

18 August 2022

At 5.00 pm

Central Sydney Planning Committee

Agenda

1. **Disclosures of Interest**
2. **Confirmation of Minutes**
3. **Matters Arising from the Minutes**
4. **Post Exhibition - Planning Proposal - Performance Standards for Net Zero Energy Buildings - Local Environmental Plans and Development Control Plan Amendments**
5. **Post Exhibition - Planning Proposal - 2 Chifley Square, Sydney - Sydney Local Environmental Plan 2012 and Sydney Development Control Plan 2012 Amendment**

Disclaimer, Terms and Guidelines for Speakers at the Central Sydney Planning Committee

As part of our democratic process, the City invites members of the community to speak directly to committee members during Central Sydney Planning Committee meetings about items on the agenda.

Webcast

In accordance with the *City of Sydney Code of Meeting Practice*, Central Sydney Planning Committee meetings are recorded and webcast live on the City of Sydney website at www.cityofsydney.nsw.gov.au.

Members of the public attending a Central Sydney Planning Committee meeting may have their image, voice and personal information (including name and address) recorded, publicly broadcast and archived for up to 12 months.

Consent

By attending a Central Sydney Planning Committee meeting, members of the public consent to this use of their image, voice and personal information.

Disclaimer

Statements made by individuals at a Central Sydney Planning Committee meeting, and which may be contained in a live stream or recording of the meeting are those of the individuals making them, and not of the City. To be clear, unless set out in a resolution of council, the City does not endorse or support such statements.

The City does not accept any liability for statements made or actions taken by individuals during a Central Sydney Planning Committee meeting that may be contrary to law, including discriminatory, defamatory or offensive comments. Such statements or actions are not protected by privilege and may be the subject of legal proceedings and potential liability, for which the City takes no responsibility.

Guidelines

To enable the committee to hear a wide range of views and concerns within the limited time available, we encourage people interested in speaking at the Central Sydney Planning Committee to:

1. Register to speak by calling Secretariat on 9265 9702 or emailing secretariat@cityofsydney.nsw.gov.au before 10.00am on the day of the meeting.
2. Check the recommendation in the committee report before speaking, as it may address your concerns so that you just need to indicate your support for the recommendation.
3. Note that there is a three minute time limit for each speaker (with a warning bell at two minutes) and prepare your presentation to cover your major points within that time.
4. Avoid repeating what previous speakers have said and focus on issues and information that the committee may not already know.
5. If there is a large number of people interested in the same item as you, try to nominate three representatives to speak on your behalf and to indicate how many people they are representing.

At the start of each Central Sydney Planning Committee meeting, the Chair may reorder agenda items so that those items with speakers can be dealt with first.

Central Sydney Planning Committee reports are available at www.cityofsydney.nsw.gov.au

Item 1.

Disclosures of Interest

Pursuant to the provisions of the City of Sydney Code of Meeting Practice and the City of Sydney Code of Conduct, Members of the Central Sydney Planning Committee are required to disclose pecuniary interests in any matter on the agenda for this meeting.

Member of the Central Sydney Planning Committee are also required to disclose any non-pecuniary interests in any matter on the agenda for this meeting.

This will include receipt of reportable political donations over the previous four years.

In both cases, the nature of the interest must be disclosed.

Local Government and Planning Legislation Amendment (Political Donations) Act 2008

The Local Government and Planning Legislation Amendment (Political Donations) Act 2008 ("the Act") requires the disclosure of relevant political donations or gifts when planning or development applications are made to minimise any perception of undue influence. The amendments to the Act require disclosure to the Electoral Funding Authority of:

- a **reportable political donation** as defined in the Election Funding and Disclosures Act 1981 (a donation of \$1000 or more made to or for the benefit of the party, elected member, group or candidate or made by a major political donor to or for the benefit of a party, elected member, group or candidate, or made to the major political donor), or
- a **gift** (as defined in the Election Funding and Disclosures Act 1981) to any local councillor or council employee (and includes a disposition of property or a gift of money or the provision of other valuable or service for no consideration or for inadequate consideration) when a relevant planning application is made to a council.

A donation of less than \$1000 can be a reportable political donation if the aggregated total of such donations was made by an entity or person to the same party, elected member, group or candidate or person.

