.2.2 Provide safe and resilient communal spaces that support a range of	Design Criteria: The quantity of communal open space provided is 8m ² per dwelling, up to 25 per cent of the site area.	There is no reduction to communal open space, or another incentive, for providing indoor communal space. An Alternative Design Response could be added to encourage the provision of communal open space where

Objective	Proposed Criteria/Guidance	Comment
activities and contribute to the wellbeing of residents.		appropriate (such as that included in Section 2.4 of the draft ADG).
	N/A	The draft ADG has removed words around consideration of proximity to public open space/parks etc..’ – we query why the revision has not taken a holistic or contextual approach.
	Design Criteria: At any time between 9 am and 3 pm in midwinter (21 June), ensure at least half the communal open space area receives 2 hours solar access	The requirement for solar access has changed from 50% of principal open space to 50% of communal area. This may be very difficult (especially with shading in summer requirement) to achieve without utilizing large roof areas, which will conflict with spatial allowances for solar panels, clerestory windows and plant etc. It will also add considerable costs to projects that often much more affordable than the examples given in the draft ADG. Suggest this needs re-evaluating to consider actual function of principal communal space and proximity and access to public domain public open space.
2.3 Provide a range of apartment types, sizes and configurations to promote flexible housing that caters for current and projected housing needs of the community	Design Guidance: Provide 20 per cent of 2-, 3- and 4-bedroom apartments as family-friendly apartments to accommodate the needs of families with children.	This is an example of a detailed, numeric provision, which may be interpreted as a control or mandatory consideration rather than guidance.
	Design Guidance: Minimum-sized study rooms are capped at one per apartment. Design considerations include: — a minimum size of 7m ² and minimum dimension of 2.4 m clear — access to daylight and natural ventilation — a higher level of acoustic privacy than a typical bedroom.	Again, this may be interpreted as design criteria given the numeric standards proposed. Further it is noted that the intention of the amendments to the ADG was not to increase minimum apartment sizes, however this provision when read with the guidance above will increase apartment sizes beyond those listed in SEPP 65 that currently may include small study rooms or study nooks which benefit from a window (as that room is not required to be in addition to the minimum apartment size, as is now proposed). A minimum size of 7sqm is a very large study room, and if stated as a minimum may raise concern for consent authorities as functioning as a bedroom. While we support this, the ADG should specify that this should not be considered to be a bedroom.

Objective	Proposed Criteria/Guidance	Comment
2.4 Design apartments that are functional and flexible over the life of the building, with generous internal dimensions and proportions, a high level of internal amenity, natural ventilation, and daylight access.	Design Guidance: Provide a minimum area of 24 m ² for combined living and dining rooms in 2- and 3+ bedroom apartments.	A simple example of how the additional design guidance hasn't reduced prescriptive controls.
	Alternative Design Response: Offset less than minimum apartment sizes with: <ul style="list-style-type: none"> - increased private open space provision - high-quality communal spaces that exceed the minimum criteria set out in Part 2.2: Communal spaces. 	A good example where alternative design responses have been included in the ADG which do illicit a merit-based assessment for a variation to the design criteria. This type of example is supported.
2.6.1 Maximise the number of apartments that receive sunlight to living rooms and private open spaces, and have high-quality daylight access, especially where sunlight is limited.	Design Guidance: For living rooms and private open spaces, 'receiving direct sunlight' includes the following surfaces receiving direct sunlight for at least 15 minutes: <ul style="list-style-type: none"> - the floor of a private open space, or the face of its surrounding walls - the glazed opening to a living space. 	Clarification is required as to whether sunlight is required to a living room and balcony to a full 1sqm area for the relevant time to be considered consistent with the design criteria. If 1sqm is required to be shown, is the 1sqm for 15 minutes simply the baseline for determining whether an apartment achieves no solar (needs to be counted in the max 15% no solar) and not necessarily the test for a compliant apartment under the design criteria? There are varying interpretations in the industry.
	Alternative Design Response: Where the local street grid or subdivision pattern limits potential sunlight access to a building, the minimum 2 hours or 3 hours of direct sunlight in midwinter can be received between 8 am and 3 pm (i.e. the time interval extended one hour earlier).	This flexibility is supported, and we would recommend this kind of flexibility is elevated to the design criteria.
2.6.2 Use passive environmental design strategies to optimise heat storage in winter and reduce heat transfer in summer, using low thermal transmittance construction, shading devices, and balconies.	Design Criteria: Where glazing is greater than 30 per cent of the apartment facade on any individual apartment aspect (when measured on the internal face of the wall), provide external sun shading to a maximum of 30 per cent of the exposed glazing in a wall to block 30 per cent of summer sun.	The interpretation of 30% shading to 30% of windows is unclear. Assessing development against the ADG is getting increasingly complex and technical, requiring precise and expert assessment of bespoke issues and multiple technical reports. The introduction of additional design criteria and guidance is an example of further complicating the assessment of development against the ADG.
	Design Guidance: To provide daylight to habitable rooms, use skylights, high-level windows (sill height of 1,500 mm or greater), courtyards or light wells as secondary sources only.	Many perimeter block typologies have 'courtyards' as defined in the Glossary. It could be interpreted that only kitchens, bathrooms and service areas open onto a courtyard, which is clearly unintended.

Objective	Proposed Criteria/Guidance	Comment
2.7 Provide natural ventilation to all habitable rooms and maximise apartments with natural cross-ventilation to optimise indoor air quality and thermal comfort and reduce reliance on mechanical ventilation.	Design Guidance: Where facade exposure is inconsistent with acceptable apartment types, achieve exposure to wind by: <ul style="list-style-type: none"> - Providing unobstructed access to 225° of wind exposure to openings, measured from the centre of the openings (see Figure A4.2.2 in Appendix 4) and: - Maintaining adequate separation distances between buildings: - (continued). 	<p>Additional guidance is provided regarding how to determine whether an apartment will achieve natural cross ventilation and natural ventilation (as two distinct components). The proposed amendments will likely raise standards for assessment of these components to a very technical level of detail, and it will be more difficult than the existing ADG to demonstrate consistency with the design criteria.</p> <p>The proposed 225° rule is unnecessarily confusing. Figure A4.2.2 suggests B1 and B2 are valid cross-vent paths to A1. If retained, please clarify where the 225° is measure from (Figure A4.2.2 shows unrealistically small windows).</p>
	Design Guidance: Achieve appropriate sizing and distribution of the natural ventilation openings by: <ul style="list-style-type: none"> - providing openings with a total EOA of not less than 5 per cent of the total habitable floor space of the apartment - balancing the openings between facades, with no facade having openings with an EOA of less than 2 per cent of the total habitable floor space if the apartment has dual aspects, or 1.5 per cent of the apartment has three aspects 	<p>The method of calculating effective open area (EOA) required for balanced cross-ventilation will be difficult to achieve (while also maintaining acoustic and visual privacy) for some apartment types, especially where one façade has only bedroom windows. Not only will there be additional costs for the windows, but also additional cost for screening to satisfy other targets.</p> <p>The proposed new method of calculating EOA required for balanced cross-ventilation will add substantial cost with larger windows, reduce visual and acoustic privacy (especially where there are building breaks between buildings), reduce building sealing, make furnishing rooms harder.</p> <p>The proposed drafting appears to drive a reliance on facades with many small operable windows. These window types are unrealistic and not suitable for most apartment buildings due to issues around weather tightness, water proofing, acoustic and cost considerations. The only realistic and compliant window type is larger format awning window with restrictors for apartments above ground level.</p> <p>A typical 2-bedroom apartment will need 2.6m² of Open Area Windows</p>

Objective	Proposed Criteria/Guidance	Comment
		(≈65m ² habitable x 0.02 x 2 for fly screen reduction). Many projects now currently use ventilating skylights as a key method to meet cross-ventilation compliance. The alternative is to add more cores/through apartments which increases costs and reduces diversity and affordability. Large openable clerestory windows will add further pressure to roof space also needed to accommodate communal open space and solar panels and consolidated plant.
2.10 Provide conveniently located and accessible storage, both within and external to an apartment, to support the whole-of-life needs of the residents.	Design Criteria: In addition to storage in kitchens, bathrooms and bedrooms, apartments have the following volume of storage. Any storage in addition to minimum storage volume within apartments can be provided within or external to the apartment. (continued).	The increased total storage requirement for apartments appears excessive. This will increase the building cost and drive up cost of apartments. It should be noted that most of the 'indicative' apartments do not appear to comply with the minimum storage requirements. For example, the indicative 2-bedroom apartment layout provided in Appendix 6 shows internal apartment storage that measures at only around 1.75m ³ which is well below the minimum 4.0m ³ required in the design criteria. Is the intention that storage space in other rooms that are more than the minimum requirements can be included in the calculation?

It is acknowledged that the draft ADG does seek to clarify some definitions and technical aspects of the ADG that currently delay assessments (for e.g. natural cross ventilation) however the new amendments are very detailed and prescriptive and will likely increase the standard of assessment to a highly technical assessment rather than streamline the issue. Many of the existing issues of interpretation and strict application will likely remain as per current practice, notwithstanding the proposed introduction of 'flexibility' in the DPSEPP, as the new 'test' for alternatives require a neutral or more beneficial outcome to be achieved.

Further the draft ADG does include vague and subjective language such as "Best practice minimum...", "best possible...", "high-quality daylight...", "adequate..." which may result in inconsistent decision making.

Overall, it is considered that while several concerns raised during the exhibition of the Explanation of Intended Effects have been addressed by the proposed amendment to the ADG, many existing concerns remain. While a small amount of additional flexibility has been added (for e.g. enabling solar access to be calculated from 8:00am in mid-winter on some constrained sites) there are additional controls proposed in the amended ADG that will likely reduce the flexible application of the Guide as a whole.

5. TRANSITIONAL AND SAVINGS PROVISIONS

The commencement date of the DPSEPP is 6 months after the SEPP is gazetted. In order to be fully considered, if finalised in the form as exhibited, a 12-month transitional period prior to commencement is appropriate. It should also be clarified that the draft DPSEPP should not be considered a draft environmental planning instrument for the purposes of Section 4.15(1)(a)(ii) of the EP&A Act during the transitional period.

Savings provisions only save detailed DAs lodged within 2 years of the determination of a concept DA (even where concept approvals are provided 5 year lapsing periods). The DPSEPP will also not apply to modification applications that are lodged within 2 years after the DA was determined. However, it is noted that large developments can often take longer than 2 years to construct, and modification applications are often submitted up until the issue of an occupation certificate.

As such, it is recommended that the savings provisions outlined in draft clause 38(1)(b) and 38(1)(c) should be updated to apply for the life of a concept DA for a staged development, and a DA for the purpose of a modification application. A development consent should be certain and not subjected to intractable design compliance risk introduced by future legislative changes. This will also provide a more reasonable period for transition to the DPSEPP given that consents typically only lapse after 5 years.

Further, the DPSEPP should not apply to land that has been the subject of a master planning or rezoning process within the past 5 years to reduce duplication of assessment and undermine the status of newly created masterplans.

6. AFFORDABILITY

With housing affordability being a critical issue for NSW, we are concerned that the DPSEPP, the proposed changes to the ADG and introduction of a draft UDG will reduce flexibility, increase design and approval time frames, and will make apartments, attached dwellings, and detached dwellings more expensive to build - and more unaffordable. Further, the wide reach of the SEPP and UDG will increase cost, time and risk for the delivery of employment generating development including industrial, office and retail development.

While a Deloitte economic report (summary only) has been exhibited to provide an overview of the cost benefit analysis of the Policy Package and in particular the draft ADG, the summary report fails to identify where the benefits and costs will fall for each stakeholder. The summary report does not address industry concerns regarding a reduction in housing affordability as a result of implementing this Policy Package.

7. CONCLUSION

Stockland appreciates the opportunity to comment on the EIE and welcomes any further opportunity to be part of future discussions on this topic.

We recommend that the DPSEPP be re-drafted as a straightforward legal instrument which:

- Contains simple design principles;
- Provides exceptions to local controls, not duplicate them; and
- Does not reference any design considerations unless substantially redrafted.


We also recommend several amendments to the Policy Package should it proceed, as outlined herein.

We recommend that the GANSW and Department of Planning and Environment take into account the substantial and well considered concerns raised by Stockland, our peers, industry groups and the

planning profession about this draft SEPP and reconsider the application of the Policy Package as currently proposed.

Samantha Czyz, National Planning Manager (samantha.czyz@stockland.com.au) is the contact for your office if you wish to discuss any of the comments or recommendations above.

Yours sincerely



Ben Cantwell
Communities - Built Form
General Manager

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:59 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 20220228_ausgrid-sub_dp-incl-basix.pdf

Submitted on Mon, 28/02/2022 - 16:57

Submitted by: Anonymous

Submitted values are:

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Sydney

Please provide your view on the project

I support it

Submission file

[20220228_ausgrid-sub_dp-incl-basix.pdf](#)

Submission

Please see attached PDF.

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Friday, 25 February 2022 5:35 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: 2022.02.25-hyne-group-submission-to-nsw-planning.pdf

Submitted on Fri, 25/02/2022 - 17:29

Submitted by: Anonymous

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Please provide your view on the project

I object to it

Submission file

[2022.02.25-hyne-group-submission-to-nsw-planning.pdf](#)

Submission

Please refer to the attached pdf file for our submission dated 25/02/2022, Our ref: 280222_01.

I agree to the above statement

Yes



ABN 67 009 660 995

160 Kent St, PO Box 106
Maryborough QLD 4650

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jon.kleinschmidt@hyne.com.au

Our ref: 280222_01

25th February 2022

NSW Department of Planning, Industry, and the Environment

Re: Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

The Hyne Group (Hyne Timber and XLam) welcomes the opportunity to make a submission to the NSW Department of Planning, Industry, and the Environment (DPIE) on its draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper.

This submission is focused on the *Sustainability in Residential Buildings (BASIX Overview)* document, specifically the section dealing with a Materials Index. We support in-principle the inclusion of a Materials Index within BASIX, although an effective reporting and documentation framework for materials needs to be further developed, calculations and definitions need clarity, and any limitations for developers addressed. However, on Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document, the following statement is made: “*Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.*” This proposed aspect of the design of the Index is of significant concern and is not supported for the reasons detailed below; including it will significantly disadvantage our domestic manufacturing compared to imported building products which will continue to use existing ISO standards and Environmental Product Declarations (EPDs). As such, given the significant and serious impact that this would have on our Australian business and our NSW manufacturing operations, we object to the Paper.

In December 2021, the Building Products Industry Council (BPIC) wrote to the NSW Minister for Planning and Public Spaces, Minister Stokes, detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government.

Principally our concerns relate to the NSW Government's proposed use of Input-Output (I-O) or Hybrid Analysis (HA) LCA methodology, such as contained in the EPiC database produced by the University of Melbourne. The use of the I-O or HA methodologies is seen as inappropriate in individual embodied carbon studies of products or buildings and will lead to many unintended and perverse outcomes in the construction sector.

I-O or HA economic based data in the EPiC database are not appropriate for comparative assessment of building products or constructed dwellings and their use will give inconsistent and much higher values compared to the current and internationally recognised 'process-based' LCA methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

Use of the I-O or HA (via EPiC) methodology might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - **it is not intended for individual product or project based environmental impact assessments.**

The use of I-O or HA approaches (via EPiC) rather than process based EPD information for building products within schemes like BASIX will have significant unintended outcomes, such as:

- **Preferentially advantaging imported building products** that utilise process based LCA methodology credentials, based on EPDs and ISO standards, over local Australian products which will have significantly higher I-O or HA LCA (via EPiC) outcomes.
- If adopted widely, the HA LCA approach (via EPiC) data will **greatly over-report NSW's embodied carbon figures for building products compared to other Australian and overseas jurisdictions**, for example:
 - For softwood timber the EPiC HA value of Greenhouse Gas Emissions is 549 kgCO₂e/m³ compared to 181 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation (3 times as much).
 - For plasterboard the EPiC HA value of embodied energy is 0.44 kgCO₂e/kg compared to 0.096 kgCO₂e/kg using the internationally agreed EPD-backed process method of calculation (4.6 times as much).
- **Undermining all the work and huge investment** that building product suppliers have expended to comply with international carbon measurement standards and develop EPDs.

I-O or HA approaches (via EPiC), significantly increase embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer. This perversely creates a strong disincentive for manufacturers to improve their environmental performance, as no matter what they might achieve, the externalities employed in the EPiC methodology will always disadvantage them.

These I-O or HA methodologies are complex and black box arrangements using hidden and proprietary algorithms, and not independently verified, so it is extremely difficult if not impossible for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes.

The Hyne Group urges the NSW Government and the BASIX administrator to not pursue the proposed I-O or HA approaches (via EPiC) but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

Should you have any queries on this submission, please contact Jon Kleinschmidt (Hyne Group CEO) on jon.kleinschmidt@hyne.com.au

Yours sincerely



Jon Kleinschmidt
Chief Executive Officer

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 3:04 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: tdansw-submission-draft-nsw-design-and-place-sepp-(sustainability-in-residential-buildings-2021.pdf

Submitted on Mon, 28/02/2022 - 15:01

Submitted by: Anonymous

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Please provide your view on the project

I am just providing comments

Submission file

[tdansw-submission-draft-nsw-design-and-place-sepp-\(sustainability-in-residential-buildings-2021.pdf](#)

Submission

TDA urges the NSW Government and the BASIX administrators not to pursue the proposed approach via EPiC database, but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs. We suggest that company or industry-wide Environmental Product Declaration (EPD) be the Embodied Greenhouse Gas Emission source for use within BASIX. Refer to the detailed explanation in the attached file.

I agree to the above statement

Yes

28 February 2022

NSW Department of Planning, Industry, and the Environment

Re: Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

To whom it concerns

The Timber Development Association (NSW) (TDA) represent the value chain of the NSW timber industry from the forest growers to the retail sector. We make the following response to the Design and Place SEPP 2021 consultation.

Most of the consultation subject is outside our organisation's area of expertise, so this submission focus only on the Sustainability in Residential Buildings (BASIX Overview) document, specifically the section dealing with a Materials Index. The NSW timber industry is supportive of the inclusion of a Materials Index within BASIX. However, several aspects of the Index's design are of substantial concern to us, and the following details our concerns.