Item 2.

Confirmation of Minutes

Minutes of the following meeting of the Central Sydney Planning Committee are submitted for confirmation:

Meeting of 23 June 2022

Item 3.

Matters arising from the Minutes

Matters arising from the minutes of the Central Sydney Planning Committee of 23 June 2022.

Item 4.

Post Exhibition - Planning Proposal - Performance Standards for Net Zero Energy Buildings - Local Environmental Plans and Development Control Plan Amendments

File No: X081213

Summary

This report recommends the Central Sydney Planning Committee endorse the finalisation of a planning proposal to implement performance standards for net zero energy buildings.

The planning proposal and draft and draft Development Control Plan (DCP) introduce higher energy efficiency standards for office buildings, shopping centres and hotels from 1 January 2023, and then a requirement to demonstrate net zero emissions from energy use from 1 January 2026.

Energy used in the operation of buildings is the largest contributor to greenhouse gas emissions in Greater Sydney. These new planning controls will contribute to the City of Sydney achieving the goal of net zero emissions in the local area by 2035. They also contribute to the NSW Government's Net Zero Plan Stage 1 - 2020-2030 which focuses on implementing proven emission reduction technologies.

The proposal was developed with a strong evidence base and after extensive consultation across government and industry. The program of consultation began in 2018 and extended through to 2020, with feedback informing the proposed planning controls to ensure they are both effective and feasible. Consultation across government was included to ensure the evidence and industry consultation can be drawn on by the NSW Government and other councils in the Greater Sydney region to adopt similar planning controls.

Cost-benefit analysis demonstrates the performance standards will provide a positive internal rate of return and deliver significant wider benefits for the economy in avoided investment in power generation and transmission infrastructure. Mandated procurement of renewable energy from 1 January 2026 will promote further investment in the renewable sector, contribute to "greening the grid" and deliver net zero emissions buildings.

The planning proposal and draft DCP were endorsed for public exhibition in May 2021, and exhibited between 18 November and 17 December 2021. There were 11 submissions, including support for the project, suggestions for expanding the scope of the project, requests for more clarity over certain aspects of the proposed planning controls, and suggesting changes that would improve the performance of existing office buildings without inadvertently removing affordable, lower grade office space.

In response, the planning proposal and draft DCP have been amended to provide more clarity in the structure and operation of the controls, and to introduce alternative pathways to allow existing buildings to demonstrate net zero emissions.

Recommendation

It is resolved that:

- (A) the Central Sydney Planning Committee note matters raised in response to the public exhibition of Planning Proposal and draft Development Control Plan - Performance Standards for Net Zero Energy Buildings as detailed in this report and shown in Attachment A to the subject report;
- (B) the Central Sydney Planning Committee approve Planning Proposal - Performance Standards for Net Zero Energy Buildings, with amendments in response to submissions, as shown at Attachment B to the subject report, to be sent to the Department of Planning and Environment to be made as a local environmental plan;
- (C) the Central Sydney Planning Committee note the recommendation to Council's Transport, Heritage, Environment and Planning Committee on 15 August 2022 that Council approve the draft Development Control Plan - Performance Standards for Net Zero Energy Buildings, with amendments in response to submissions, as shown at Attachment C to the subject report to be commenced upon the making of the local environmental plan; and
- (D) authority be delegated to the Chief Executive Officer to make any minor amendments to Planning Proposal and draft DCP - Performance Standards for Net Zero Energy Buildings to correct any minor errors, omissions or inconsistencies prior to finalisation.

Attachments

- Attachment A.** Summary of and Responses to Matters Raised in Submissions
- Attachment B.** Planning Proposal - Performance Standards for Net Zero Energy Buildings
- Attachment C.** Draft Development Control Plan - Performance Standards for Net Zero Energy Buildings
- Attachment D.** Resolutions of Council and Central Sydney Planning Committee
- Attachment E.** Gateway Determination

Background

1. The City of Sydney has a target of net zero emissions in the Council area by 2035. To achieve this, the Environmental Action 2016-2021: Strategy and Action Plan included an action to "develop a pathway for the City's current planning controls to be strengthened over time to deliver net zero building standards", and the City's Local Strategic Planning Statement includes an action to "reduce greenhouse gas emissions by implementing the performance standard pathways framework to achieve net zero energy buildings". The updated Environmental Strategy 2021-2025 includes an action to implement net zero performance standards in the City's local planning controls.
2. The planning proposal (at Attachment B) and draft Development Control Plan (draft DCP) (at Attachment C) implements these strategic priorities through the City's planning controls. The proposed planning controls require office buildings, shopping centres and hotels to meet certain minimum energy efficiency performance standards from 1 January 2023, and to procure off-site renewable energy to cover energy use from 1 January 2026.
3. The performance standards were developed with a robust independent evidence base, summarised in the Project Report at Attachment 2 to the planning proposal, including energy modelling, construction costing and cost benefit analysis. The controls deliver a positive internal rate of return for development, with the additional expenditure on energy efficiency measures and on-site renewable generation more than offset by the savings in energy consumption.
4. The performance standards were developed with extensive stakeholder engagement prior to formal exhibition. The City held two forums with industry and government in 2018 to identify the issues and opportunities in pursuing net zero through planning, which informed the scope and focus of the project.
5. The proposed approaches to planning controls and cost benefit analysis were tested with industry and government stakeholders, including major developers, the Greater Sydney Commission and Government Architect NSW, in a series of meetings, workshops and forums through 2020 and 2021. Amendments were made to ensure the performance standards were feasible and able to be implemented by stakeholders.
6. The result of this early engagement is a letter of support for the performance standards from six major developers and landowners. These are shown at Attachment 4 to the planning proposal. In response to submissions received from the Property Council of Australia and Investa, the City has worked with these two stakeholders to further refine the controls.

The exhibited controls

7. The planning controls placed on public exhibition apply to the development of office buildings, shopping centres and hotels over a certain size. This includes new office and hotel buildings, alterations and additions to existing offices and hotels, and new builds and additions to shopping centres. The performance standards for offices and shopping centres apply to 'base building' energy use which does not include energy use by tenants. The performance standard for hotels is for the whole building.

8. The planning proposal will amend Sydney Local Environmental Plan 2012 and the Green Square Town Centre Local Environmental Plans to require the consent authority to be satisfied that development will achieve the performance standards to improve energy efficiency from 2023, and achieve net zero emissions from energy use by 2026. The amendments to Sydney Development Control Plan 2012 and the Green Square Town Centre DCP set out those performance standards.
9. To transition buildings to net zero and allow industry time to adapt and innovate, the standards will be implemented in two stages. The stage one controls will apply to development applications lodged from 1 January 2023, and the stage two controls from 1 January 2026. This staged approach reflects industry feedback received during development of the planning controls, which emphasised the need for certainty and forward planning when implementing new performance standards.
10. The performance standards for stage one can be achieved through energy efficiency in building design and/or on-site renewable energy. Achievement can be demonstrated via a NABERS Energy rating, a specific energy use criteria level in Green Star, or a metric of energy use per square metre per year.
11. The performance standards for stage two achieve net zero by offsetting the emissions from any remaining energy use through the purchase of renewable power. Some of the energy efficiency targets also increase from 1 January 2026.
12. To meet the stage two requirements, proponents can choose one of three options to procure off-site renewables. They can purchase and retire large-scale generation certificates, enter into a GreenPower contract, or enter into a new or augment an existing, power purchase agreement.
13. The planning proposal and draft DCP do not include performance standards for residential development. The technical reports and consultation considered residential development, identifying significant room for improvement from the current standards. However, the NSW planning framework does not allow local controls to require a higher standard than State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004. The evidence base has been provided to the NSW Government and helped inform the proposed update to BASIX standards announced in April 2022.

The Department issued a Gateway Determination requiring minor amendments

14. In May 2021, Council and the Central Sydney Planning Committee (CSPC) approved the planning proposal for submission to the Department of Planning and Environment with a request for Gateway Determination, and following Gateway approval, for public exhibition alongside the draft DCP. The May 2021 Resolutions of Council and CSPC are shown at Attachment D.
15. A Gateway Determination was issued by the Department of Planning and Environment on 1 October 2021 with approval to proceed to public exhibition subject to certain conditions requiring minor amendments and clarifications, concurrent exhibition of the planning proposal and draft DCP, and consultation with two public authorities.