EPiC Database

On page 10 of the Sustainability in Residential Buildings (BASIX Overview) document, the following statement is made:

"Default factors for embodied emissions of materials will be based on the well-recognised EPiC database."

Our principal concerns relate to the NSW Government's contemplation of the use of Hybrid Analysis (HA) embodied carbon analysis methodologies, such as contained in the EPiC database produced by the University of Melbourne. TDA believes that using this methodology is inappropriate in individual embodied carbon studies of buildings.

The EPiC database gives inconsistent and much higher values compared to the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed International Standard Organisation (ISO) standards, and reported through independently verified and registered Environmental Product Declarations (EPDs).

The use of Hybrid Analysis (EPiC Database) might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - it is not intended for an individual product or project-based environmental impact assessments.

The use of EPiC approach rather than process-based EPD information for building products within schemes like BASIX will have disastrous unintended consequences, such as:

- EPiC data will significantly over-report NSW's embodied carbon figures for building products:

For example, kiln-dried softwood timber is reported in the EPiC database with a value of Greenhouse Gas Emissions of 583 kgCO₂e/m³ compared to 157 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation found in the industry-wide EPD covers Australian-produced, kiln-dried softwood timber.

(https://environdec.com/library/epd560#.VYkKZkYm2_5) Note; biogenic carbon is not included in the example above.

That is 3.5 times the amount of embodied carbon NSW would have to report compared to other Australian and overseas jurisdictions. Assuming an average house with 14 m³ (average of single-storey 11 m³ and double-storey 17 m³) of assuming 30,000 pa single-family dwellings across NSW, where 85% are timber-framed, the over the accounting of carbon emission using EPiC database would be 14 x 30,000 x 0.85 x (583 – 157) = 152 million kgCO₂e/m³.

- EPiC database does not have a process of correcting or reviewing the data it contains. There are many errors contained in the database, such as the functional units for 60, 105, 175 mm thick CLT, shown below. They are reported as m³ when they should be m².

Manufactured timber product	Cross laminated timber (CLT)	m ³	9 607
	CLT - 60 mm	m ³	576
	CLT - 105 mm	m ³	1 009

<https://msd.unimelb.edu.au/research/projects/current/environmental-performance-in-construction/epic-database>

Discussion

The NSW timber industry supports the inclusion of an embodied carbon measure in construction. However, the suggested database has errors and over reports carbon emissions. Furthermore, products are not always Australian made; quite often, a building is made up of a range of products sourced locally and imported. The EPiC database does not distinguish between imported and local sourced products oversimplifying the process.

A readily available common form of reporting the environmental impact of a product is through an Environmental Product Declaration (EPD). EPDs are developed under international standards and assessed by knowledgeable EPD providers. The process of developing the EPD is the same for local and products manufactured overseas and represents a better source of carbon emissions for all building products.

Furthermore, EPDs are becoming more readily available, both as a company and industry-wide declarations, allowing users to develop precise emission data for their buildings. Industry-wide EPD's are generally applicable to generic manufactured products, while company EPD's are generally applicable to proprietary manufactured products, including imported products. The current range of available industry- and company-based EPDs covers the range of timber products commonly used within NSW.

Examples of common EPD's are listed below

Industry-wide example –

Available from WoodSolutions website (<https://www.woodsolutions.com.au/environmental-product-declarations>)

- Softwood timber – rough sawn and dressed kiln-dried
- Hardwood – rough sawn and dressed kiln-dried and rough sawn unseasoned

- Particleboard
- MDF
- Plywood
- Glue laminated timber

American Wood Council (<https://awc.org/resource-hub/?gsearch=epd>)

- I-joists
- Laminated Veneer Lumber
- OSB
- Laminated Strand Lumber

Company –

- Cross Laminated timber - XLam Australia – (<https://epd-australasia.com/epd/xlam-cross-laminated-timber-clt/>)
- OSB (Europe) - Egger (https://www.egger.com/shop/en_AU/about-us/environment/performance-assessment?countryRedirect)

Recommendation:

TDA urges the NSW Government and the BASIX administrators **not** to pursue the proposed approach via EPiC database, but rather adopt the current and internationally recognised ‘process-based’ methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs. We suggest that company or industry-wide Environmental Product Declaration (EPD) be the Embodied Greenhouse Gas Emission source for use within BASIX.

If you have any queries on this submission, please contact Andrew Dunn (TDA CEO) andrewdunn@tdansw.asn.au

About TDA

The Timber Development Association of New South Wales (TDA), generally referred to as Timber Development Association or TDA, is an industry-funded association representing all segments of the timber industry, from forestry, manufacture to supply.

The TDA was incorporated in 1938. Its original mission was to promote the use and sale of timber of all kinds, whether native to Australia or imported from abroad. It was also mandated to promote the interests of all persons, firms or companies in Australia involved with timber or wood technology or engaged in forestry. The TDA mission has evolved considerably over the years. The TDA now concentrates on the technological advancement and market development of the timber industry.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 3:41 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: submission-nsw-draft-dp-sepp-policy-20220228.pdf

Submitted on Mon, 28/02/2022 - 15:38

Submitted by: Anonymous

Submitted values are:

Submission Type

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West Launceston

Please provide your view on the project

I am just providing comments

Submission file

[submission-nsw-draft-dp-sepp-policy-20220228.pdf](#)

Submission

This submission focuses on the Sustainability in Residential Buildings (BASIX Overview) document, specifically the section dealing with a Materials Index. We support in-principle the inclusion of a Materials Index within BASIX, although an effective recording framework for materials needs to be further developed and any limitations for developers addressed. However, on Page 10 of the Sustainability in Residential Buildings (BASIX Overview) document, the following statement is made: "Default factors for embodied emissions of materials will be based on the well-recognised EPiC database." This proposed aspect of the design of the Index is of significant concern and is not supported for the reasons detailed in the submission, including that it would disadvantage our domestic manufacturing compared to imported building products which will continue to use existing ISO standards and Environmental Product Declarations (EPDs).

I agree to the above statement

Yes

28th February 2022

NSW Department of Planning, Industry, and the Environment

Submission via web portal: <https://www.planningportal.nsw.gov.au/design-SEPP-2021>

Re: Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

Timberlink Australia welcomes the opportunity to make a submission to the NSW Department of Planning, Industry, and the Environment (DPIE) on its draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper.

Timberlink is an Australasian timber products business that turns sustainable plantation pine into timber products, the ultimate renewable building material. Our sawn timber products are primarily used in commercial and residential construction and industrial remanufacturing applications. Typical uses include house framing, pergolas, decks, landscaping, pallets, and through use of our residue streams in packaging and paper.

Timberlink operates two regional large scale timber manufacturing facilities, one in Bell Bay, Tasmania, and the other in Tarpeena, South Australia; with both mills solely using renewable plantation grown radiata pine sawlogs as our production input. Timberlink is also investing in our renewable future. Recent, and ongoing, substantial investments in our Australian mills support a sustainable and modern manufacturing business, while ensuring a safe and attractive working environment for our employees. In addition, Timberlink is investing to provide new sustainable and renewable timber building solutions for our markets and customers. Timberlink has recently commenced construction of a Cross Laminated Timber (CLT) and Glue Laminated Timber (GLT) production facility to provide a commercially viable and carbon-friendly alternative to steel and concrete construction of mid-rise buildings, and a Wood Plastic Composite (WPC) production facility to upcycle plastic waste and plantation timber residue, producing decking and screening for commercial and residential applications. Our products are sold throughout Australia, including NSW, both direct to customer and via our own distribution centres, including Yennora in Sydney.

This submission will focus on the *Sustainability in Residential Buildings (BASIX Overview)* document, specifically the section dealing with a Materials Index. We support in-principle the inclusion of a Materials Index within BASIX, although an effective recording framework for materials needs to be further developed and any limitations for developers addressed. However, on Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document, the following statement is made: “Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.” This proposed aspect of the design of the Index is of significant concern and is not supported for the reasons detailed below, including that it would disadvantage our domestic manufacturing

compared to imported building products which will continue to use existing ISO standards and Environmental Product Declarations (EPDs).

In December 2021, the Building Products Industry Council (BPIC) wrote to the NSW Minister for Planning and Public Spaces, Minister Stokes, detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government.

Principally our concerns relate to the NSW Government's proposed use of Input-Output (I-O) or Hybrid Analysis (HA) LCA methodology, such as is contained in the EPiC database produced by the University of Melbourne. The use of the I-O or HA methodologies is seen as inappropriate in individual embodied carbon studies of products or buildings and will lead to many unintended and perverse consequences in the construction sector.

I-O or HA economic based data in the EPiC database are **not** appropriate for comparative assessment of building products or constructed dwellings and their use will give inconsistent and much higher values compared to the current and internationally recognised 'process-based' LCA methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

Use of the I-O or HA (via EPiC) methodology might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - **it is not intended for individual product or project based environmental impact assessments.**

The use of I-O or HA approaches (via EPiC) rather than process based EPD information for building products within schemes like BASIX will have significant unintended outcomes, such as:

- **Preferentially advantaging imported building products** that utilise process based LCA methodology credentials based on EPDs and ISO standards over local Australian products (which will have significantly higher HA LCA approach (via EPiC) credentials that are not based on EPDs and ISO standards).
- If adopted widely, the HA LCA approach (via EPiC) data will **greatly over-report NSW's embodied carbon figures for building products compared to other Australian and overseas jurisdictions**, for example:
 - For softwood timber the EPiC HA value of Greenhouse Gas Emissions is 549 kgCO_{2e}/m³ compared to 181 kgCO_{2e}/m³ using the internationally agreed EPD-backed process method of calculation (3 times as much).
 - For plasterboard the EPiC HA value of embodied energy is 0.44 kgCO_{2e}/kg compared to 0.096 kgCO_{2e}/kg using the internationally agreed EPD-backed process method of calculation (4.6 times as much).
- **Undermining all the work and huge investment** that building product suppliers have expended to comply with international carbon measurement standards and develop EPDs. Timberlink have contributed to existing industry-wide EPDs and are about to commence investment into EPDs for our

own product ranges. We expect that these will still be required for most significant building projects, including within NSW, so we cannot see any value in adopting and unproven and inappropriate framework when the building products manufacturing industry already have, or plan to have, EPDs in place meeting international Standards.

I-O or HA approaches (via EPiC), significantly increase embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer. This perversely creates a strong disincentive for manufacturers to improve their environmental performance, as no matter what they might achieve, the externalities employed in the EPiC methodology will always disadvantage them.

These I-O or HA methodologies are complex and black box arrangements using hidden and proprietary algorithms, and are not independently verified, so it is extremely difficult if not impossible for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes. The I-O/H approach has previously had extremely limited use, is not based on any agreed international Standards nor verified by any independent 3rd party body, is not generally accepted as the appropriate procedure for product or building LCA assessment (as it includes broader macro-economic data). In contrast, process-based LCI/LCA approaches are globally accepted, used by virtually all LCA practitioners and software, and are based on internationally recognised Standards, which provide the basis for the development and publishing by products manufacturers of independently verified Environmental Products Declarations (EPDs).

Timberlink urges the NSW Government and the BASIX administrator to not pursue the proposed I-O or HA approaches (via EPiC) but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

If you have any queries on this submission, please contact Dr Trevor Innes, General Manager Technical & Sustainability, tinnes@timberlinkaustralia.com.au.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 9:30 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: draft-design-and-place-sepp-treeism-submission.pdf

Submitted on Mon, 28/02/2022 - 21:28

Submitted by: Anonymous

Submitted values are:

Submission Type

I am making a personal submission

Name

First name

Chantalle

Last name

Hughes

I would like my submission to remain confidential

No

Info

Email

Chantalle@treeism.com.au

Suburb/Town & Postcode

2105

Please provide your view on the project

I support it

Submission file

[draft-design-and-place-sepp-treeism-submission.pdf](#)

Submission

Please see my attached document for comments/submission.

I agree to the above statement

Yes

Department of Planning, Industry & Environment

To Whom It May Concern:



28 February 2022

Re: Comments – Draft Design and Place SEPP and supplementary documents.

Thank you for the opportunity to provide comments on the Draft Design and Place SEPP. As a Consultant Arboriculturist working within the Sydney region I fully support the canopy percentages that are outlined within the Apartment Design Guide (ADG) and Urban Design Guide (UDG). These canopy targets present as realistic, achievable and a considerable step towards providing genuinely sustainable urban environments. However, my primary concerns with the current processes within tree management in relation to development are as follows;

- a. Assessment of the existing tree population is often not undertaken – or undertaken far too late in the development process, or not undertaken by an AQF Level 5 Consulting Arborist.
- b. Preliminary Arboricultural Assessment (AS4970) is not undertaken prior to the initial design stage and accordingly design professionals are not armed with the resources that would assist them to provide urban and residential designs incorporating existing tree canopy. As a direct result, far too many existing trees that have long life expectancy are removed for development.
- c. There should be direct and tangible incentives provided to developers to retain existing trees and canopy.
- d. Prioritising canopy replacement over retention results in a 10–20-year lead time to recover any meaningful canopy coverage.
- e. In many instances trees that are determined for retention in the development are not afforded the appropriate industry standards to ensure their ongoing viability.
- f. At completion of the development there is often no verification of consent relative to trees; or there is no project Arborist appointed for scheduled visitations through the development and verification of requirements relative to the trees is not possible or poorly applied.

To that end, I provide the following areas where I believe the Draft documentation can be improved or strengthened.

Treeism Arboricultural Services Pty Ltd		
Consulting Arboriculturist	Church Point NSW 2105	Mobile: 0403 935 419
Email: chantalle@treeism.com.au		

Concern	Document reference if relevant	Comment
1. I support the canopy targets.	UDG Objective 10 ADG 1.5 Green Infrastructure	I support a <u>minimum canopy target of 20%</u> and higher as stated.
<p>2. I note that achieving canopy targets is more readily achieved and sustained by retaining existing trees, particularly trees with longer useful life expectancy (ULE), in preference to removing existing trees and planting new trees.</p> <p>3. I believe it should be emphasised that maintaining existing canopy is far more effective in sustaining and increasing canopy than removing existing trees and planting new trees.</p>	<p>ADG page 30</p> <p>UDG – Objective 10.1</p>	<p>Included.</p> <p>UDG does not include the detail on this issue that the ADG does. This needs to be included in UDG.</p>
4. A requirement for Preliminary Arboricultural Reports, as defined by AS4970 (utilise most recent version) <i>Protection of Trees on Development Sites</i> , to be incorporated to inform the design process about high and medium retention value trees that should be considered and retained whenever possible.	<p>DP SEPP Section 15 Design Consideration -Comfortable, inclusive and healthy Spaces (a)</p> <p>UDG Objective 10 and UDG Part 3 Implementing good urban design practice Section 3.3 – 1. Design Preparation Page 88</p>	<p>Increased emphasis on the retention of existing tree canopy to promote passive cooling as part of DP SEPP Section 15 (a).</p> <p>Preliminary Arboricultural Reports as defined by AS4907 as the specific mechanism to meet Design Considerations (a) and (b) within DP SEPP Section 20 - Design Consideration – Green Infrastructure. Specific Evaluation of the existing tree population needs to be included to make clear to all parties this is a key part of the considerations. Existing canopy coverage is estimated or calculated – and any gap clearly identified.</p>

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Consulting Arboriculturist	Church Point NSW 2105	Mobile: 0403 935 419
Email: chantalle@treeism.com.au		

Concern	Document reference if relevant	Comment
5. I believe that the Urban Design Guide and Apartment Design Guide should require retention of high and medium retention value trees as the preferred outcome. Only where it can be verified to the satisfaction of the Determining Authority that there are no options that will facilitate tree retention should removal and compensatory tree planting be considered.	UDG – Objective 10.1	<p>Section 10.1 states</p> <p><i>Prioritise the retention and protection of existing tree canopy over removal and replacement of trees to achieve canopy cover.</i></p> <p>I would like to see this strengthened.</p> <p><i>Only where it can be verified to the satisfaction of the Determining Authority that there are no options that will facilitate tree retention should removal and compensatory tree planting be considered.</i></p> <p>The proposed mechanism would be the mandating of Preliminary Arboricultural Reports.</p>
6. A requirement for Arboricultural Impact Assessment Reports to i) demonstrate that any development impact upon trees being retained will not compromise their structural integrity or ongoing viability, and ii) provide recommendations that ensure the effective protection during development and management during and after development of trees being retained.	UDG Part 3 Implementing good urban design practice Section 3.3 – 3- Design delivery	<p>In accordance with AS 4970 <i>Protection of Trees on Development Sites</i>.</p> <p>This is the broadly accepted industry document utilised to ensure tree protection and retention on development sites.</p>
7. Consideration of and adherence to the <i>Australian Standard Protection of Trees on Development Sites AS 4970</i> - (utilise most recent version) <i>should</i> be incorporated into the UDG.	UDG Part 3 Implementing good urban design practice Section 3.3 – 1. Design Preparation	<p>The standard gets a quality mention in ADG – page 30 but only a brief mention in the Glossary of UDG – definition of a tree.</p> <p>UDG needs to be strengthened and similar to ADG.</p>

Treeism Arboricultural Services Pty Ltd		
Consulting Arboriculturist	Church Point NSW 2105	Mobile: 0403 935 419
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Concern	Document reference if relevant	Comment
<p>8. Proposals to achieve specified canopy targets should include the period over which the canopy target shall be achieved. For example, if canopy is reduced from 15% to 8% as a result of the removal of existing trees, and tree planting to achieve 20% is proposed, it is fundamental that the period required to achieve the 20% is stipulated. It is recommended that the proposed shall be able to achieve the specified canopy targets within 10 to 20 years. However, fast growing short-lived species should not be used to achieve this.</p>		<p>Assuming canopy targets will be a condition of consent – at what point in time will the condition of consent be required to be met – growing trees take decades to reach maturity. There needs to be a process 12 months or 2 years from occupancy certificate to verify the planted trees (and any existing retained trees) are growing and likely to meet the consent conditions. The proposed development should not have less canopy coverage at the completion point of the development that existed prior. The overall process needs to have a checking or audit review – verification of requirements.</p>
<p>9. Definition of an Arborist. I recommend that wherever “Arborist” is referenced within the document that this be replaced specifically with “Consulting Arborist” and the definition be expanded to a Consulting Arborist having a qualification standard AQF Level 5 and an accredited membership with a national body requiring ongoing professional development.</p>	<p>Apartment Design Guide 1.1 Site and Context Analysis.</p>	<p>In order to prevent confusion, provide consistency and to ensure the highest standard of design guidance,</p>
<p>10. Apartment Design Guide 1.5 Green Infrastructure. Under Tree Canopy, this section states “<i>It is best practice</i> to: Replace canopy through sufficient new tree planting”.</p> <p>I believe that <i>best practice</i> involves the retention of existing tree canopy. I recommend the rewording of this section to not prioritise canopy replacement over retention.</p>	<p>Apartment Design Guide – 1.5 Green Infrastructure</p>	<p>As previous comments to this effect.</p>