16. The cover letter to the Gateway Determination acknowledged concerns raised by industry advocates, and advised Council to work collaboratively with industry to address any feedback or concerns raised during exhibition. Submissions from the Property Council of Australia and Investa raised some specific concerns regarding application of the controls to existing office buildings. Following exhibition, the City has worked collaboratively with the PCA and Investa to address the concerns and have proposed amendments that deliver on the intent of the project while avoiding unintended consequences. These are detailed below.

Public exhibition

17. In accordance with the Gateway Determination the planning proposal and draft DCP were exhibited between 18 November and 17 December 2021. Eleven submissions were received. A summary of the submission themes and the City's response to them is provided at Attachment A. Key issues are addressed below.

Introducing a new pathway for existing developments to reach net zero

18. Submissions from the Property Council of Australia (PCA) and Investa raised concerns about the ability for existing office buildings to meet the same stage one energy efficiency standards as those being required of new development. Due to the diversity of existing office buildings across different building ages and asset classes, the submissions said that requiring the same high efficiency standard would encourage demolition of older, non-heritage office buildings that couldn't meet the standards. It could also drive large scale upgrades of lower grade office buildings, bringing them from lower B and C grade to A grade and higher. In both cases this may result in the loss of affordable office space in the City and contribute to additional carbon emissions and environmental impact from development where unnecessary demolition occurs. They also stated the high performance standards could act to discourage efficiency upgrades, leaving older and lower grade office buildings operating less efficiently.
19. Further consultation with PCA and Investa in 2022 highlighted that many existing buildings have limited opportunities for energy efficiency through design and so active ways of reducing carbon emissions, such as removing natural gas supply and replacing gas appliances with electrical equivalents (electrification) and encouraging renewable energy procurement are needed to drive improvements in building performance.
20. To address this, the controls have been amended to introduce alternative pathways for existing buildings to demonstrate reduced carbon emissions.
21. These pathways replace the single performance standard target with two options to demonstrate improved efficiency combined with an active carbon reduction strategy. The pathway for existing buildings with poor energy efficiency requires showing a 2 Star improvement in NABERS Energy from the existing rating, as well as electrification of gas appliances. For buildings currently demonstrating adequate energy efficiency performance both electrification and procurement of 100 per cent renewable energy is required, along with a more moderate efficiency increase up to NABERS Energy 5 Star.
22. These pathways recognise that existing office buildings have differing capacities to meet energy efficiency standards, and that electrification and procurement of renewable energy are verifiable ways to demonstrate reduction of carbon emissions.

23. An explanation of the consultation that lead to the alternative pathways is added to the planning proposal, as well as some structural and content changes to the proposed LEP and DCP controls. The definition for "refurbishment" is deleted from the controls, as it is no longer required with the updated trigger based on alterations involving over 50 per cent of the net lettable area.
24. No submissions were received raising concerns over the ability of hotels to meet the performance standards through refurbishments, so those are proposed to stay at the same level as new builds.

The trigger for applying the controls to refurbishments has been reworked

25. The proposed trigger for an existing building to be subject to the planning controls was if the refurbishment affected over 50 per cent of the building volume, including all works over a three year period. Submissions highlighted that building volume is not a commonly understood metric for measuring the extent of works in a development application.
26. To address this concern, the control has been amended to apply where an alteration involves over 50 per cent of existing Net Lettable Area (NLA), which is a more commonly used and understood industry term. For hotels, the control has been amended to 50 per cent of existing gross floor area, as NLA does not apply to hotels.
27. The requirement to include all works over a three-year period has been removed. Consultation with industry indicated this control can be easily avoided by deferring works. The control can also have the unintended consequence of imposing building efficiency upgrades on development applications for minor refurbishments that occur within a three year period of other, unrelated works in the same building.