Treeism Arboricultural Services Pty Ltd		
Consulting Arboriculturist	Church Point NSW 2105	Mobile: 0403 935 419
Email: chantalle@treeism.com.au		

Concern	Document reference if relevant	Comment
11. Apartment Design Guide 1.5 Green Infrastructure. Under Retaining Trees, reword the section that states <i>"Have existing trees assessed by an arborist to ascertain safe usual life expectancy (SULE), structural root zones (SRZ) and tree protection zones (TPZ)."</i> To include the requirement for the preparation of a Preliminary Arboricultural Report as defined by AS4970 by a Consulting Arborist (definition as above).	Apartment Design Guide – 1.5 Green Infrastructure	Required to ensure consistency in the standard and effectiveness of reporting and prevent confusion in reporting requirements. The reporting requirements are already defined by the Standard.
12. Apartment Design Guide 1.5 Green Infrastructure. The Retaining Trees section includes the requirement to have the existing trees assessed (should be Preliminary Arboricultural Report as above) however there is no mechanism within this section to determine which trees will remain viable to be retained under the proposed development. This mechanism should be the preparation of an Arboricultural Impact Assessment Report (AIA) as defined by AS4970 prepared by the Consulting Arborist.	ADG – 1.5 Green Infrastructure	Refining this mechanism for determining the viability of existing trees to remain will provide consistency of this assessment against an existing Standard. Inclusion of this requirement for the AIA could be incorporated within the section that currently states, <i>"Show trees for retention and removal on site plans and other relevant drawings; include the TPZ of retained trees."</i> The AIA would include all of this information.
13. I am concerned that the design criteria of the Apartment Design Guide 2.6 Sunlight, Daylight, Shade and Thermal Comfort may be used to justify and prioritise removal of existing trees.	Apartment Design Guide 2.6 Sunlight, Daylight, Shade and Thermal Comfort	Recommend inclusion of a requirement to accommodate the shade patterns of existing trees within the design.
14. Apartment Design Guide 3.1 Energy Efficiency – Greater emphasis of the contribution of existing tree canopy cover for passive cooling.	Apartment Design Guide 3.1 Energy Efficiency	This emphasis of the role of existing tree canopy in passive environmental cooling and energy efficiency can be repeated within BASIX and other relevant sections of the document.

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Consulting Arboriculturist	Church Point NSW 2105	Mobile: 0403 935 419
Email: chantalle@treeism.com.au		

Concern	Document reference if relevant	Comment
15. Apartment Design Guide A2.2 Site and Context Checklist. I recommend refining the section that states <i>"For major trees on the site, as well as street trees and adjacent property trees close to the shared boundaries, identify species, location, height, diameter and relative levels (RLs) at base of trunk"</i> to include the requirement for a Preliminary Arboricultural Report as defined by AS4970. This should be repeated within the <i>"Landscape, Trees and Planting"</i> section.	Apartment Design Guide A2.2 Site and Context Checklist	This will streamline the requirement and provide consistency in this reporting by pinning the reporting to an existing industry wide accepted Standard.
16. Consistency between the Apartment Design Guide (ADG) and Urban Design Guide (UDG).		I recommend that the design criteria outlined in items 10 to 16 above be included and incorporated within the UDG as well as the ADG.
17. In recognition of the role that existing tree canopy cover plays in passive environmental cooling and temperature moderation, I propose the inclusion within the BASIX system the retention of existing tree canopy cover.	BASIX	This requirement could take the form of undertaking a Preliminary Arboricultural Report as well as Consulting Arborist reporting and advice on the provision of shade and passive temperature moderation.
18. New developments should ensure minimum shade for footpaths, cycleways and outdoor car parking areas. Recommend a minimum of 50%.	Draft SEPP, Section 19	
19. 12 months is an inadequate period for management of new trees. 5 years is recommended to ensure that the new trees are properly established. New trees may struggle through 12 months, even one or two years.	Draft SEPP, Section 20 (c)	

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Email: chantalle@treeism.com.au		

Concern	Document reference if relevant	Comment
20. New subdivisions should provide verges sufficiently wide to accommodate soil volumes to support medium and/or large species trees. Driveway crossovers should be single car widths for single detached dwellings so that maximum verge space remains for soil volume and root growth.	add to Draft SEPP, Section 20 or as appropriate.	

Thank you for considering my submission.

Kind Regards,



Chantalle Brackenridge Hughes

Consulting arboriculturist and horticulturist

Tree Surgery Certificate

Advanced Certificate Urban Horticulture

Diploma of Horticulture (Arboriculture) *Credit*

ISA Tree Risk Assessment Qualification (TRAQ) 2016

Accredited Member of Institute of Australian Consulting Arboriculturists (IACA)

Affiliate Member of the Local Government Tree Resources of Australia (LGTRA)

Member of the International Society of Arboriculture (ISA)

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**Urban Design For
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Public Interest
Knowledge Sharing
Public Conversations
Research & Advocacy
Education
Mentorship & Support
Change



Urban Design Forum
supports the introduction of
a robust definition of Urban
Design within the Design and
Place SEPP, with emphasis
on the strategic function of
Urban Design in the making
of frameworks for areas
undergoing change.

We live, work and play on the traditional lands of the Wurundjeri people of the Kulin nation. We acknowledge that sovereignty was never ceded and pay our respects to elders past, present and emerging and extend this respect to all Indigenous Australians.



Attn:
Rod Simpson
Urban Design Group
New South Wales

Re:
Addendum to Urban
Design Group New South
Wales Submission to the
Proposed Design and
Place SEPP

Dated:
March 24, 2022

Pages:
5

From:
Urban Design Forum
Australia
Suite 1.2/2
Collins St.
Melbourne VIC 3000

Urban Design Forum Australia welcomes the opportunity to make a submission to this important initiative and commend the Department of Planning, Government Architects NSW and consultants for the significant research-led process that has underpinned the project. We support the initiative to consolidate matters relating to design and place into a single, more coherent planning instrument. This is a significant matter of interest for New South Wales, and by extension Australia.

This submission addendum is however focused only on one minor initiative within the broader body of work, which is of specific interest to the Urban Design Forum, namely defining 'Urban Designer' in the New South Wales context. This matter is of national interest and has the potential to set a significant precedent beyond the New South Wales context.

Summary of submission

Urban Design Forum supports the introduction of a definition of Urban Design within the Design and Place SEPP, with emphasis on the strategic function of Urban Design in the making of frameworks for areas undergoing change.

However, we have concerns with the current approach to a professional accreditation checklist in the exhibited document and an inadequate length of required experience. If the public policy purpose of the definition is to secure a high standard of Urban Design professional operating in the public interest, then it is crucial that practitioners have the appropriate qualifications, experience and design expertise.

Given that there is no national body or process for the accreditation of urban designers in Australia, we support the idea and process of peer recognition being established. Being related to and spanning the practices of architecture, landscape and planning but being distinct from them, urban design is not and should not be narrowly defined.

It is for this reason peer recognition should not be seen simply as a short term measure, but as the most appropriate process for recognition of Urban Designers into the future.

We submit the following key recommendations for an amended approach to the verification of an Urban Design professional:

- The adoption of a method of peer review to ensure an adequate standard of professional experience including a process of sponsorship by esteemed practitioners, submission of portfolio documentation of experience and design expertise interview and independent evaluation.
- Clarity that a Recognised Practitioner must exhibit formal training and technical competency in spatial design
- Increase in the number of years of practice to a minimum of 10 years, noting that emerging urban designers can continue to support Recognised Practitioners in preparing design strategies or studies.

In the absence of an established Australian process, we support, a method drawing upon the Urban Design Group UK's process to determine Recognised Practitioners, with the inclusion of a charter that is more specific to the Australian context, namely capturing the critical importance of working on Aboriginal land.

For further information, refer to <https://www.udg.org.uk/join/recognisedpractitioner>. A number of Urban Design Forum members have already attained Recognised Practitioner Status in both NSW and Victoria, and we will continue to advocate to our members this opportunity for robust professional recognition.

About Urban Design Forum

Urban Design Forum Australia is an independent non-profit industry organisation that supports public interest outcomes in cities. We were founded in 1986 and have recently undergone significant renewal and expansion under the directorship of our new leadership committee. We believe that well-designed and effectively governed cities are essential to solving the major challenges of our time. Our members come from private consultancy, state and local government, the development industry and academia.

Since relaunching in late 2021 we have a rapidly growing membership with 164 members as of March 2022, and 17 Partner organisations across universities, private consultancies and local government. While Victorian-based, we have members in New South Wales, Tasmania and Queensland. As an industry organisation we draw upon our members immense individual and collective experience in the built environment. In May 2022 we will be working with a group of 30 NSW practitioners and members of the Designers in Government forum to explore the formal expansion of Urban Design Forum into the NSW context.

Defining Urban Design as a distinct profession

Urban Design is a unique profession within the built environment for the specific emphasis on the translation of abstract policy into physical space, at all scales from the metropolitan area down to a small public realm project. As an 'integrative' profession (as distinct from exclusive) Urban Designers draw upon experience from across architecture, landscape architecture, industrial design, user experience, strategic design, engineering, planning, law, anthropology and public art.

It is common for an Urban Designer to have one or more qualifications in the built environment, in order to build multi-disciplinary competency beyond a base design qualification. It is exceptionally uncommon for Urban Designers to work in isolation, typically working in close collaboration with design and technical experts to realise either design strategies or physical projects.

The professional basis for Urban Design as a distinct discipline originates from the Harvard Graduate School of Design's 1956 Urban Design Conference, convened by European émigré Jose Luis Sert. The dedicated degree entitled 'Master of Architecture in Urban Design' spawned dozens of similar degrees across the United States, Continental Europe and the rest of the world, principally concerned with the physical structure and form of urban transformation projects.

While the degree had its origin in subjects within countless architectural teaching programs in Europe prior to this period, this specific focus of education marked a shift in the trajectory of the profession as one warranting distinct recognition. It is this origin as a skill in spatial design, as distinct from policy or legislation abstracted from space, that is important to highlight.

The practice of Urban Design however has historically suffered from questions as to its status, lack of professional representation in the form of a peak body, and from inadequate definitions. This has affected government procurement processes, the ability to attract and retain talented young people to the profession, along with exceptionally poor outcomes in the case of urban transformation or expansion projects without adequate urban design consideration. This is a particular area of focus for the Urban Design Forum's activities, in pursuing public interest outcomes in cities.

The establishment of a clear definition, supported by a suitable administrative body to provide peer recognition represents a significant opportunity to address a number of industry wide and specific professional challenges within Urban Design. We welcome the attempt of the Design and Place SEPP to address this problem and welcome further engagement in finding a robust solution that prioritises peer verification over checklist approach.

Should you have any queries regarding the information contained within this letter, please don't hesitate to contact Andy Fergus, Advocacy Lead on 0408 057 360 or via hello@udf.org.au

Kind regards,

Leanne Hodyl
Joint President Urban Design Forum

Andy Fergus
Advocacy Lead Urban Design Forum

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:30 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: design-and-place-sepp_urban-design-group_28.02.2022.pdf

Submitted on Mon, 28/02/2022 - 16:28

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Roderick

Last name

Simpson

I would like my submission to remain confidential

No

Info

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roderick@simpsonwilsonarchitects.com

Suburb/Town & Postcode

Greenwich 2065

Please provide your view on the project

I support it

Submission file

[design-and-place-sepp_urban-design-group_28.02.2022.pdf](#)

Submission

This submission is by the Urban Design Group NSW

I agree to the above statement

Yes

Design + Place SEPP

Urban Design Group NSW submission

28.02.2022

Who we are

This submission is made by a group of individuals who are all Recognised Urban Designers with the Urban Design Group. We each have a minimum of 20 years' experience as urban designers and are discipline leaders in the public, private and tertiary education sectors. Details of members are appended.

The Urban Design Group is the NSW chapter of the UK based membership organisation. The Urban Design Group is a knowledge sharing community that plays a major role in putting urban design on the professional and political agendas, seeking to transform the quality of both existing and new urban development.

The Urban Design Group NSW (UDGNSW) was established for the public benefit with three main aims:

- To promote high standards of performance and inter-professional co-operation in planning, urban design, architecture and landscape architecture and all other aspects of the built environment.
- A professional and public forum for discourse in matters relating to urbanism.
- To provide professionals with the required expertise and experience formal Recognition as Urban Designer through a rigorous peer review process tailored to NSW conditions

Response to exhibited SEPP

The UDGNSW supports the introduction of design and the importance of Place in the SEPP to improve our built environment and local places for people. The UDGNSW also supports the recognition of urban design processes and the role of professional urban designers in achieving these goals. Given our commitment to these outcomes for communities, we have considered in detail the intent, content, and implications of the proposed SEPP and in particular the Urban Design Guide. The UDGNSW is concerned that important aspects fall short in clarity, application and implementation and provide these recommendations as a better and more effective way to achieve the intent.

The role of urban design in achieving the SEPP's goals

Urban Design is an inherently collaborative process and the UDGNSW is very supportive of the specific reference to urban design in the SEPP as a discipline related to, but distinct from landscape architecture, architecture and planning. It is through urban design that strategic planning and urban policy is translated into physical form and spatial guidance at all scales and at all stages. Urban design defines physical form parameters for the more detailed designs and development that follow both in the public and private realms.

The UDGNSW welcomes the benchmarks and criteria that are contained in the SEPP but recognises that a 'one size fits all' approach is in fact the antithesis of good urban design. It is our understanding that the criteria in the Guide are based on an analysis of a range of case studies. However benchmarks can only ever be the starting point for good design and a way of ensuring there is a common starting point for integration across all elements including natural systems, green and grey infrastructure, streets, open space and built form. Given the rich diversity of our built environment, benchmarks are effective when they are tailored to our various urban morphologies. Through collaboration, advice and design, urban designers aim to optimise the opportunities provided by each place that is, obviously, unique. Urban design is a synthesising discipline, not a generic product.

The ultimate and principal 'client' of urban design is the public. It is the responsibility of the urban designer working in close collaboration with others to optimise the public benefit of development and

improve the public domain and protect and enhance natural systems. This is why urban designers' role and professional status within the sequence of decision making from strategic plan making to project delivery needs to be enhanced, and not devalued as compliance report writers only at the development application stage.

Perhaps most importantly, collaborative planning processes including urban design at all stages can provide *progressive certainty* for both the applicant/proponent and the public. Collaborative design, with a more targeted Urban Design Guide, in concert with Design Review and the Ministerial Directions for more design based plan-making provide the basis for a more effective planning system, quality places and better communities for people.

Six areas of interest with recommendations

1. Urban design is most effective as part of planning and development at all stages and scales 3
2. Definition of urban designer 3
3. Design Verification Statement 4
4. Scope of the current Urban Design Guide 4
5. 'Urban design development' terminology and consequences 5
6. Urban design misrepresented as a separate process 5

Recommendations in detail6-11

Signatories

Urban Design Group NSW Recognised Urban Designers

Brendan Randles	Jan McCredie	Philip Thalís
Craig Allchin	Matthew Pullinger	Roderick Simpson
Deena Ridenour	Paul Berkemeier	Russell Olsson
Diana Griffiths	Paul Walter	Tanya Vincent
Gabrielle Morrish	Peter Smith	Tom Rivard
Gareth Collins	Philip Graus	

Recommendations

1. Urban design is most effective as part of planning and development at all stages and scales

The ambitions of the SEPP – coordinated, liveable urbanism at the neighbourhood scale are most effectively achieved through urban design at all scales, from strategic to local plan making to project design, providing a clear line of sight and certainty for all stakeholders.

Recommended Change:

The district/neighbourhood scale urban design components outlined in Urban Design Guide should be addressed primarily to plan making rather than development assessment. This would mean urban design resources, rather than occurring late in the process would be able to be directed to improved, place-based plan making. This intention and potential is already contained in the Ministerial Directions but needs to be made more explicitly and given far greater emphasis.

Recommended Change:

The Urban Design Guide could provide an urban design based DCP template for Councils with limited resources to upgrade their planning frameworks, providing the community and the developer industry increased certainty and transparency in an urban design vision of their district that is specific to the location. The template would provide guidance from strategic to place, ensuring that local government controls give effect to higher order plans.

Recommended Change:

Recognise that the current guide is focussed primarily on greenfield residential development and precincts and commit to the preparation of further guidance for different forms of urbanism, contexts and development types. It should be noted that there is a wealth of guidance prepared by the Department in previous decades, including the extensive and well-regarded work of the Urban Design Advisory Service.

Recommended Change:

The SEPP and Urban Design Guide should apply to all urban projects - Planned Precincts, Place Strategies, State Significant Infrastructure, once the appropriate guidance for a wider range of urban conditions has been prepared.

Recommendation:

The re-establishment of a section of the Department of Planning and Environment similar to the Urban Design Advisory Service (UDAS) to provide urban design expertise and assistance to the Department and under-resourced local governments to expedite place-based plan making, quality development, demonstrate multi-disciplinary design practices and optimise the public benefit.

2. Definition of urban designer

The definition of ‘urban designer’ should include core design competencies and require recognition from a professional organisation through independent peer review.

Recommended Change:

That the definition of urban designer should be amended to include recognition of core competencies by independent peer review through professional industry organisations:

Urban designer means a person with:

- A university qualifications in the built environment, **and***
- B at least 10 years experience in design roles in precinct design and masterplanning, **and***
- C recognition of core competencies in urban design by a professional organisation through independent peer review.*

3. Design Verification Statement

A Design Verification Statement signed by an Urban Designer only verifies another separate, sub-consultant report not a true multi-disciplinary process or outcome. It is proposed as largely an assessment tool for confirming and evaluating compliance and should have a stronger role in facilitating the design process and its coordination. The Statement should verify a multi-disciplinary design process and fully co-ordinated documentation, co-signed by the other disciplinary design leads.