The draft planning controls have been amended for clarity

28. Submissions included feedback about the use of term "net zero energy" for the stage two controls and the procurement of renewable energy. They suggested the term "net zero carbon" more accurately describes the requirement, given that the control allows procurement of energy from off-site source. The submissions are correct in that the controls do not intend to refer to a net zero amount of energy used in building operations. However, "net zero carbon" would be inaccurate as that term only focuses on carbon emissions related to energy use. To resolve this, the planning controls have been amended to refer to "net zero emissions from energy use" which more accurately describes the intent of the controls.
29. To further aid in understanding, the requirement for net zero emissions from energy use has been expanded to a provision in the DCP. Previously this relied on a definition for "net zero energy development" and a definition for "renewable energy". This provision provides more information about how meeting the requirement needs to be demonstrated. The definition for "net zero emissions from energy use" has been retained in the LEP clause for situations where the DCP may not apply. The definition of "renewable energy" is removed to avoid potential misunderstandings, instead a standard dictionary definition will apply.
30. Submissions requested more clarity over the role of on-site renewable energy generation to meet the performance standards, particularly for office buildings. This is because larger office buildings have limited capacity to generate on-site renewable energy. The planning proposal has been edited to make it clear that on-site generation of renewable energy can contribute to the performance targets, but that it is not essential.

31. The strategic alignment sections of the planning proposal have been updated to reflect the latest City and NSW Government policies, including introducing references to Sustainable Sydney 2030-50, the Environmental Strategy 2021-2025, and new State Environmental Planning Policies.

The scope of the controls has not been amended in response to all submissions

32. Some submissions suggested extending the scope of the planning controls to account for embodied carbon, greenhouse gas emissions from sources such as refrigerants, and to include resilience benchmarks, or to bring the second stage controls forward to apply from 1 January 2023.
33. The scope and timing of the project was directed by the actions in the City's Environmental Action 2016-2021: Strategy and Action Plan and Local Strategic Planning Statement and informed through early engagement with industry and government, the cost benefit analysis and evidence base. Detailed responses to specific suggestions and submission themes are included at Attachment A.
34. Four submissions requested the controls apply a ban on new natural gas connections. This was not included in the scope of the project, with the evidence base assuming a mix of electrical and natural gas services when calculating the internal rate of return on energy efficiency measures.
35. The stage two controls disincentivise the use of gas by factoring in natural gas in the total amount of energy that needs to be offset by procurement of off-site renewables. To comply with these planning controls development that includes natural gas needs to offset the forecast energy consumption with additional procurement of renewable power. The amended controls for the refurbishment of existing office buildings include an option to replace gas services with electrical equivalent in achieving the performance standards.
36. Other submissions addressed certain aspects of the proposal, the evidence base and implementation details, including:
 - (a) Considering the cost of capital upgrades falling to building owners while the benefit of reduced energy use falls to occupants.
 - (b) Larger property owners may be able to negotiate more affordable renewable energy supply than smaller property owners.
 - (c) Aligning the performance standards with the draft State Environmental Planning Policy (Design and Place).
 - (d) Consideration of alternative energy efficiency ratings schemes and the interaction between local planning controls for efficiency standards and the National Construction Code.
37. These submission themes are addressed in the summary of submissions provided at Attachment A.

Key Implications

Strategic Alignment - Planning

38. The Greater Sydney Commission's Greater Sydney Region Plan and Eastern City District Plan are used to shape strategic planning and infrastructure in metropolitan Sydney and align planning from the broadest regional area down to the local area. The City's Local Strategic Planning Statement sets the land use planning strategy for the city which is required to align with the Region and District Plans. The City's planning controls are then required to give effect to the strategic plans.
39. The Region Plan, District Plan and Local Strategic Planning Statement adopt planning priorities of similar themes, being infrastructure, liveability, productivity, sustainability and governance. How this proposal gives effect to these priorities is discussed in detail in the planning proposal and summarised below:
 - (a) Infrastructure - The procurement of off-site renewables in stage two of the performance standards will support investment in the NSW Government's renewable energy zones. This gives effect to infrastructure objectives, particularly:
 - (i) District Plan priority E1 - Planning for a city supported by infrastructure; and
 - (ii) Planning statement priority I2 - Align development and growth with supporting infrastructure.
 - (b) Productivity - The results identified that net zero energy buildings will contribute to a positive and sustainable business recovery for Greater Sydney, creating demand for new skills and jobs in energy efficiency and renewables. This gives effect to productivity objectives, particularly:
 - (i) District Plan priority E13 - Supporting growth of targeted industry sectors.
 - (c) Sustainability - The implementation of the performance standards will reduce greenhouse gas emissions through improving energy efficiency, use of on-site renewables and the procurement of off-site renewables to transition buildings to net zero energy. It will also improve the resilience of buildings, improving the comfort for occupants now and in the future when we expect further impacts from climate change. This gives effect to sustainability objectives, particularly:
 - (i) District Plan priority E19 - Reducing carbon emissions and managing energy, water and waste efficiently
 - (ii) District Plan priority E20 - Adapting to the impacts of urban and natural hazards and climate change
 - (iii) Planning statement priority S2 - Creating better buildings and places to reduce emissions and waste and use water efficiently and
 - (iv) Planning statement priority S3 - Increasing resilience of people and infrastructure against natural and urban hazards.