Having this Statement co-signed by the other design professionals will ensure the ‘transfer of strategic and planning intent’ and provide a clear line of sight. It would also mean that later stage variations from the ‘verified’ urban design would need to be justified based on improved outcomes, changed circumstances or technical requirements. This recording and reporting of decisions and basis for changes has the potential to restore confidence in the planning system for both developers and the public.

Recommended Change:

That the Design Verification Statement be prepared, signed and led by the urban designer and co-signed by the other design professions (e.g. engineer, architect, utilities, economist, environmental consultant, social planner) who confirm that all their documentation is consistent with the statement.

Recommended Change:

If the requirement for a ‘Design Verification Statement’ is to be retained, its purpose and status needs further clarification. The statement should verify that the strategic and planning intent of the previous stage has been implemented or considered in the more detailed design at this stage, as well as verifying that sufficient guidance for the next stage has been prepared.

4. Scope of the current Urban Design Guide

Claiming one guide has universal application for the entire practice of urban design for all types and scales of development risks jeopardising the professional standing and practice of urban design. Urban Design Guides should be separately published for development types/stages and independently peer reviewed.

Recommended strategy:

The Urban Design Guide is not published without a formal independent peer review process covering the scope, content and evidence.

Recommended change:

Urban Design Guides should be separately published for development types and stages. A series of project/scale/stage specific guides for other urban morphologies could provide useful, concise and robust guidance and improve the design of our urban areas across the state, noting the significant body of work that has been prepared by the Department in the past.

Recommended minimal change (if Guide proceeding in current format):

That the title of the guide be amended to “Urban Design Guide for Masterplanning of Residential Precinct Planning Proposals” with criteria and benchmarks clearly distinguished for suburban greenfield or high-density urban renewal proposals.

5. 'Urban design development' terminology and consequences

The new term 'urban design development' is unnecessary, confusing and diminishes the term urban design. A suggested alternate term is 'co-ordinated urban development'.

The scope of 'Urban design development' and 'Land to which Policy Applies' captures almost all development, whereas the origin, intent and substantive content of the policy is clearly for residential precincts.

Recommended change:

Terminology: Change the term "urban design development" to "co-ordinated urban development".

Recommended change:

The SEPP should start with a more tightly defined application to greenfield residential subdivision or medium-high density infill projects, and later widening to other applications with their own targeted guidelines and provisions. Consider using sub-categories to refine criteria, acceptable solutions and targets to enable more contextual responses.

6. Urban design misrepresented as a separate process

Urban design is described as a separate process, unlinked to industry or planning processes. Urban design should be explained and embedded in the overall process as a coordinating discipline within multi-disciplinary design teams clearly linked to formal pathways and industry standard milestones.

Recommended change:

Redraft the urban design process chapter to show how and when urban design methods integrate with planning and development pathways, inform key decision points and coordinate deliverables with multi-disciplinary design teams.

Recommendations in detail

1 Urban design is most effective as part of planning at all stages and scales

The ambitions of the SEPP – coordinated, liveable urbanism at the neighbourhood scale are most effectively achieved through urban design at all scales, from strategic to local plan making to project design, providing a clear line of sight and progressive certainty for all stakeholders.

Unlike architecture on single sites, urban design crosses boundaries, involves multiple ownership, and is a multi-scale process. While the Apartment Design Guide can be successfully directed to smaller scale developments including individual buildings at the development application stage, achieving the important district scale ambition of the Urban Design Guide at the development assessment stage is unlikely to be effective.

Key decisions, including the integration of the infrastructure and land uses need to be structured in strategic frameworks well before the development application process occurs. This role is recognised in the Ministerial Directions, effectively saying that the Guide should be considered in the development and preparation of Planning Proposals, rezonings etc. Delaying large scale urban design decisions and assessment until the development application phase increases risks and uncertainties not only to the built outcomes, but also to all stakeholders; the community, government agencies and development industry.

These strategic issues in the time and scale for the application of the guide create potential risks to achieving the vision and objectives of the Urban Design Guide. Like any guide, The Urban Design Guide cannot cater for all possible development types, at all possible scales and in all possible contexts at development assessment stage. It is critical that the Guide provide physical design direction at the scale of the place-based strategic planning to guide more nuanced district, neighbourhood and precinct design that is specific to the place. The proposed Urban Design Guide will most effectively achieve its aims by acknowledging the order, priority or scale of these tasks clarifying who or when these decisions are most appropriately made in our planning and development industry.

For design outcomes to be achieved at the development assessment stage, urban design consideration and resources at all stages of plan making providing that line of sight, improving consistency and certainty of outcome will be required. This will reduce reactive local government assessment checking on individual sites. More urban designers in state government planning is applauded and essential. This will need to be extended more widely across state agencies and local Councils, especially those organisations with few skilled urban designers and limited policies and place-based Development Control Plans (DCP).

Recommended Change:

The Urban Design Guide could provide an urban design based DCP template for Councils with limited resources to upgrade their planning frameworks, providing the community and the developer industry increased certainty and transparency in an urban design vision of their district that is specific to the location. The template would provide guidance from strategic to place, ensuring that local government controls give effect to higher order plans.

Recommended Change:

The district/neighbourhood scale urban design components outlined in Urban Design Guide should be addressed primarily to plan making rather than development assessment. This would mean urban design resources, rather than occurring late in the process would be able to be directed to improved, place-based plan making. This potential is already recognised in the Ministerial Directions.

Recommended Change:

Recognise that the current guide is focussed primarily on greenfield residential development and precincts and commit to the preparation of further guidance for different forms of urbanism, contexts, and development types. It should be noted that there is a wealth of guidance that has been prepared

by the Department in previous decades, including the extensive and well-regarded work of the Urban Design Advisory Service.

Recommended Change:

The SEPP and Urban Design Guide should apply to all urban projects; Planned Precincts, Place Strategies, State Significant Infrastructure, Projects and Precincts should be subject to the Urban Design Guidance once the appropriate guidance for a wider range of urban conditions has been prepared.

Recommendation:

The re-establishment of a section of the Department of Planning and Environment similar to the Urban Design Advisory Service (UDAS) to provide urban design expertise and assistance to the Department and under-resourced local governments to expedite place-based plan making, quality development, demonstrate multi-disciplinary design practices and optimise the public benefit.

2 Definition of 'Urban Designer'

The definition of 'Urban Designer' should include core design competencies and require recognition from a professional organisation by independent peer review.

The Urban Design Group welcomes the recognition of Urban Design as a distinct set of skills and practice. DPE has a responsibility to protect and enhance the professional status of Urban Design. While not being responsible for regulating the profession, DPE has created and is relying on the 'urban designer' to be an experienced practitioner with the suitable *design* expertise. However, the current definition does not require experience in design as a core competency. Design skills, especially for complex projects at an urban scale take time and experience to develop. Design disciplines have at least 4 years design education then many years of design practice to develop their skills. Under the current definition an individual with limited design training such as a town planner and no experience of working in a *design role* on precinct and masterplanning projects and for only 5 years would qualify as an urban designer.

Furthermore, the process outlined effectively delegates the verification of urban design competency to a planning approval process. Verifying the qualifications and expertise of an urban designer should not be a component of the design verification statement and project application process. Planning approval assessors are not themselves qualified or resourced to assess the core competencies of an urban designer.

The proposed approach is a risky combination of regulatory definition in an unregulated sector. The proposal creates the risk of empowering people without design experience to verify work or join Design Review Panels, reduce the understanding of urban design and diminish the standard of practice. Perversely, many of NSW's most respected and experienced urban designers (with architectural qualifications but not registered Architects) currently practising and serving on Design Review Panels would not qualify under the proposed wording. Nor would practitioners with a post-graduate urban design qualification.

When SEPP65 was introduced in the early 2000's, the Department of Planning's support to the industry for recognition of registered Architects ensured skilled and qualified architects were designing apartments. In the same way, DPE has a responsibility to ensure that the process of recognising urban designers in this SEPP supports and does not diminish the urban design profession as it formalises recognition pathways. This formalisation should not be superseded or poorly considered due to the pressure to release one NSW State Government Policy.

Accreditation of a recognised urban designer should be:

- a. Managed by professional industry organisation/s, not via a planning approval process;
- b. Based on core competencies, primarily design-based qualifications and/or skills;
- c. Quality assured from independent peer review.

The newly formed Urban Design Group could assist with professional recognition in NSW.

Recommended Change:

That the definition of urban designer should be amended to include recognition of core competencies by independent peer review through professional industry organisations:

Urban designer means a person with:

- (a) university qualifications in the built environment, and*
- (b) at least 10 years' experience in design roles in precinct design and masterplanning, and*
- (c) accreditation of core competencies in urban design by a professional organisation through independent peer review.*

3 Design Verification Statement

A Design Verification Statement signed by an urban designer only verifies another separate, sub-consultant report not a true multi-disciplinary process or outcome. It is proposed as a largely as assessment tool for confirming and evaluating compliance and should have a stronger role in facilitating the design process and its coordination. The Statement should verify a multi-disciplinary design process and fully co-ordinated documentation, co-signed by the other disciplinary design leads.

The design verification statement is a good idea, but a single signatory from an urban designer is weak and does not impel or demonstrate a multi-disciplinary project outcome. Being signed only by the urban designer, the risk is the Statement becomes another tick-a-box activity by a sub-consultancy rather than achieving the intent of co-ordinating a multi-disciplinary team and truly synthesizing a project outcome.

To change the current design siloes and truly coordinate project inputs, the Design Verification Statement needs to require the main project design leads (e.g., engineering, utilities, environmental, architecture, economics etc) to be co-signatories, confirming their design documentation packages are in accordance with the Statement.

Compiling and comparing cross referenced supporting evidence in very large and complex planning applications could be an extremely onerous assessment task. Information in multiple consultant reports, appendices, inconsistent scales and formats does not convey a synthesised design solution by a coordinated project team.

If the requirement for a 'Design Verification Statement' is to be retained, its purpose and status needs further clarification. The statement should verify that the strategic and planning intent of the previous stage has been implemented or considered in the more detailed design at this stage, as well as verifying that sufficient guidance for the next stage has been prepared.

Having this Statement co-signed by the other design professional will ensure the 'transfer of strategic and planning intent' and provide a clear line of sight. It would also mean that variations from the 'verified' urban design would need to be justified based on improved outcomes, changed circumstances or technical requirements. This recording and reporting of decisions and basis for changes has the potential to restore confidence in the planning system for both developers and the public.

Recommended change:

That the Design Verification Statement be prepared, signed and led by the urban designer and co-signed by the other design professions (e.g., engineer, architect, utilities, economist, environmental consultant, social planner) who confirm that all their documentation is consistent with the statement.

4 Scope of the current Urban Design Guide

Claiming one guide has universal application for the entire practice of urban design for all types and scales of development risks jeopardising the professional standing and practice of urban design. Urban Design Guides should be separately published for development types/stages and independently peer reviewed.

The practice of urban design is poorly understood and recognised in NSW. The introduction of an updated, authoritative guide for one aspect of urban design practice that is referenced as part of a statutory planning requirement is welcomed. In principle, the Urban Design Group supports DPE/GANSW producing Guides and wants them to be useful and long-lasting references.

Sadly, these opportunities to create influential guidance only occurs rarely. When it occurs, these opportunities are too good to be squandered or diminished in application, and so the Urban Design Group offers the following suggestions.

While the scope of the Design and Place SEPP is very wide, the draft Urban Design Guide is focussed on preparing masterplans for projects of a certain physical size (over 1ha) and at one specific time within a planning approval process. The concern is the proposed document title suggests an overarching guidance for the practice of all urban design and universal application of the entire professional discipline.

This is likely to compound confusion and biases in the design and development industry in NSW about the role of urban design and undermine the profession's efforts to promote the broad scope and practice of urban design in different phases, sectors, and project types. Unfortunately, the subtitle of the draft guide "For Urban Design Developments in NSW" relies on the creation of an entirely new term that does not clarify the intent and may weaken the understanding of urban design across industry and within the built environment professions. A relevant parallel would be DPE producing an "Engineering Guide" or "Planning Guide" that only related to a small subset of the practice of engineering or planning yet claimed universal coverage.

The proposed title also makes it hard for DPE in the future to expand a suite of 'urban design guides' covering other relevant aspects of urban design practice, project types and scales of development.

The notion of a single guide that combines the general theory of urban design with universal detailed requirements for all project types, all urban morphologies, all locations, and that is relevant at all stages of city shaping is unproven and not supported. We know of no other jurisdiction in Australia or internationally that makes this claim. Should this approach be continued, such a Guide needs to be redrafted, proven with detailed research and evidence (not post-rationalised with case studies after the public exhibition stage) and co-authored by a wider range of eminent urban designers experienced in all aspects of the industry. Given GANSW's high standards on design review and excellence, such a Guide should be independently peer reviewed and revised before adoption. The public exhibition submission process with review and continuing advice by the original authors, does not satisfy the rigour necessary for such an important document.

Recommended strategy:

The Urban Design Guide is not published without a formal independent peer review process covering the scope, content, and evidence.

Recommended change:

Urban Design Guides should be separately published for development types and stages. A series of project/scale/stage specific guides for other urban morphologies could provide useful, concise and robust guidance and improve the design of our urban areas across the state, noting the significant body of work that has been prepared by the Department in the past.

Recommended minimal change (if Guide proceeding in current format):

That the title of the guide be amended to "Urban Design Guide for Masterplanning of Residential Precinct Planning Proposals" with criteria and benchmarks clearly distinguished for suburban greenfield or high-density urban renewal proposals.

5 ‘Urban Design Development’ terminology and consequences

There may be unintended consequences arising from the introduction of the term ‘Urban design development’. The new term ‘urban design development’ is unnecessary, confusing and diminishes the term urban design. A suggested alternate term is ‘co-ordinated urban development’.

The policy may need to define and label a category of applicable applications but should not be using the professional discipline term ‘urban design’. The use of an equivalent professional discipline such as ‘engineering development’ or ‘planning development’ would be unthinkable.

Recommended change:

Change the term “urban design development” to “co-ordinated urban development”.

The proposed applicable proposals capture almost all development, whereas the origin, intent and substantive content of the policy is clearly for residential precincts.

The Policy has evolved from, and still bears the assumptions of apartment residential development in highly urbanised areas yet is proposed to apply to practically *all* urban development.

While the intent of improving the design of all urban development is laudable, the proposed provisions, targets and urban design guidance do not and cannot cover such a breadth and diversity of potential conditions. Greenfield suburban subdivision over 50Ha is an entirely different design practice, development process and urban morphology to an apartment infill development in a highly urbanised existing area. Many in the profession are pointing to the proposed maximum block length for all locations as a major faux pas that will have terrible consequences if applied universally and diminishes the authority of the document.

Fundamentally, urban design is designing in a way that is sensitive to the social, environmental, economic, and temporal context yet this guide promotes an approach and standards that are claimed to be relevant for all situations. The inclusion of ranges in many of the criteria is presumably aiming to allow for universal application but this simply confuses the guidance. It would be much better to provide specific guidance for different situations, while still allowing for variations if a convincing rationale, that is a better outcome, is provided.

It is important the Policy succeeds in the first few years and can expand over time to other development types with relevant and high-quality urban design guidance that is suitable for the specific condition and location.

Recommended change:

The SEPP should start with a more tightly defined application to greenfield residential subdivision or medium-high density infill projects, and later widen to other applications with their own targeted guidelines and provisions. Consider using sub-categories to refine criteria, acceptable solutions and targets to enable more contextual responses.

6 Urban design misrepresented as a separate process

Urban design is described as a separate process, unlinked to industry or planning processes. Urban design should be explained and embedded in the overall process as a coordinating discipline within multi-disciplinary design teams clearly linked to formal pathways and industry standard milestones.

The most effective role urban designers can play is often to challenge, coordinate and coalesce the activities of disparate disciplines with a focus on ensuring effective, well-designed places. This occurs when urban designers are equal partners in the main game: the multi-disciplinary project processes and production of documentation. Urban design is not a separate process.

In the Urban Design Guide, the description of an ideal urban design process is thorough and theoretically correct but fails to show when or how it relates to the standard project milestones or planning processes. The idealised but unattached design process has been a fatal flaw of similar attempts to introduce design methods into existing industry practices. Despite the intention for urban design to lead and synthesize an outcome, without the explicit matching to formal pathways and coordination to other disciplinary deliverables (e.g., engineering, architecture, economics, statutory planning) it is likely that any 'urban design process' will be diminished and occur as a separate, subordinate and substantially less influential activity.

Refer to previous comments about the potential role of Urban Design Verification Statements

Recommended change:

Redraft the urban design process chapter to show how and when urban design methods integrate with planning and development pathways, inform key decision points and coordinate deliverables with multi-disciplinary design teams.

Details of Signatories from the Urban Design Group NSW

UDGNSW Recognised Urban Designers

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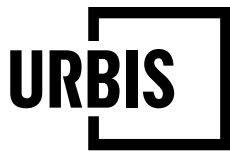
Philip Thalís LFRAIA Professor of Practice (fractional) UNSW, ex Councillor City of Sydney

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25 March 2022

Ms Abbie Galvin
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Dear Abbie,

DESIGN & PLACE POLICY PACKAGE - SUBMISSION

Thank you for the opportunity and the time extension to make a submission to the the Design and Place Policy Package, incorporating the *draft State Environmental Policy (Design and Place)* (DP SEPP) and supporting documentation.

Urbis is well placed to consider the proposed policy and the practical application of the draft provisions. We have worked closely with our clients and other industry stakeholders to discuss the aims and impacts of the draft package.

Overall, Urbis supports and encourages policy change for better design and amenity, provided that the new policy does not form another layer in an already complex planning system. Pleasingly, many issues of concern we identified previously in the EIE have been addressed in this draft policy. We thank the DPE for the level of stakeholder discussion over the last year to further resolve issues.

Urbis supports the proposed:

- Design and Place principles
- More contextual assessment for better outcomes on the ground
- Streamlining the ADG objectives and a paring back concerning changes following consultation
- Improving BASIX and increasing sustainability targets

To be effective, Urbis believes that any new policy must foster adaptive and responsive development within time efficient and streamlined processes. We are concerned that the draft policy package will bring a weight of prescription, an over-abundance of guidance and a layering of complexity. We continue to question if the draft DP SEPP can provide the balance required between flexibility and certainty to achieve the desired design and place outcomes.