Strategic Alignment - Sustainable Sydney 2030-2050 Continuing the Vision

40. Sustainable Sydney 2030-2050 Continuing the Vision renews the communities' vision for the sustainable development of the city to 2050. It includes 10 strategic directions to guide the future of the city, as well as 10 targets against which to measure progress. The proposed planning controls are aligned with the following strategic directions and objectives:
- (a) Direction 1 - Responsible governance and stewardship - the project makes a positive contribution to the governance of metropolitan Sydney as the evidence base and results are applicable to development across Greater Sydney and will be shared with the NSW Government and Greater Sydney councils.
 - (b) Direction 2 - A leading environmental performer- the planning proposal and draft DCP deliver staged energy performance standards for future development which will reduce greenhouse gas emissions. It will also ensure that buildings are resilient now and, in the future, when we expect further impacts from climate change. The development of the performance standards also demonstrates leadership in environmental performance.
 - (c) Direction 4 - Design excellence and sustainable development - the planning proposal and draft DCP will support more ecologically sustainable development by transitioning key development types to net zero energy. The City is also leading by example, sharing the results and evidence base with the NSW Government and other Greater Sydney councils to help to deliver sustainable places. The performance standards will also provide for economic growth and innovation, fostering a culture of continual improvement and going beyond 'business as usual'.

Environmental and economic benefits

41. The planning proposal and draft DCP will facilitate resilient, net zero energy buildings. The key benefits are:
- (a) reduced greenhouse gas emissions equating to 21 per cent of the City of Sydney's 2030 target
 - (b) reduced running costs for developers, owners and occupants of buildings and improved comfort for occupants now and in the future when we expect further impacts from climate change
 - (c) savings in avoided health, energy network and emissions costs
 - (d) contribution to a positive and sustainable business recovery for Greater Sydney
 - (e) demand for new skills and jobs in energy efficiency and
 - (f) support for investment and jobs in the NSW Government's renewable energy zones.
42. A broader cost benefit analysis was completed that considered the costs and benefits to direct participants such as developers and owners of buildings, and indirect benefits of public savings in health, energy network and emissions.

43. From development that occurs in Greater Sydney, the broader analysis identified that the performance standards will save investors, business and occupants \$1.341 billion between their implementation in 2023 and 2050. This is the result of energy bill savings minus the cost to implement the performance standards.
44. The broader analysis also identified savings to the public of \$1.811 billion between 2023 and 2050. This is through savings to NSW energy consumers of \$842 million from avoided power generation from traditional sources such as coal and \$618 million from avoided additional network infrastructure for traditional power generation. The community in Sydney, the Hunter Valley, and NSW taxpayers will also save \$35 million from avoided health costs resulting from better air quality. Lastly, the public in general will save \$316 million attributed to avoided emission costs. For further information see the project report at Attachment 3 to the planning proposal.

Relevant Legislation

45. Environmental Planning and Assessment Act 1979.
46. Environmental Planning and Assessment Regulation 2000.

Critical Dates / Time Frames

47. The Gateway Determination issued by the Department of Planning and Environment (shown at Attachment E) stipulates that the planning proposal is to be finalised within 12 months of the determination date, which is October 2022.

GRAHAM JAHN AM

Director City Planning, Development and Transport

Jarrood Booth, Specialist Planner

Attachment A

**Summary of and Responses to Matters
Raised in Submissions**

Performance Standards for Net Zero Energy Buildings

Table of submissions

Comment	Raised by	Response
Office rooftops have limited opportunities for on-site renewables. The City should explain any assumptions regarding the use of on-site renewable energy generation in meeting the requirements for energy performance in office buildings.	Property Council of Australia (PCA), Investa and Ausgrid.	<p>The planning controls for office buildings do not rely upon or mandate any on-site renewable energy generation. This is in recognition of the limitations for on-site renewable energy generation with high-rise office buildings in particular.</p> <p>The performance standards can be achieved through a mix of energy efficiency measures and on-site renewables where practicable.</p> <p>As detailed in the Project Report – Planning for net zero energy buildings (Table 6), office buildings can feasibly reach the performance standards, without any on-site renewable generation.</p> <p>To aid in clarification, the relevant LEP control has been re-drafted to avoid any implication that on-site renewables must be used to meet the requirements.</p>
The City’s analysis did not consider that the cost of capital upgrades that fall to office building owners while the savings of energy efficiency benefit office tenants.	PCA	<p>This has been considered and additional analysis is not required.</p> <p>The Australian Government Commercial Building Disclosure scheme mandates Building Energy Efficiency Certificates (including a current NABERS rating) be included in all forms of advertising for sale, leases or subleases of offices. This allows building owners and prospective tenants to transparently negotiate rents to account for energy efficiency and likely utility costs.</p> <p>Building owners will factor the cost of energy efficiency investments into new rental agreements, and prospective tenants will balance this against expected utility costs.</p> <p>Existing rental agreements should not be affected by the new performance standards, as the standards are only triggered by either a new development or a major refurbishment of an existing building. Building owners plan for major refurbishments outside of lease periods and negotiate subsequent leases to reflect the investment in the building.</p>

Performance Standards for Net Zero Energy Buildings – Summary of and responses to matters raised in submissions

Comment	Raised by	Response
<p>The City needs to clarify when the performance standards apply to existing buildings undergoing refurbishment.</p>	<p>PCA and Investa</p>	<p>The proposed LEP and DCP controls for alterations to existing buildings have been re-drafted to provide additional clarity.</p> <p>As exhibited, the threshold for the new LEP and DCP controls to apply to existing office buildings and hotels was set at refurbishments involving 50 per cent of the building volume, accounting for all works over a three year period.</p> <p>As building volume is not a commonly used metric, and “refurbishment” is not a term commonly used in planning controls, this has been amended in the revised drafting. It now refers to alterations involving 50 per cent of the existing Net Lettable Area for offices, or 50 per cent of the gross floor area for hotels. This is consistent with industry terminology.</p> <p>The updated control does not account for works over a three year period. Submissions highlighted that this component can easily be avoided by delaying works and may have the unintended consequence of imposing building upgrade works on minor alteration works that occur within a three year period of other unrelated works in the building.</p>
<p>The proposed performance standards for existing buildings should not be the same as for new buildings.</p> <p>The proposed controls for office buildings set the same efficiency requirements for alterations and additions to existing buildings as required by new buildings.</p> <p>These performance standards will not be achievable for many older and poorly performing buildings, and so will discourage sustainability improvements.</p> <p>Further study is required to consider the impacts of this on the supply of lower-rent B and C grade office stock in the City. Expensive upgrades will require these buildings to raise their rent level and reduce the</p>	<p>PCA and Investa</p>	<p>The City recognises that different standards may be required to improve performance across existing buildings.</p> <p>The controls for alterations to existing office buildings have been amended to be compatible with the broad range of older and lower grade office buildings in the local area and deliver tangible reductions in greenhouse gas emissions.</p> <p>The amended controls provide alternative ways to demonstrate a transition to net zero emissions with both efficiency improvements and active emissions reduction. The alternatives to the performance standards require an increase in energy efficiency compared to existing performance or up to NABERS Energy 5 Star, combined with the removal of gas appliances and/or procurement of off-site renewable energy.</p> <p>By introducing the option for active measures to reduce greenhouse gas emissions, energy efficiency targets can be better matched to the ability of the building to achieve them. This will remove unintended disincentives to upgrade poorly-performing existing buildings. It will also</p>