The following are our key concerns and suggested recommendations to improve the outcomes.

Layering and complexity

Application of the DP SEPP

The DP SEPP package specifies that it aims to simplify the way that we plan for and design places, and to reduce complexity in the planning system. Conversely, we believe the package adds layers and increases the complexity, without assuring a better design outcome.

In the draft DP SEPP, there are 40 new requirements to be satisfied that the 5 design principles have been met. The policy package comprises 120 pages of new design guidance, incorporating new design verification and design panel review processes. We believe that these will only add to lengthen the pre-lodgement process, require more documentation and result in a longer, more complex assessment process.

The proposed broad application of the DP SEPP may result in lengthy and costly assessment of developments that may not warrant such a detailed design consideration such as developments in industrial zones and minor development on land over 1 hectare. We remind you that design considerations will not be abandoned on these sites as they are still considered under relevant Development Control Plan (DCP) provisions.

We anticipate the DP SEPP in its current form will result in application preparation and assessment delays for the next few years as both industry and consent authorities grapple with the implications of the relevant principles, considerations and Guides.

Recommendation

1. *Revise the application of the DP SEPP to add exclusions to reduce the anticipated load on development assessment, including the following:*
 - *Development in IN1 and IN2 Industrial zones*
 - *Minor alterations and additions to development on land greater than 1 hectare*

Prescription overrules flexibility

Design Principles and Considerations in the DP SEPP

A principle-based approach intends to provide consistency in design while encouraging greater creativity and innovation. However, this is a significant shift from the current planning framework and will likely sit uncomfortably within an entrenched NSW system of prescription and regulation.

The draft DP SEPP embeds 5 separate jurisdictional aspects requiring the consent authority to be satisfied before consent can be granted. The many design considerations are required to be met by all development regardless of if they are only relevant to a particular land use. Some of the considerations required the consent authority to be 'satisfied' This is not establishing a flexible policy framework. We think the abundance of design provisions and the need to be 'satisfied' in the DP SEPP will not avoid the usual strict 'design by compliance' approach currently practiced.

Prolific wording in the draft policy further embeds the prescriptive approach and there are many terms used that will be difficult to establish or are vague and would no doubt lead to further examination through challenges in the Land and Environment Court. For instance, clause 16 requires consideration of whether development detracts from the 'desired character of the area', yet this may be difficult to

establish. A recent Gateway review decision for Randwick Council clearly identified that there is no Department-endorsed statutory pathway to include Local Character in the LEP.

Recommendation

2. *Reduce the number requirements under each Design consideration in the DP SEPP*
3. *The design considerations should be amended to remove:*
 - *quantitative requirements that require prescription*
 - *the need to be 'satisfied' in clauses 17, 22 and 23 as these should be considerations.*
 - *vague or disputable wording that could be difficult to interpret in assessment or easily challenged through Land and Environment Court*

Assessment of Development in the DP SEPP

The Policy attempts to introduce some flexibility through a test for alternative solutions that require a neutral or more beneficial outcome to be achieved. The risk is that a new 'high bar' for alternative solutions will involve detailed and lengthy technical assessment. We anticipate assessing authorities will revert to primarily focus on the quantitative components. There is also the concern that a consent authority may only consider alternatives to individual criteria or guidance, rather than if a better outcome can be delivered for the entirety of the development or neighbourhood.

Overall, we support the continued application of the Apartment Design Guide (ADG) to *residential development* and appreciate that the amendments to the ADG will go in some way to reduce some of the issues that have recently prevailed. However, we anticipate some new impacts will arise from the detailed quantitative guidance for alternatives approaches that could easily be interpreted as prescription, further reducing flexibility.

The application of the Urban Design Guide (UDG) urban *design development* is excessive in its reach and requirements. It currently applies across land uses, geography and various development stages and the quantity of guidance is onerous for applicants and assessors. We believe that this document could be phased in and at first, apply to less development types or only at the DCP and masterplan stage. Further stakeholder consultation on the purpose and reach of the UDG will be beneficial.

Overlaps and inconsistencies remain with design guidance between the UDG and other supporting or practised documents. For example, there is still inconsistency between the application of open space criteria applied through the UDG, *Greener Places* and the quantitative benchmarks used by many Councils. Good open space guidance was established through *Greener Places*, but the proposed UDG prescription will limit the effectiveness of that policy. These types of inconsistencies need to be resolved through further consultation

Recommendation

4. *Revise the wording for the requirement to 'achieve a neutral or more beneficial outcome than meeting the design criteria and design guidance' in draft clauses 24 and 30 to ensure it is not interpreted as the single criteria, in the ADG and UDG, needing to be individually achieved to a higher or more beneficial standard, rather than the development as a whole.*
5. *Remove quantitative standards in alternative design guidance in the ADG so as to reduce prescriptive assessment*
6. *Limit application of the UDG to fewer development types and /or to the preparation of development control plans and masterplans.*
7. *Undertake further consultation with stakeholders to determine the relevance and application of the UDG*

Design review process is already stretched.

Design review requirements in the DP SEPP

Design review provides the means for flexibility in design and opportunity for innovation. Urbis is concerned that when design review process applies to a greater pool of development there will be significant delays through an overloaded system and a limited capacity for expansion.

Council appointed DRPs are highly variable, owing to level of capability, time to review material and their alignment with council staff. It's our experience that these panels often operate to drive compliance rather than to facilitate good design.

The Draft Local government DRP Manual allows for multiple reviews pre-lodgement and potential referral during the assessment of the DA post approval. The Manual introduces clear timeframe expectations, but we are doubtful that they can be achieved. We have experienced delays with the State Design Review Panel (DRP) of up 4 months.

We are also concerned that there the proposed definition of an 'urban designer' excludes those specifically trained in urban design. Urbis has a national Urban design practice of over 100 designers comprising experts in Urban Design, Landscape Architecture and Visual Impact Assessment, leading some of Australia's most significant precinct and master planning. Most of these senior design professionals would not meet the definition of Urban Designer in the draft DP SEPP. With the additional requirement for Design Verification Statements, and the ineligibility of such a significant portion of existing Senior Urban Design Professionals, this anomaly would result in significant roadblock to great design outcomes. The proposed definition does not recognise:

- formal university qualifications in urban design which are the foundation of many Urban Design professionals formal training and specialist urban design skillset.
- that many architects and landscape architects involved in master planning projects are providing specialist inputs at a larger scale / precinct scale in relation to architecture or landscape architect aspects of the project however are not necessarily qualified or experienced in providing urban design advice.
- the multi-disciplinary expertise and leadership role an urban designer takes in overall precinct and master planning projects.

Recommendation

8. *Reduce the quantity of developments requiring Design Review*

9. *The definition of an 'urban designer' in the EP&A Regulations be amended to:*

Urban Designer means any of the following with at least 8 years' experience in leading the multi-disciplinary coordination and leadership in preparation of relevant precinct or master planning projects:

- a) *a professional with tertiary qualifications in urban design; or*
- b) *a qualified town planner, landscape architect or architect (or other suitable qualified professional as demonstrated in the design verification statement)*

Impact on development feasibility and housing affordability

Recent Productivity Commissioner reports stress that for NSW to be globally competitive it needs to both urgently address housing affordability and be a highly productive economy. Both are high agenda for Government and have informed recent planning reforms. Reducing red tape, streamlining processes, and increasing supply are crucial. The DP SEPP may well contradict that reform.

Business and Industry are choosing to locate in other states due to rent hikes, shortage of supply and complexity in the planning system. The introduction of more assessment layers and delays for new developments in these sectors will continue to drive them away.

We believe that the summary document of the Cost Benefit Analysis, currently on exhibition with the package, has limited value in understanding the distribution of costs and benefit. How this Policy impacts housing affordability, office rents, industrial rents, and responsiveness to market changes, are key to understanding whether the policy will support NSW's bid for global competitiveness. Without this information it's difficult to assume that the Policy fits well with planning reform - particularly when we anticipate more complexity, less certainty and increased time and cost in design review and assessment.

Recommendation

10. *Provide the full report of the Deloitte Access 'Proposed Design and Place State Environmental Planning Policy: Cost Benefit Analysis' for public review to understand the impacts on housing affordability.*

Conclusion

The DP SEPP package must fit in smoothly with the existing framework and not impose significant cost and delay to industry through uncertainty and inconsistency. We strongly support and advocate for good design outcomes and agree that a Design and Place policy is important for NSW. However, in its draft form it could be too prescriptive and require too many new processes to be implemented. This may not result in the preferred outcome of better design but result in pressures on an overloaded system and reduced investment in NSW

Our team at Urbis would be very pleased to engage further with you to discuss this submission and our findings. Please do not hesitate to contact me for clarification or discussion on any of the points we raised.

Yours sincerely,

A handwritten signature in black ink that reads "Stephen White".

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Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Saturday, 26 February 2022 11:50 AM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: basix-dp-sepp-submission_viridian.pdf

Submitted on Sat, 26/02/2022 - 11:48

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

Name

First name

Anthony

Last name

Gunther

I would like my submission to remain confidential

No

Info

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Please provide your view on the project

I am just providing comments

Submission file

[basix-dp-sepp-submission_viridian.pdf](#)

Submission

Viridian is please to submit feedback regarding the State Environmental Planning Policy (Design and Place) 2021 (DP SEPP) in the attached document.

I agree to the above statement

Yes

Viridian makes this response to the *Design and Place SEPP 2021* consultation and, while many aspects of the draft reforms are moving NSW planning framework towards being increasingly future oriented, we are concerned with aspects of the proposed changes:

1. The omission of some north coast homes and midrise apartments from the 7-star trajectory: Improvements in the thermal envelope have been long delayed and much needed, and while the department points to the findings of the ACIL ALLEN cost-benefit modelling as the basis of the exclusion. We would encourage the government to review this position after a detailed review of the consultation RIS responses, as it is widely felt in industry that quantitatively the CRIS underweights the benefits and overweight the costs of the proposed changes, whilst equally ignoring the many qualitative benefits of improved comfort, health, and wellbeing these changes will deliver.
2. The inclusion of an embodied carbon measure in the draft without clear guidance to how it is calculated within BASIX is of great concern and should not proceed without improved consultation, engagement, and review. Based on the information provided to date, we have been unable to identify or understand how the methodology will meaningfully or accurately calculate the nearly infinite types and sources of framing materials, glass, window and glazed door configurations produced and used in our industry and then, in turn, how this information will be used to drive meaningful improvements in the built environment without indirectly penalising essential building elements such as windows and the need of residents to access natural light and ventilation.
3. The use of the EPIC database as a default for quantifying these measures. Hybrid Analysis (HA) embodied carbon analysis methodologies like EPiC, load up, or burden, embodied carbon measurements with a range of metrics that are not only arbitrary but that are out of the control of the manufacturer. As a result, EPiC creates a strong disincentive for manufacturers to improve their performance because no matter what they might achieve, the externalities employed in the EPiC methodology will always punish them. Equally, it is concerning that the methodological basis of EPIC is essentially a black box arrangement, using hidden and proprietary algorithms, and not independently verified, there is no way for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes through other means.
4. We are concerned by figure 4. in the **NSW Sustainability in Residential Buildings** document. It appears installing a 1KW solar system negates the need for optimised performance and location of windows. – surely you cannot ‘game’ away amenity this way, how is this best practice? The potential energy generation of a 1KW solar system would be less than the energy used to heat and cool the home from poor window performance.

Improved window insulation works all year round, not just when the sun is shining.

5. In the **NSW Sustainability in Residential Buildings** document point 7. states. **How can developers and homeowners meet the higher standards?**

Developers and homeowners can choose from a range of measures to meet the proposed higher thermal performance and energy standards as part of the design for development approval. Measures* for a typical home to meet the higher standards may include:

- installing more insulation, improving the performance and location of windows, as well as using good air flow, shading and sunlight to cool and heat homes naturally.

Sadly, this is not the case, homeowners are largely ignorant of the performance benefits these products (including windows) bring to a building or the way they fit into the compliance framework. Furthermore, homebuilders build projects that meet minimum compliance, this is by selecting the cheapest construction method with the cheapest materials.

What's the problem?

There are currently minimum thermal performance requirements for building fabric elements; these include roofs, walls, and floors with the exception of windows. There needs to be minimum thermal performance requirements set for all building fabric elements including windows.

Aluminium sliding windows incorporating non-coated single glazed glass has an equivalent resistance level of R0.15, the wall surrounding this can be up to R2.7. We struggle to understand how a modern Australian home can be built in 2022 and beyond and still use the worst possible window performance available whilst still meeting 7-star compliance.

Sadly, windows are a product that can be manipulated through design. Currently the National Construction Code enforces a minimum window to floor ratio of 10%. Most new homes have window to floor ratios of 18-20%, there is significant room that allows for window areas to reduce to achieve 7-star compliance at the detriment of occupant amenity.

Window size and performance (single or double glazed) plays a critical role in this assessment. Depending on the location and size of windows will determine what performance is required. Windows are seen to be the single largest influence of heat loss and gain in Australian homes, yet they are the only building element without a minimum performance requirement.

Daylight and thermal efficiency must be built into the building envelope including the glazed areas as 40% of all energy use in residential homes is in controlling temperature (i.e., keeping it warmer or cooler). This is a significant number.

Energy efficiency is not putting solar panels on the roof or adding a ceiling fan. By maintaining the occupied space at comfortable levels and reducing the need for mechanical devices to heat or cool sets a strong foundation of efficiency. As a result, appliances will be smaller, used less and therefore require significantly less energy generation. (Or even fewer solar panels needed to power them). We support the need for residential construction to achieve a minimum 7-star rating, but they should also come with improved window performance that has a minimum performance value.

What are others doing?

Countries such as the USA, India, China, New Zealand, and the European Union have all adopted policies around minimum window performances. These markets have removed the ability of 'gaming' or 'value engineering'. New Zealand's Building Code will this year set a max window U_w for any climate zone of 2.7 W/m². K.

Australia is seriously lagging on global emission reduction commitments. Failure to adopt better performing window systems when the rest of the western world has had them in place (in many cases for decades), and proactively making them more stringent, will be seen as a further signal that we are not joining the rest of the advanced global community in improving building efficiencies, which have such a large role in reducing carbon emissions.

Setting minimum performance levels works hand in hand with the trajectory to net zero buildings as it is relatively simple to update over time to drive improvement in the thermal envelope of buildings.

What are we asking for?

We can sum this up in one word - **Leadership**.

In late 2021 the HIA provided a seminar to its members on how to achieve 7-star construction by targeting what they term 'low hang fruit'. They demonstrated that they could achieve a 7-star home in Sydney by gaming. That is, increase the eaves slightly and installing some extra insulation on the bathroom and laundry walls. In some cases where better windows were required, one strategy would be to reduce the window sizes to meet compliance.

New South Wales should have a robust framework of minimum performance criteria for residential windows rated to suit various climate zones across NSW. More than 80% of windows installed in NSW today are the same performance as they were in the 1960's and 70's, this cannot be considered best practice.

These outcomes significantly impact the amenity and comfort level of the occupant and do nothing to drive investment to the local economy or address the broader climate emergency we are facing.

We ask that the NSW Government consider adopting a policy around minimum window performance. Become a leader amongst governments to ensure best practice is driven around occupant amenity, meeting our carbon reduction targets whilst not trading out adverse outcomes based on cost.

Closing Commentary

Moving forward, Viridian is keen to be part of future work groups and can share more detailed performance data, innovation developments and market trends in usage. We believe our unique insights, extensive knowledge and industry expertise is invaluable to this process.

I am happy to be contacted directly to further explain or clarify any of the items in this feedback.

Regards

Anthony Gunther

Markets & Industry Manager

Viridian Glass

E: agunther@viridianglass.com.au

About Viridian

Since 1856 we've been supplying glass products. In that time, we've helped shape the way Australians think about glass, from being just a functional building product to something that adds value to our homes and our lives.

Today, we are the largest glass processor in Australia, employing more than 550 people across 13 locations in 5 states.

We continue our passion for glass by leading the industry for quality and innovation - supporting our customers and the wider community in accessing and understanding the benefits of choosing better glass for our homes and buildings. Simply – We Love Glass

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 2:55 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: weathertex-submission.docx

Submitted on Mon, 28/02/2022 - 14:51

Submitted by: Anonymous

Submitted values are:

Submission Type

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Please provide your view on the project

I object to it

Submission file

[weathertex-submission.docx](#)

Submission

Submission Attached

I agree to the above statement

Yes

April 12, 2022

NSW Department of Planning, Industry, and the Environment

Re: Consultation on Draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper

Weathertex Pty Ltd welcomes the opportunity to make a submission to the NSW Department of Planning, Industry, and the Environment (DPIE) on its draft NSW Design and Place SEPP (Sustainability in Residential Buildings) 2021 Paper.

This submission will focus on the *Sustainability in Residential Buildings (BASIX Overview)* document, specifically the section dealing with a Materials Index. We support in-principle the inclusion of a Materials Index within BASIX, although an effective recording framework for materials needs to be further developed and any limitations for developers addressed. However, on Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document, the following statement is made: “Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.” This proposed aspect of the design of the Index is of significant concern and is not supported for the reasons detailed below, including it would disadvantage our domestic manufacturing compared to imported building products which will continue to use existing ISO standards and Environment Product Declarations (EPDs).

In December 2021, the Building Products Industry Council (BPIC) wrote to the NSW Minister for Planning and Public Spaces, Minister Stokes, detailing the building products industry's concerns about the EPiC database being used inappropriately as an embodied carbon measurement tool by the NSW Government.

Principally our concerns relate to the NSW Government’s proposed use of Input-Output (I-O) or Hybrid Analysis (HA) LCA methodology, such as contained in the EPiC database produced by the University of Melbourne. The use of the I-O or HA methodologies is seen as inappropriate in individual embodied carbon studies of products or buildings, and will lead to many unintended and perverse problems in the construction sector.

I-O or HA economic based data in the EPiC database are not appropriate for comparative assessment of building products or constructed dwellings and their use will give inconsistent and much higher values compared to the current and internationally recognised 'process-based' LCA methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

Use of the I-O or HA (via EPiC) methodology might seem appealing, easy to use and backed by university research, but the method is intended for single country national impact economic focussed assessments - **it is not intended for individual product or project based environmental impact assessments.**

The use of I-O or HA approaches (via EPiC) rather than process based EPD information for building products within schemes like BASIX will have significant unintended outcomes, such as:

- **Preferentially advantaging imported building products** that utilise process based LCA methodology credentials based on EPDs and ISO standards) over local Australian products (which will have significantly higher HA LCA approach (via EPiC) credentials that are not based on EPDs and ISO standards).
- If adopted widely, the HA LCA approach (via EPiC) data will **greatly over-report NSW's embodied carbon figures for building products compared to other Australian and overseas jurisdictions**, for example:
 - For softwood timber the EPiC HA value of Greenhouse Gas Emissions is 549 kgCO₂e/m³ compared to 181 kgCO₂e/m³ using the internationally agreed EPD-backed process method of calculation (3 times as much).
 - For plasterboard the EPiC HA value of embodied energy is 0.44 kgCO₂e/kg compared to 0.096 kgCO₂e/kg using the internationally agreed EPD-backed process method of calculation (4.6 times as much).
- **Undermining all the work and huge investment** that building product suppliers have expended to comply with international carbon measurement standards and develop EPDs. Weathertex has completed EPDs through Global Greentag for all of their Natural and Pre Primed external cladding products.

I-O or HA approaches (via EPiC), significantly increase embodied carbon measurements with a range of metrics that are not only arbitrary, but that are out of the control of the manufacturer. This perversely creates a strong disincentive for manufacturers to improve their environmental performance, as no matter what they might achieve, the externalities employed in the EPiC methodology will always disadvantage them.

These I-O or HA methodologies are complex and black box arrangements using hidden and proprietary algorithms, and not independently verified, so it is extremely difficult if not impossible for a manufacturer, government regulator, or any other third party to scrutinise the process or accurately duplicate the outcomes.

Weathertex Pty Ltd urges the NSW Government and the BASIX administrator to not pursue the proposed I-O or HA approaches (via EPiC) but rather adopt the current and internationally recognised 'process-based' methodology that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs.

If you have any queries on this submission, please contact Russell Stuart at rstuart@weathertex.com.au

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 2:02 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: wpv-submission---dp-sepp-basix-28-feb-2022.pdf

Submitted on Mon, 28/02/2022 - 14:00

Submitted by: Anonymous

Submitted values are:

Submission Type

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Please provide your view on the project

I support it

Submission file

[wpv-submission---dp-sepp-basix-28-feb-2022.pdf](#)

Submission

See Attached Document

I agree to the above statement

Yes



Submission to the – *NSW Design and Place SEPP 2021* Consultation

Submission by

wood
products
victoria

28th February 2022

28th February 2022

NSW Department of Planning, Industry and Environment
Design and Place 2021 (DP SEPP) Public Submission Group
NSW Government



To Whom it May Concern

Wood Products Victoria Ltd (WPV) welcomes the opportunity to make a submission as part of this consultation process on the new State Environmental Planning Policy (*Design and Place*) 2021 (DP SEPP) and supporting guides and particularly the '**Sustainability in Residential Buildings**' guide and the proposed changes to the NSW Building Sustainability Index (BASIX) process.

WPV is an industry technical organisation that addresses technical-promotional-market related issues and activities to protect existing, or to develop new, wood products market opportunities on behalf of the Victorian wood products industry. WPV regularly engages with national and state government agencies, regulators, product representative associations, and building professionals including architects, building designers, engineers, building surveyors and builders.

WPV fully supports the broader Australian native and plantation forestry and wood products industry, which produces sustainable, renewable, certified, local, softwood and hardwood timbers and value-added manufactured products, that collectively through their consumer use play a significant role in assisting to deliver a low carbon future and combating climate change – '**WOOD**' *truly is The Ultimate RenewableTM* material.

Support of the New NSW BASIX Proposal

Wood Products Victoria (WPV) fully supports the federal Government and its minimum residential energy efficiency regulations, and its new *Trajectory for Low Energy Buildings* - a national plan that aims to achieve zero energy and zero carbon-ready buildings, as a core focus of the ABCB and the Australian, state and territory governments' strategies to improve energy productivity and **reduce greenhouse gas emissions**. WPV also fully supports the proposed new changes to by the NSW State Government's BASIX assessment scheme as described in the current DEP SEPP '**Sustainability in Residential Buildings**' guide.

Whilst WPV does support the NSW Government's Proposed increases for energy and thermal performance standards, this submission will not focus on the overall DP SEPP 2021 policies, it will instead focus only on the **Sustainability in Residential Buildings (BASIX Overview)** document, and specifically the section dealing with the proposed new **Materials Index**.

WPV fully supports the inclusion of a Materials Index within BASIX, in fact it is a concept WPV has been advocating for, for over a decade; as clearly one cannot keep increasing the Star level performance of a residential building (5, 6 7Star, 8, 9?) and expect that this can be achieved just in '*improving the performance of the building envelope*'. Clearly other GHG - CO₂e reducing measures, that can also be counted within the Star measure are needed, ie better appliances, and *particularly embodied CO₂ impacts of materials*. So, NSW should be congratulated on being ahead of the game here and leaders in this recognition of the embodied impact of different residential building materials. But it needs to be done correctly. As the DP SEPP Overview guide itself states: "**Consider the cost of bad design** – *Better design doesn't have to cost more, but the cost of bad design can have significant long-term safety, economic and societal impacts...*"

Significant Specific Concern with the New NSW BASIX Proposal

There is a particular fundamental aspect of the proposed process of ‘**how the Materials Index will work**’ that is of considerable concern to WPV, and the broader building products sector.

It has the potential, if left uncorrected, to produce very severe and unexpectedly perverse negative GHG-CO₂e outcomes as explained herein, rather than improving the residential building material CO₂e outcomes that this new policy change is trying to achieve.

On Page 10 of the *Sustainability in Residential Buildings (BASIX Overview)* document, the following statement is made:

“Default factors for embodied emissions of materials will be based on the well-recognised EPiC database.”

The building products industry's has significant concerns about how the emission factor data provided in the EPiC database might be unwittingly and inappropriately used as an embodied carbon measurement tool by the NSW Government.

The EPiC Database, developed by the University of Melbourne's School of Design was developed under an Australian Government Australian Research Council program over 2015-2019. Its aim was to provide open-access data on the environmental flows associated with construction materials, particularly, embodied energy, embodied water, and embodied greenhouse gas emissions. The project is acknowledged in the work it did in making very readily, and easily utilised publicly available data on these flows on both its website ([EPiC Database](#)) and the hardcopy manuals they printed and circulated.

Simply because of this ease of public open-access and easy-to-use single number factors available, many new ‘embodied carbon’ focussed initiatives interestingly have started to reference the EPiC database.

The fact is that the EPiC database provides three different lifecycle process calculation approaches to produce its environmental flow- factors, these are

1. **Process-based approach (PA)**
2. Input-output approach (I-O), and
3. Hybrid (H) Factor – which is a combination of the PA and I-O approach factors

For the carbon emission assessment of individual building products, or full building constructions, as proposed by BASIX, only the Process-based approach (PA) should be used.

A ‘**Process-based approach**’ (PA) is the globally accepted practice for the assessment of product and buildings. PA's are based on agreed international standards and methodologies, that allow product manufacturers to undertake their life cycle inventories, that are then published in globally accepted and independently verified Environmental Product Declarations (EPDs). This allows the true and fair assessment of local and/or imported products, and construction assemblies (buildings) – effectively ‘apples with apples’. Process-based life cycle inventory (LCI) data, of which carbon emissions are one factor, and EPD data are used by all the major LCA software tools (Ecoinvent, Gabi, Simapro, eTool, etc), and green rating schemes, and also by pretty much all LCA practitioners in Australia and internationally.

Concerns with the use of Input-Output Approaches for Products and Building Assessment

Input-output approach (I-O) approaches are not appropriate for individual product or building assessments, though the I-O process can be useful for high-level, single country, national, top-down, economic impact focused assessments.

The I-O approach is NOT used widely by LCA practitioners in Aust or globally. Furthermore, a large number of product sectors have major questions around the veracity of some of the macro-economic data that produces highly unusually variable I-O results for many products. These questionable I-O results are then combined with the EPiC 'process-based' data to provide a so-called 'Hybrid' output, which is again highly questionable and misleading for many products due the questionable accuracy, and currency, of the economic data component.

I-O & Hybrid data is not based on international standards, nor verified by any independent third-party bodies. There was also little or no involvement from Australian building industry sectors or companies in creating the Australian 'I-O or hybrid' data, nor is it supported at present by the Australian buildings products sectors – *see sperate submission from the Building Products Innovation Council (BPIC) and many of its members.*

The correct '**process**' based approach needs to be used when assessing building materials used in homes. The following example illustrates the 'material production embodied Greenhouse Gas CO₂e impacts' for the three different carbon assessment approaches for residential timber framing products used in average sized single (211m²) and double storey (280m²) homes, and the vastly different results they generate.

House Type	'Process-based' carbon calculation	'Input-output-based' carbon calculation	'Hybrids-based' carbon calculation
Single-storey Home <i>Timber frame on conc slab, floor size 211m², utilises 11m³ of softwood framing</i>	'Process -based A1-A3 GWPF (kgCO ₂ e) = 157 kgCO ₂ e/m ³ Total embodied material CO ₂ impact ^{1**} = 1.7 tonnes CO₂	'EPiC I-O -based A1-A3 (kgCO ₂ e) = 598 kgCO ₂ e/m ³ Total embodied material CO ₂ impact = 6.6 tonnes CO₂ (380% higher)	'EPiC Hybrid -based A1-A3 (kgCO ₂ e) = 549 kgCO ₂ e/m ³ Total embodied material CO ₂ impact = 6.0 tonnes CO₂ (350% higher)
Double-storey Home <i>Timber frame on conc slab, floor size 280m², utilises 17m³ of softwood framing</i>	'Process -based A1-A3 GWPF (kgCO ₂ e) = 157 kgCO ₂ e/m ³ Total embodied material CO ₂ impact ^{**} = 2.7 tonnes CO₂	'EPiC I-O -based A1-A3 (kgCO ₂ e) = 598 kgCO ₂ e/m ³ Total embodied material CO ₂ impact = 10.2 tonnes CO₂ (380% higher)	'EPiC Hybrid -based A1-A3 (kgCO ₂ e) = 549 kgCO ₂ e/m ³ Total embodied material CO ₂ impact = 9.3 tonnes CO₂ (350% higher)

The above comparison clearly illustrates the negative perverse Greenhouse Gas CO₂e outcomes that could unwittingly be assumed if the incorrect data is improperly used for residential timber framing products.

^{1 **}Note: the above values are **embodied Greenhouse Gas CO₂e impacts for the production** of these products from forest harvest to sawmill gate – they **do not include the biogenic carbon that is actually stored in the wood products** – each m³ of Aust sawn softwood stores approx. 885Kg of CO₂, therefore the single storey house above stores approx. 9.3 tonnes of CO₂ and the double storey house above stores approx. 14.3 tonnes of CO₂.

- The correct 'process-based' calculation gives figures of approx. 1.7 and 2.7 tonnes of embodied material CO₂e impact for the single and double storey houses respectively.
- The 'input-output' and 'hybrid-based' calculation gives figures 380% and 350% higher emission values for the single and double storey houses respectively

NOTE: this misrepresentation of building product carbon emission impacts when an 'Input-Output' or 'Hybrid' approach is used rather than the proper 'process-based' approach is also similar for many other Australian building products.

For the carbon emission assessment of individual building products, or full building constructions, as proposed by BASIX, only the Process based approach (PA) should be used. If the EPiC Input-Output/Hybrid based data were to be used this would **greatly over-estimate NSW's embodied carbon figures for building products.**

(by example: assuming conservatively: 40,000 new NSW starts, using just the average single-storey home wood volume value (11m³) missing the I-O/H data would inflate the actual annual CO₂ impact - just for the timber framing impact - by 172,000-210,000 tonnes CO₂ per annum – so utilising the quoted BASIX 12.5 tonnes CO₂ per house, this equates to between 14,000-19,000 homes misrepresented. These figures would obviously increase when all the other home building materials were also included, not just the timber framing).

Recommendation 1:

WPV urges the NSW Government and the BASIX administrator to recognise and endorse 'process-based' carbon emission data (not Input-Output or Hybrid emission data), and a 'process-based' methodology, that is most widely used, globally accepted, based on agreed ISO standards, and reported through independently verified and registered EPDs, for the proposed BASIX Materials Index calculation.

NOTE: if the NSW Govt knowingly chose to ignore the reality of the LCA methodology assessment position, and support the use of the EPiC Input-Output/Hybrid based data, this would be seen as knowingly **invalidating all the work and the multi-millions of dollars of investment** that the Australian building product suppliers have expended over the past two decades to comply with international carbon measurement standards and to develop their respective industry generic and product specific Environmental Product Declarations (EPDs).

Different building product sectors may then feel the need to explore the legal and cost ramifications of this NSW Govt position. A very negative and perverse outcome when recognising and acknowledging that the Australian building product sectors had already illustrated their positive intent, and financial commitment in investing in EPDs and full life cycle assessment processes over the past two decades - long before the very recent fixation on embodied carbon impacts.

Other questions & comments on 'How the Materials Index will work'

It is noted under Point 2 (p10) that it states that *"The home's embodied emissions must not exceed a BASIX score of 12.5 tonnes CO₂ per person for houses"*

– however, there is no explanation here as to how many people are assumed per house – would the planning permit have to stipulate how many people the house was built for? How would this be practically implemented for 'spec' homes which are sold after construction? Is it just adults or would children also be included? This approach also does not differentiate between the size of the dwelling, or the dwelling size vs inhabitants.

Recommendation 2: This approach of 'CO₂ limits per person, per house', needs better clarification.

It is also noted under Point 2 (p10) that it states **"The 'home's embodied emissions"**

– what is included in this description? Is it just the basic home construction materials? Or is at all materials that go into a home? Does it include the impact from fittings & fixtures, carpets and furnishings, solar panels, batteries, etc, or appliances? Does it include the landscaping and building materials and vegetation.

Recommendation 3: A much clearer and unambiguous description of what is actually to be included in the 'homes embodied emissions' calculation needs to be provided and assessed.

It is noted that Point 4 (p10) addresses the question of **"Do I need to use the default factors?"** and it states *"In most cases, yes. However, if your material isn't included in the BASIX materials index you can use the BASIX alternative assessment process to submit information verifying the emissions factor of your material."*

- What is the **"BASIX alternative assessment process"** and where is this explained?
- Why is the use of this **"BASIX alternative assessment process"** only available to materials that *"aren't included in the BASIX materials index"*? if the products to be used are known and readily available, and better, more accurate materials carbon emission factors are available in specific product Environmental Product Declarations (EPDs), or recognised 'process-based carbon emission' databases, why can't these be used?

Recommendation 4: The BASIX alternative assessment process should allow any more accurate product Environmental Product Declarations based carbon emission factors to be used where relevant.

Thank you for the consideration of this submission. We trust that the questions raised in this Submission and the recommendations provided will be further explored and appropriately acted upon

If you have any questions or require any further information regarding this submission, please contact **Dr Alastair Woodard** at woodard@wpv.org.au.

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 4:43 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: overall-submission-aed-ltr-pub-rev3-final.pdf

Submitted on Mon, 28/02/2022 - 16:41

Submitted by: Anonymous

Submitted values are:

Submission Type

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Please provide your view on the project

I support it

Submission file

[overall-submission-aed-ltr-pub-rev3-final.pdf](#)

Submission

WSP supports the policy package but suggests critical changes where the package could be improved, as detailed in the attached letter.

I agree to the above statement

Yes



Our ref: Overall submission AED-LTR-PUB Rev3 Final

Your ref: AED-CSP-P&P

By e-Submission
designandplacesepp@planning.nsw.gov.au

28 February 2022

Public

Abbie Galvin
Government Architect NSW
Department of Planning and Environment
4 Parramatta Square
PARRAMATTA NSW 2150

Dear Abbie

Draft Design and Place SEPP Package

We are writing in support of the Design and Place SEPP policy package, and in particular:

- the introduction of principles for the assessment of designs
- new sustainability targets for non-residential development
- higher targets for residential development
- design guidance for public spaces, and
- setting expectations for urban design development with the proposed Urban Design Guide.

There are several areas where we believe the package could be improved, and we suggest the following critical changes. We have also provided a detailed analysis and commentary on each of the documents in the exhibition package in the appendix. Acronyms have the same meaning as in the documents on exhibition.

1. General

We understand from the FAQ that the draft Greener Places Design Guide (GPDG) is to be regarded as a reference tool only, and thus that it may not be published as a final guide. We value the level of information contained in the GPDG and it would be beneficial if this was finalised in some other form and retained within the SEPP policy package (such as a manual under the UDG). The final GPDG could be cross-referenced to the UDG for ease of use (for example how to create the “connected network” of public space in Objective 1).

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

A review of the Exempt and Complying Code SEPP (E&C SEPP) is required to align complying development with the intent of the DP SEPP package, particularly the design considerations of the SEPP, ADG and UDG design criteria, to the extent that they apply.

2. DP SEPP

Precedents Clauses 24(3)(b) and 30(3)(b), while intended to enable consent authorities to consider alternative solutions without fear of setting precedent, may have the opposite effect of enabling developers to use previous development as precedent, but prevent councils from creating their own line of thinking. These clauses should be redrafted – see the Appendix 1 for suggested wording.

Sustainability There is an urgent need to decarbonise, and while higher BASIX targets and new non-residential sustainability targets are proposed, these do not go far enough. In particular:

- Clause 29(3) should exempt councils who can demonstrate how higher targets are cost-effective due to their circumstances (such as by an IPART review of the cost-effectiveness of their targets), rather than an absolute prohibition.
- Non-residential development in Schedule 1 should be reviewed every 3 years as with BASIX, and consideration should be given for expanding the definition of ‘non-residential development’ at the same time, so that a regime for all new buildings can come into force

Car parking The intent of clause 33 to enable development to reduce parking by preparing a green travel plan may have no practical effect if it remains at councils discretion to accept them. Rather than the drafting of clause 33(2) limiting council’s discretion to approve Green Travel Plans, it should explicitly override lower parking rates. The latter is key for reducing oversupply in areas of high transport accessibility as represented by PTAL 6. Clause 33(2) should also be redrafted accordingly. There is also a conflict between clause 32(3)(a) and clause 33 which should be resolved by adding a cross-reference to clause 32(3)(a). See Appendix 1 for proposed wording of both clauses.

3. EPA Regulation

The definition of “urban designer” is too narrow and excludes the emerging profession as distinct from planning, architecture and landscape architecture. Similar to “landscape architect” (b), there should be an inclusive definition such as “(d) a person with an urban design or similar qualification and at least 5 years’ experience in precinct or master planning or urban design”.

The requisite components of a master plan or DCP are not clearly set out in the Urban Design Guide. To do so in the UDG and/or Regulation, Schedule 1 would also reduce uncertainty as to the outputs that guide requires, and thus litigation. Appendix 1 sets out a potential list for the Regulation, and Appendix 2 contains detailed analysis of various urban design framework layers derived from the Objectives.

4. ADG

The ADG could go further in addressing both environmental and social resilience. The draft ADG deep soil (and thus tree canopy) may not be sufficient to contribute to urban cooling, and provision may fall in practice once decoupled from common open space (if, for instance, the open space is provided on roofs). The provisions for family-friendly apartments and study rooms also have not flowed through to the apartment size criteria and that may create a barrier to implementation.

On social resilience, more could be done to encourage engagement and collaborative design with the community and cultural groups, particularly ATSI peoples. A mandate on the provision of affordable and/or social housing could also be added, particularly given the Greater Sydney Region Plan estimates a 5-10% ARHT to be viable in Greater Sydney (p70). In general, there could be more discussion around affordability which housing diversity does not necessarily translate into. A whole conversation on cost of living is required, which design can support by minimising energy costs, maximising amenity and proximity to services and social infrastructure.

Conversely some design criteria have remained that ought to have been revised. The design criteria around building separation (O1.2) could be replaced with guidance on privacy and the drafted text on outlook (O2.9), and the car parking non-discretionary standard (1.6) should permit lower parking rates using a Green Travel Plan from s33 of the DP SEPP, as noted above. A holistic approach to micro-mobility would also be preferable to separating bike parking and mobility scooters in different chapters. More guidance could be provided for mixed use buildings (O1.4).

5. UDG

It would be preferable to clarify which components of master plans / DCPs are required outputs, distinct from suggestions. We recommend that Section 3.3 lists the essential and optional requirements, as well as Schedule 1 of the Regulation codifying the minimum elements.

We value the focus on public spaces but the UDG could place more importance on understanding needs, engaging with user groups and conducting human centred design approaches. Ultimately, the success of public spaces is not measured by physical attributes, but rather by how it is activated, used and loved, sometimes in many different ways, by communities.

Appendices 2 and 3 of the UDG do not fully capture all the guidance in the draft GPDG, and consideration should be given to finalising the GPDG, perhaps as a manual under the UDG.

Yours sincerely



Melinda Hewitt
National Director Strategy, Community and Place



Sara Stace
Director, Cities



Marc Lane
Principal, Cities



Sophie Le Mauff
Associate, Social Strategy & Outcomes



Lucy Burgmann
National Executive, Social Strategy & Outcomes



Steve Rossiter
Director, Social Strategy & Outcomes

APPENDIX 1

Detailed Comments

Acronyms have the same meaning as in the documents on exhibition:

1. DP SEPP

a) Drafting

- Definitions (6,7) – the meaning of ‘urban design development’ and ‘non-residential development’ in clauses 6 and 7 should be clarified as “for the purposes of this SEPP”, as they are too narrow to be used generally in the planning system.
- Maps (11) – the PTAL map referenced in 33(1) appears to be missing.

b) Design principles and considerations (Part 2)

- Greater clarity is needed on the place of the principles and considerations in 12(1) and (2) beyond the mandatory matters for consideration in 14 – 23. Could the principles and considerations explicitly frame strict non-compliance with standards on the one hand, or to require design modifications to an otherwise compliant building on the other? An explanatory note, template SEE/EIS or design guide could provide long form principles, address the stated ambition of the SEPP to simplify and streamline the planning system, and tackle subjective decisions around domains like “beauty”.
- Alternatively, mandatory matters for consideration (14-23) should be redrafted to focus on the broader intent, of which the sub-clauses are only elements, for example:
14 The consent authority must consider whether overall the building demonstrates design quality, with particular reference to – ...
15 The consent authority must consider whether the development is comfortable for, inclusive of, and contributes to the health of, people in the development and surrounds, with particular reference to whether – ...
- Resilience and adapting to change (22) should include man-made hazards. It is unclear how social resilience is considered. Adaptation to change could be strengthened, for example requiring development to have regard for a specific future climate period.
- As per our comments on the ADG below, clause 18 could be amended to include a mandate for minimum affordable and/or social housing provision, noting the Greater Sydney Commission’s (GSC) work on a 5-10% target.

c) Assessment (Part 3)

- **Sustainability** WSP strongly supports the introduction of non-residential sustainability standards as well as higher BASIX residential sustainability standards in the SEPP. We also support the review cycle of 3 years set out in clause 28, and suggest a similar clause is added in respect of Schedule 1.
- However, clause 29(2) that renders competing provisions void should be reconsidered to enable councils to go further where it is cost-effective to do so. Some jurisdictions or building types are able to support higher targets, and a similar exception should apply to 29(3)(b), perhaps after they go through a specified process such as IPART review.
- **Precedent of Alternative Design Solutions** We understand the intent of clauses 24(3)(b) and 30(3)(b) is to ensure that alternative solutions on one development do not become

precedents for other developments. The clause may not achieve this intent. It may, for example, prevent the consent authority from considering precedent where they wish to do so, but not limit the applicant's use of previous developments as precedent in the subject application. We propose that the Department add a general clause that sets the legal effect, and also enable consent authorities to choose to use these as precedents or not, at their discretion, as follows:

— **24(3)(b) Objectives of the Urban Design Guide [and 30(3)(b) likewise]**

(b) consider, in its absolute discretion, whether an alternative design solution from another development can be taken to meet the objectives of the Urban Design Guide ~~only~~ in relation to the particular development application.

— **34 Alternative Design Solutions Specific to Development**

Consent to an alternative solution under clauses 24 and 30 are specific to the development for which consent was granted, unless otherwise specified by a consent authority in accordance with clauses 24(3)(b) and 30(3)(b).

d) Car parking (Division 4 – Miscellaneous)

We understand the core intent of clause 33 is to enable lower parking rates in PTAL 6 areas to be accessed by industry through the mechanism of a Green Travel Plan. Lower parking rates are a key planning tool in minimising induced demand for traffic, and supporting public transport. The PTAL mechanism ensures these locations are well aligned to transport accessibility and is supported. However the mechanism as drafted may not achieve this aim.

There is a conflict between clause 32(3)(a) and clause 33 which does not appear to be intentional. If the intent is that apartment development can access green travel plans to reduce their car parking requirements, which is both beneficial to industry and to government in reducing parking oversupply, then clause 32(3)(a) should include a cross-reference to 33, such as:

32(a)(iii) the minimum amount of car parking determined in accordance with clause 33.

Clause 33(2) also appears to limit council's ability to approve less parking than in a DCP, rather than enabling industry to access less parking than in a DCP as of right. The clause should be redrafted in a similar form to clause 31 to enable rather than prohibit, ie:

*33(2) A provision of a development control plan that specifies a minimum car parking requirement has no effect in circumstances where a plan (a **green travel plan**) that complies with subclause (3) has been prepared by a qualified transport planner or traffic engineer.*

2. EPA Regulation

a) Urban Designers: the definition of "urban designer" is too narrow and excludes the emerging profession as distinct from planning, architecture and landscape architecture. there should be an inclusive definition similar to 'landscape architect' (b), such as "(d) a person with an urban design qualification and at least 5 years' experience in precinct or master planning".

b) EV Charging: there are a range of EV charging options and clause 99 appears to contemplate fast charging as the default (12+kWh), needing load-balancing of electricity through DB boards. The cost of fast chargers also appear behind the 10% requirement in 99(3)(b). Trickle charging for EV, however, not only has a lower impact on the electricity grid, but requires no more infrastructure than a standard 10amp GPO at the head of each car park. A standard GPO also allows other forms of charging, including mobility scooters and e-bikes. We strongly recommend that clause 99 is recast to require 100% of car parks have access to trickle

charging, and focusing requirements for a distribution board and a % ‘facility to charge electric vehicles’ for fast or rapid charging only.

- c) **Master Plan / DCP Layers:** it would help clarify the intent of the UDG if the minimum components of a master plan or DCP derived from the Urban Design Guide were set out here. This would also reduce uncertainty as to the outputs that guide requires, and thus litigation. We suggest Schedule 1 includes a similar list for DCPs as those that are required of DAs, for example:

- *A description of the strategic alignment [case for change], vision, principles, response to design review and the design for resilience summary*
- *Place analysis, including opportunities and constraints, and the land area suitable for development*
- *A reference scheme, scenarios, and the preferred design [in plan, section, model and visualisations]*
- *An urban design framework of the preferred design, with listed layers [see Appendix 2].*
- *Relevant downstream development controls, including tree canopy and deep soil targets, and solar access to public space,*

3. ADG

- a) **Objective 1.2 – Built form and siting:** the separation distance design criteria in Table 1.2.1 are proxies for privacy (on lower levels) and outlook (on upper levels). Separation at lower levels is often in tension with creating street walls and defining spaces (including barrier buildings as described in Figure 2.8.1), and perimeter block forms would be improved if this was replaced with guidance, or an alternative design solution, that recognised other methods of achieving privacy such as screens, sill heights, angled windows and the like (as Figure 2.9.1 appears to anticipate). This may also provide incentive for lower rise apartments as yield on lower floors may be greater.

Outlook, conversely, is subject to new and detailed design guidance in 2.9 Visual Amenity, and greater emphasis should be placed on this objective (especially a view to the outside environment) and the skyline guidance in 1.2, in lieu of strict distance controls in 1.2.1, as illustrated below:



Prioritising distance vs outlook

- b) **Objective 1.4 – Relationship to the street:** the design of mixed-use buildings remains undeveloped from ADG2015 to the present draft. Significantly more guidance could be given to when a non-residential ground floor use is desirable, particularly in residential infill where there is a lack of shops, schools, supermarkets or public facilities within 15 – 20 minutes’ walk, as set out in the UDG. The size and design of these various types of ground floor use should be provided with its own guidance at the same level of detail. Common issues with ground floor design such as raised ground floors above parking or floorplanes and the placement of fire services, substations and other utilities could be dealt with here, and a

percentage of active frontage expectation set. Sleeving guidance is also required if this is to be permitted under the ADG (previous prohibitions having been removed) – the UDG recommends a minimum 9m depth.

- c) **Objective 1.5 Green Infrastructure:** an assessment is required of whether the deep soil and canopy cover targets in Table 1.5.1 can achieve urban cooling required for NSW to be resilient to the future climate, especially the projected number of hot days. The decoupling of deep soil and common open space, together with these targets, may reduce rather than increase deep soil and tree canopy. The latter would contradict the principles of the DP SEPP. For comparison, the Western Sydney Aerotropolis, which has been the focus of urban cooling research ([draft DCP Table 8, article](#)), has a target 50% pervious area for residential (and 55-60% for employment), while the ADG deep soil targets are only 10-15%. In terms of cost-benefit analysis, cost savings of mechanical cooling avoided should be considered.
- d) **Objectives 1.6 Parking and 2.10 Storage:** as set out in the DP SEPP section above, this non-discretionary standard should recognise the ability of developers to reduce their parking requirements through a Green Travel Plan in PTAL 6 areas. This would also allow developers to reduce the cost of development in areas where there is oversupply.

There is a potential ambiguity between 1.6 and the guidance in 2.10 regarding storage for mobility scooters and electric wheelchairs. It is preferable to consider micromobility more holistically in 1.6 (e.g. bicycles, scooters and mobility scooters), and limit storage in 2.10 to bulky goods as intended.

- e) **Objective 2.2 Communal Space:** a site density approach to common space is a more nuanced approach than in ADG2015. The flexibility in the guidance for communal space above 25% of the site area to be provided as indoor space is welcomed. Therefore, it would potentially be better drafted as a minimum *common space* target of 8sqm per person, ideally to be provided as open space up to 25% of the site, rather than a cap.

Regarding open space which is publicly accessible, we welcome the inclusion of publicly accessible open spaces in development. However these should not only be designed adequately but also managed and activated in a manner that encourages a range of uses at all times. Minimum sizes could be suggested in the ADG to prevent small unusable pockets. It should also be made clear that providing these spaces does not replace broader contributions to open space.

- f) **Objectives 2.3 Apartment Mix, 2.4 Apartment Configuration:** the desire for family friendly apartments and study rooms in 2.3 is in tension with the minimum bedroom sizes of 9 and 10sqm, with a minimum dimension of 3m, a limit (rather than criteria) of 1 study room per apartment, and larger bedrooms only as an ‘alternative design response’. As with additional bathrooms in the O2.4 design criteria, a 7sqm study room should be a requirement where a desk cannot be accommodated elsewhere. Consideration should be given to guiding the dBA target for study rooms in 2.3, given the current guidance (*interim guideline - development near rail corridors and busy roads, 2008*) only distinguishes between bedrooms (35dBA) and other habitable rooms (40dBA).

We support the provision of housing that responds to needs. We would also support the inclusion in the ADG (and in the SEPP instrument as previously mentioned) of a mandate for a minimum provision of affordable and/or social housing. In the case of redevelopment projects, new apartments may also be displacing older – more affordable – housing types. There could be a rationale that any new development should ‘break even’ to ensure that any previous resident can afford to continue to live on this site with a similar dwelling type.

We also note the missed opportunity in the ‘alternative design responses’ to provide design guidance on mixed tenure developments, to minimise stigma and support social interaction, noting that this happens in open and shared spaces, not within individual apartments.

We support the consideration of proximity to services and social infrastructure, as an important factor of overall cost of living. Residents in social/affordable housing have an even greater need for proximity to public spaces and facilities, public transport, shops and essential services.

Overall we think the ADG could include a discussion around affordability and what supports it. Housing diversity is only one aspect of affordability, but in many cases small apartments are often more expensive on a per square metre basis. We also think, noting the alternative design responses, that it is important to prevent the trade off between amenity and affordability. All residents regardless of tenure need the same levels of amenity (e.g. private open space, ventilation, solar access) – noting again the association between energy efficiency and affordability.

4. UDG

- a) **Objective 3 Density:** the term “high frequency public transport” should be aligned to PTAL 6 for consistency with the SEPP. There is a risk of the lower 15dw/ha target being watered down by being a minimum *average* density – if 15dw/ha is the minimum serviceable density, then it should either be set as a minimum density, or a higher minimum *average* density should be adopted to ensure that notwithstanding variation, density is generally above 15dw/ha. Victoria now has a target of residential densities in growth areas of more than 20dw/ha (Plan Melbourne 2017, Policy 2.2.5) with average densities already 18dw/ha. This figure of 20dw/ha would be a more appropriate minimum average density in NSW outside centres and high frequency public transport, so that the minimum average density flexed in a manner that delivers above 15dw/ha in most areas.
- b) **Part 3:** it would be preferable to clarify which components of master plans / DCPs are required outputs, distinct from suggestions. For example, in Objective 12 public open space sizes (and their catchment under Objective 5) are design criteria, and so one might reasonably expect an urban design framework to require a public open space plan indicating these elements. It is less clear whether the 50% solar access to those public open spaces also in Objective 12 needs to be mapped, or a DCP control drafted, or spatial analysis of proposed massing is required. We recommend that Section 3.3 lists the essential and optional requirements, as well as Schedule 1 of the Regulation codifying the minimum elements.
- c) **Greener Places Design Guide:** the UDG does not fully encapsulate the content of the draft GPDG, and the remaining content of the GPDG could be finalised as a manual under the UDG. Finalisation would also enable the recommendations of the GPDG Consultation Report (Feb 2021) to be incorporated including:
 - i. Standard definitions for contentious terms, such as the definition of a ‘tree’, with particular attention given to ensure that trees delivered on major projects are fit for purpose (eg: street trees with a clear stem over 2.1m) and replacement trees are genuinely like-for-like.
 - ii. Articulating the benefits of green infrastructure, including monetary benefits for business cases. A NSW Government-endorsed standard methodology such as iTree or CAVAT (UK) would be helpful to support green infrastructure retention in major projects.

- iii. A review of the performance-based metrics – provided that the review is informed by sustainable environmental outcomes such as canopy required to mitigate urban heat. See above for our comments on the insufficiency of metrics in the draft ADG; and
 - iv. the creation of Model clauses for LEPs and DCPs, to standardise and simplify delivery of green infrastructure and avoid discrepancies across council boundaries (for example by regulating site cover vs softscape, trees vs deep soil vs open space etc).
- d) **Community values, health, and wellbeing:** we appreciate the recognition of health and wellbeing as an important outcome of good design. We suggest that there are opportunities in the UDG to link back to the Department of Planning and Environment’s (DPIE) *Social Impact Assessment Guideline* and the NSW Department of Health’s *Health Impact Assessment Practical Guide*, in the same manner than a link to DPIE’s *Public Spaces Charter* (the Charter) is made in Section 1.2 or to the Coastal Council’s *Coastal Design Guidelines* in Objective 4. We think this could be integrated as part of a new ‘social and community values’ objective, in the same manner as Objective 4 focusing on ecological values.
- e) **Public spaces:** we recognise and strongly support the Government Architect’s continued efforts to provide design guidance for the planning and master planning of public spaces. We have identified the following areas for improvement:
- i. **Public space is for people:** beyond design, the success of a public space is about how well it is used and valued in the long term. While we understand that a UDG focuses on design methods and outcomes, we think there could be a broader acknowledgement of other necessary steps that are required to support long term activation of future spaces, through understanding existing and future needs, user groups and local interests. We do not think that aligning with local strategies can replace the preparation of adequate needs assessment and conduct of comprehensive engagement, as currently suggested in Objectives 12.4 and 14.1. Understanding human behaviours through a human centered design approach should be an integral part of open space planning.
 - ii. **Public spaces for day and night time:** there is an important emphasis throughout the UDG on shading and tree canopy, which is a crucial aspect of addressing urban heat and providing comfort for users. While night time use is briefly mentioned in Objective 13.2, we think that design criteria or considerations could be added to support and encourage night time use of public spaces.

Public facilities: we value the inclusion of public facilities in the UDG. However the contents of Objective 14 do not seem to provide the same level of detail as other ‘public space’ objectives. We think there is a missed opportunity to provide State guidance on facility size, catchment and hierarchy. We do acknowledge that community facility planning is a broad practice with many standards and population benchmarks, and significant differences between councils. Collaboration with the industry could result in helpful State guidance.

We understand the UDG’s intent to provide guidance for the three streams of public spaces as defined in the Charter, however much of the design guidance in Objective 12 could also apply to public facilities. We suggest that the Public Space section be restructured with one broader objective for *open space* criteria (i.e. public open space and private open space), one objective for *streets* and one for *social infrastructure* including public and open spaces (in lieu of ‘public facilities’). This would allow to further strengthen guidance around shared uses, flexibility and connectivity.

- iii. **Shared uses:** we suggest that there could be stronger emphasis made on shared uses of facilities and open spaces, with a clearer position on open space sharing between schools and the community.
- iv. **Objective 12:** public open space. We support:
 - The UDG’s network and diversity approach that recognises the importance and value of different types and sizes of open spaces that serve different purposes and are connected within an active transport network.
 - The consideration of residents and workers
 - The significance of waterways as important ‘blue infrastructure’
 - The inclusion of riparian corridors as open spaces: we fully support the consideration of natural areas and riparian corridors as valuable open space (useable portions only). However we suggest that the 10% maximum proportion described in Appendix 2 contradicts point 3 in Step 5 of Appendix 2 ‘linear parks could become local or district parks and linear parks combined’. As long as space is usable at all times by the community, these riparian areas can represent 10% or more of the total provision of public open space.

We note the following areas for improvement:

- Emphasis on overall provision: we agree that the traditional 2.83ha /1,000 people does not work in every context and may be outdated. We support the provision of clear and definitive guidance. We are however unsure that a blanket 15% provision would achieve this, and this may also create unnecessary grounds to provide less rather than more. The 15% requirement is not supported by any explanation or rationale, and we think that this provision may not work in every context particularly in low compared to medium/high density contexts. For example, a 30ha site would require 4.5ha of open space, regardless of future density which could create a future community of 3,000 or 10,000 people? We suggest that more evidence could be provided and tested as part of workshops with the industry.
- We also think that the spirit and human emphasis of the GPDG and particularly *Open Space for Recreation* guidelines and performance-based approach do not appear in the new UDG. Beyond quantity, these provided performance indicators, including walking distances, hierarchy guides, design ideas for various recreation types, which all represented much welcome guidance in open space planning. We have seen the public and private sectors embrace GPDG and we think that there is a place in the UDG to retain much of this guidance.
- Median and minimum size: we think that providing significantly different median and minimum sizes in Objective 14 provides grounds to provide less rather than more.
- Small/pocket parks every 200m: while we recognise the importance of small parks in city/street activation, clarify that low density areas do not need to provide these. If not we think this has may lead to potentially unusable and/or non-activated spaces.
- Active open space: it is unclear whether active open space is incorporated as part of the 15% requirement. In any case, there is missing guidance regarding active open space, including adequate distance to users, hierarchy and catchment size, facility size, design criteria. One of the biggest challenges in open space planning is active recreation, particularly sporting fields, and this is an area that requires significant State guidance.

APPENDIX 2

Documentary Requirements of the Urban Design Guide

The Urban Design Guide implies that the following documents are required or suggested for master plans or DCPs. It is not clear on its face which of these documents are required or merely suggested, and we suggest this risks confusion, and tension between councils and applicants which will ultimately need adjudication in the Land and Environment Court. To avoid this, documentary requirements should be clarified and key elements should be captured in the Regulation, Schedule 1 to distinguish them from guidance in the UDG. Documents alluded to in the Urban Design Guide [square brackets indicate elements that appear optional] include:

1. The case for change, vision and principles, (response to design review), design for resilience summary
2. Place analysis,
3. opportunities and constraints and [thus the] land area suitable for development*
4. Reference scheme
5. [2?] scenarios
6. The preferred design, as an urban design framework with the following layers:
 - a) [Site location and] unique characteristics including Country, coastal zones and areas of high ecological value, [view and vistas, breezes];
 - b) Urban Structure / Walkable Neighbourhoods including centres, [shops, schools, public transport nodes], 400/800m catchments, and connectors [and night-time economy areas, infrastructure corridors];
 - c) Transport / Movement and Place including public transport stops/stations and their catchments, cycling [and key local walking] routes, key nodes, trip generators and destinations, key [freight] corridors;
 - d) Water management [including water quality, detention and WSUD];
 - e) Heritage [European and Aboriginal, tangible and intangible];
 - f) Land use, showing gross residential densities [and sensitive land uses];
 - g) Public open space, showing catchments to small, local and district parks [and tree canopy cover, location of sports and recreation areas] and public facilities in accordance with a needs assessment, and an indication of the total percentage of public open space.
 - h) Street network [indicating maximum block lengths and mid-block connections, target speed zones, cycle facilities] and typical street sections with indicative tree canopy cover [and species], dwell space [and street enclosure ratio];
 - i) Lot subdivision plan, with indicative setbacks and heights, [scale and massing, datums] and active frontages
7. DCP controls [maximum block length where streets are indicative, maximum car parking rates, consolidated access and integrated infrastructure, deep soil / tree canopy cover targets, solar access, materials, renewable energy and technology requirements]

*Land area suitable for development may differ depending on land use – for example residential or sensitive land uses may be unconstrained lands within transport and walkable neighbourhood catchments but not directly adjacent to busy roads or rail (due to noise and air constraints). Some ecological land may be suitable for development but only in one form (e.g. Environmental Living). Commercial may be most suitable confined to centres, and may be adjacent to busy roads and rail, see below. This may be assisted by segmenting ‘land area’ into ‘areas’ with more guidance, or through a definition in the Glossary of the UDG.

Submitted on Mon, 21/02/2022 - 18:45

Submitted by: Anonymous

Submitted values are:

Submission Type

I am submitting on behalf of my organisation

1 Name

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Last name

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I would like my submission to remain confidential

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Suburb/Town & Postcode

melbourne

Please provide your view on the project

I am just providing comments

Submission

Dear team at NSW Gov,

Its very exciting to see that you're jumping into the embodied carbon space.

However, it is a little concerning about the use of the input-output method.. The description of the weaknesses of the IO method and the hybrid approach entirely misses the mark.

There is a whole bunch of issues in the database. I'd be more than happy to sit down with your team and go through it.

Note for example, no portland cement is included in the greenhouse gas emissions of concrete. This is over 8% of the world's emissions and will be entirely missed in the IO approach, and discounted in the hybrid method. Same goes for the chemical reaction in the creation of steel. Not sure if you were aware of this?

I could go on and on about it. Suppliers have invested significant amounts of resources into EPDs which has a thorough review of the supply chain and offers areas of improvement. The numbers from EPDs and the IO method are not even close; out by a factor of 10 x most of the time. The amount of error in the approach is astounding and needs to be sorted out before it gets used for real projects.

Hoping to have a meeting so you can hear this perspective out.

I agree to the above statement

Yes

Claire Krelle

From: noreply@feedback.planningportal.nsw.gov.au
Sent: Monday, 28 February 2022 9:37 PM
To: PDPS DRDE Design and Place SEPP Mailbox
Cc: DPE PS ePlanning Exhibitions Mailbox
Subject: Webform submission from: The Design and Place SEPP 2021
Attachments: draft-design-and-place-sepp-xylology-submission.pdf

Submitted on Mon, 28/02/2022 - 21:35

Submitted by: Anonymous

Submitted values are:

Submission Type

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Geoffrey

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Cronulla

Please provide your view on the project

I am just providing comments

Submission file

[draft-design-and-place-sepp-xylology-submission.pdf](#)

Submission

Please find attached a submission on behalf of Xylology Arboricultural Consultancy.

I agree to the above statement

Yes

28 February 2022

Re: Comments – Draft Design and Place SEPP and supplementary documents.

Thank you for the opportunity to provide comments on the Draft Design and Place SEPP. As a Consultant Arboriculturist working within the Sydney region I fully support the canopy percentages that are outlined within the Apartment Design Guide (ADG) and Urban Design Guide (UDG). These canopy targets present as realistic, achievable and a considerable step towards providing genuinely sustainable urban environments. However, my primary concerns with the current processes within tree management in relation to development are as follows;

- a. Assessment of the existing tree population is often not undertaken – or undertaken far too late in the development process, or not undertaken by an AQF Level 5 Consulting Arborist.
- b. Preliminary Arboricultural Assessment (AS4970) is not undertaken prior to the initial design stage and accordingly design professionals are not armed with the resources that would assist them to provide urban and residential designs incorporating existing tree canopy. As a direct result, far too many existing trees that have long life expectancy are removed for development.
- c. There should be direct and tangible incentives provided to developers to retain existing trees and canopy.
- d. Prioritising canopy replacement over retention results in a 10–20-year lead time to recover any meaningful canopy coverage.
- e. In many instances trees that are determined for retention in the development are not afforded the appropriate industry standards to ensure their ongoing viability.
- f. At completion of the development there is often no verification of consent relative to trees; or there is no project Arborist appointed for scheduled visitations through the development and verification of requirements relative to the trees is not possible or poorly applied.

To that end, I provide the following areas where I believe the Draft documentation can be improved or strengthened.

Concern	Document reference if relevant	Comment
1. I support the canopy targets.	UDG Objective 10 ADG 1.5 Green Infrastructure	I support a <u>minimum canopy target of 20%</u> and higher as stated.
<p>2. I note that achieving canopy targets is more readily achieved and sustained by retaining existing trees, particularly trees with longer useful life expectancy (ULE), in preference to removing existing trees and planting new trees.</p> <p>3. I believe it should be emphasised that maintaining existing canopy is far more effective in sustaining and increasing canopy than removing existing trees and planting new trees.</p>	<p>ADG page 30</p> <p>UDG – Objective 10.1</p>	<p>Included.</p> <p>UDG does not include the detail on this issue that the ADG does. This needs to be included in UDG.</p>
4. A requirement for Preliminary Arboricultural Reports, as defined by <i>AS4970</i> (utilise most recent version) <i>Protection of Trees on Development Sites</i> , to be incorporated to inform the design process about high and medium retention value trees that should be considered and retained whenever possible.	<p>DP SEPP Section 15 Design Consideration -Comfortable, inclusive and healthy Spaces (a)</p> <p>UDG Objective 10 and UDG Part 3 Implementing good urban design practice Section 3.3 – 1. Design Preparation Page 88</p>	<p>Increased emphasis on the retention of existing tree canopy to promote passive cooling as part of DP SEPP Section 15 (a).</p> <p>Preliminary Arboricultural Reports as defined by <i>AS4907</i> as the specific mechanism to meet Design Considerations (a) and (b) within DP SEPP Section 20 - Design Consideration – Green Infrastructure. Specific Evaluation of the existing tree population needs to be included to make clear to all parties this is a key part of the considerations. Existing canopy coverage is estimated or calculated – and any gap clearly identified.</p>

Concern	Document reference if relevant	Comment
5. I believe that the Urban Design Guide and Apartment Design Guide should require retention of high and medium retention value trees as the preferred outcome. Only where it can be verified to the satisfaction of the Determining Authority that there are no options that will facilitate tree retention should removal and compensatory tree planting be considered.	UDG – Objective 10.1	<p>Section 10.1 states</p> <p><i>Prioritise the retention and protection of existing tree canopy over removal and replacement of trees to achieve canopy cover.</i></p> <p>I would like to see this strengthened.</p> <p><i>Only where it can be verified to the satisfaction of the Determining Authority that there are no options that will facilitate tree retention should removal and compensatory tree planting be considered.</i></p> <p>The proposed mechanism would be the mandating of Preliminary Arboricultural Reports.</p>
6. A requirement for Arboricultural Impact Assessment Reports to i) demonstrate that any development impact upon trees being retained will not compromise their structural integrity or ongoing viability, and ii) provide recommendations that ensure the effective protection during development and management during and after development of trees being retained.	UDG Part 3 Implementing good urban design practice Section 3.3 – 3- Design delivery	<p>In accordance with AS 4970 <i>Protection of Trees on Development Sites</i>.</p> <p>This is the broadly accepted industry document utilised to ensure tree protection and retention on development sites.</p>
7. Consideration of and adherence to the <i>Australian Standard Protection of Trees on Development Sites AS 4970</i> - (utilise most recent version) <i>should</i> be incorporated into the UDG.	UDG Part 3 Implementing good urban design practice Section 3.3 – 1. Design Preparation	<p>The standard gets a quality mention in ADG – page 30 but only a brief mention in the Glossary of UDG – definition of a tree.</p> <p>UDG needs to be strengthened and similar to ADG.</p>

Concern	Document reference if relevant	Comment
<p>8. Proposals to achieve specified canopy targets should include the period over which the canopy target shall be achieved. For example, if canopy is reduced from 15% to 8% as a result of the removal of existing trees, and tree planting to achieve 20% is proposed, it is fundamental that the period required to achieve the 20% is stipulated. It is recommended that the proposed shall be able to achieve the specified canopy targets within 10 to 20 years. However, fast growing short-lived species should not be used to achieve this.</p>		<p>Assuming canopy targets will be a condition of consent – at what point in time will the condition of consent be required to be met – growing trees take decades to reach maturity. There needs to be a process 12 months or 2 years from occupancy certificate to verify the planted trees (and any existing retained trees) are growing and likely to meet the consent conditions.</p> <p>The proposed development should not have less canopy coverage at the completion point of the development that existed prior. The overall process needs to have a checking or audit review – verification of requirements.</p>
<p>9. Definition of an Arborist. I recommend that wherever “Arborist” is referenced within the document that this be replaced specifically with “Consulting Arborist” and the definition be expanded to a Consulting Arborist having a qualification standard AQF Level 5 and an accredited membership with a national body requiring ongoing professional development.</p>	<p>Apartment Design Guide 1.1 Site and Context Analysis.</p>	<p>In order to prevent confusion, provide consistency and to ensure the highest standard of design guidance,</p>
<p>10. Apartment Design Guide 1.5 Green Infrastructure. Under Tree Canopy, this section states “<i>It is best practice to: Replace canopy through sufficient new tree planting</i>”.</p> <p>I believe that <i>best practice</i> involves the retention of existing tree canopy. I recommend the rewording of this section to not prioritise canopy replacement over retention.</p>	<p>Apartment Design Guide – 1.5 Green Infrastructure</p>	<p>As previous comments to this effect.</p>

Concern	Document reference if relevant	Comment
11. Apartment Design Guide 1.5 Green Infrastructure. Under Retaining Trees, reword the section that states <i>“Have existing trees assessed by an arborist to ascertain safe usual life expectancy (SULE), structural root zones (SRZ) and tree protection zones (TPZ).”</i> To include the requirement for the preparation of a Preliminary Arboricultural Report as defined by AS4970 by a Consulting Arborist (definition as above).	Apartment Design Guide – 1.5 Green Infrastructure	Required to ensure consistency in the standard and effectiveness of reporting and prevent confusion in reporting requirements. The reporting requirements are already defined by the Standard.
12. Apartment Design Guide 1.5 Green Infrastructure. The Retaining Trees section includes the requirement to have the existing trees assessed (should be Preliminary Arboricultural Report as above) however there is no mechanism within this section to determine which trees will remain viable to be retained under the proposed development. This mechanism should be the preparation of an Arboricultural Impact Assessment Report (AIA) as defined by AS4970 prepared by the Consulting Arborist.	ADG – 1.5 Green Infrastructure	Refining this mechanism for determining the viability of existing trees to remain will provide consistency of this assessment against an existing Standard. Inclusion of this requirement for the AIA could be incorporated within the section that currently states, <i>“Show trees for retention and removal on site plans and other relevant drawings; include the TPZ of retained trees.”</i> . The AIA would include all of this information.
13. I am concerned that the design criteria of the Apartment Design Guide 2.6 Sunlight, Daylight, Shade and Thermal Comfort may be used to justify and prioritise removal of existing trees.	Apartment Design Guide 2.6 Sunlight, Daylight, Shade and Thermal Comfort	Recommend inclusion of a requirement to accommodate the shade patterns of existing trees within the design.
14. Apartment Design Guide 3.1 Energy Efficiency – Greater emphasis of the contribution of existing tree canopy cover for passive cooling.	Apartment Design Guide 3.1 Energy Efficiency	This emphasis of the role of existing tree canopy in passive environmental cooling and energy efficiency can be repeated within BASIX and other relevant sections of the document.

Concern	Document reference if relevant	Comment
15. Apartment Design Guide A2.2 Site and Context Checklist. I recommend refining the section that states <i>“For major trees on the site, as well as street trees and adjacent property trees close to the shared boundaries, identify species, location, height, diameter and relative levels (RLs) at base of trunk”</i> to include the requirement for a Preliminary Arboricultural Report as defined by AS4970. This should be repeated within the <i>“Landscape, Trees and Planting”</i> section.	Apartment Design Guide A2.2 Site and Context Checklist	This will streamline the requirement and provide consistency in this reporting by pinning the reporting to an existing industry wide accepted Standard.
16. Consistency between the Apartment Design Guide (ADG) and Urban Design Guide (UDG).		I recommend that the design criteria outlined in items 10 to 16 above be included and incorporated within the UDG as well as the ADG.
17. In recognition of the role that existing tree canopy cover plays in passive environmental cooling and temperature moderation, I propose the inclusion within the BASIX system the retention of existing tree canopy cover.	BASIX	This requirement could take the form of undertaking a Preliminary Arboricultural Report as well as Consulting Arborist reporting and advice on the provision of shade and passive temperature moderation.
18. New developments should ensure minimum shade for footpaths, cycleways and outdoor car parking areas. Recommend a minimum of 50%.	Draft SEPP, Section 19	
19. 12 months is an inadequate period for management of new trees. 5 years is recommended to ensure that the new trees are properly established. New trees may struggle through 12 months, even one or two years.	Draft SEPP, Section 20 (c)	

Concern	Document reference if relevant	Comment
<p>20. New subdivisions should provide verges sufficiently wide to accommodate soil volumes to support medium and/or large species trees. Driveway crossovers should be single car widths for single detached dwellings so that maximum verge space remains for soil volume and root growth.</p>	<p>add to Draft SEPP, Section 20 or as appropriate.</p>	

Regards,

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