Performance Standards for Net Zero Energy Buildings – Summary of and responses to matters raised in submissions

Comment	Raised by	Response
<p>supply of affordable office spaces.</p> <p>Additional pathways are required to ensure the controls can fairly apply to different building classes, ages and locations.</p> <p>More detail is required for the energy intensity metric as existing buildings operating at NABERS 5.5 Star may not meet that metric.</p>		<p>ensure that the City’s supply of lower cost B and C grade office buildings can be maintained.</p> <p>By amending the controls to provide an alternative pathway for existing buildings, there is no need to do further analysis on the proposed energy intensity metric or on the impacts on the stock of B and C grade buildings.</p> <p>The controls for existing office buildings only apply when over 50 per cent of the Net Lettable Area is the subject of a development application. This will ensure the requirements only apply when the tenantable office space is being improved, and not when an existing office building is undergoing routine or necessary maintenance.</p>
<p>The City should encourage renewable energy procurement and electrification and allow this to balance against energy efficiency in existing buildings.</p>	<p>PCA and Investa</p>	<p>The planning controls for applying the performance standard to existing buildings have been amended to allow procurement of renewable energy as a way to demonstrate active emissions reduction.</p> <p>Renewable energy procurement is a cost that is passed on to occupants and tenants, so energy efficiency improvements are still encouraged to reduce total energy costs and improve climate resilience.</p>
<p>The City should undertake active consultation and engagement with the Better Buildings Partnership Executive and members.</p>	<p>PCA and Investa</p>	<p>Early consultation in the pathways to net zero buildings project involved a wide range of companies in the property industry, including members of the Better Buildings Partnership. This consultation emphasised involvement from all parts of these organisations, rather than just the sustainability-focused roles which are represented on the BBP.</p>
<p>For existing buildings, clarification is required about whether the proposed controls consider existing on-site renewable generation and existing renewable energy procurement.</p>	<p>PCA and Investa</p>	<p>Existing arrangements can be included towards the performance targets.</p> <p>The proposed controls allow for a mix of energy efficiency and on-site renewables to meet the energy performance targets. Existing on-site renewables would be included in the assessment of the energy performance rating.</p> <p>The controls involving procurement of renewable energy from off-site sources are based on total energy demand of the building, they make no distinction between existing agreements and new agreements.</p>

Performance Standards for Net Zero Energy Buildings – Summary of and responses to matters raised in submissions

Comment	Raised by	Response
The City’s analysis did not consider the difference in cost for procuring off-site renewable energy between large real estate investment trusts and smaller operators and single building owners.	PCA	<p>The City acknowledges the cost of renewable energy procurement will differ depending on the arrangements property owners can negotiate, and that large property owners may be able to negotiate more favourable terms. Such differences exist in other areas development, such as financing and materials procurement.</p> <p>The controls are focused on reducing energy usage through improving energy efficiency and on-site renewable generation, reducing the cost of energy procurement overall.</p> <p>Planning controls cannot account for the relative advantages and disadvantages of business size or scale of operations.</p>
The City should work with the Department of Planning and Environment to ensure the controls align with the Draft State Environmental Planning Policy for Design and Place.	PCA, Department of Planning and Environment – Environment, Energy and Science	<p>The planning controls were developed in consultation with the Department of Planning and Environment, and the NSW Government Architect, in their work on the net zero component of the draft Design and Place SEPP. The draft SEPP was not progressed by the incoming Minister for Planning and Homes Anthony Roberts on 5 April 2022.</p>
Support alignment with Green Star Energy credit	Atelier Ten	Noted
<p>The City should change the terminology to “net zero carbon” instead of “net zero energy”.</p> <p>“Net zero energy” describes meeting on-site energy demand with on-site generation. The controls allow for off-site energy procurement as long as it is renewable. Therefore, “net zero carbon” may be a more descriptive term.</p>	Atelier Ten, Randwick Council	<p>The controls have been amended to refer to “net zero emissions from energy use” which more clearly articulates the intent.</p> <p>“Net zero carbon” would not accurately describe the scope of the controls. The controls are focused on reducing greenhouse gas emissions from energy use in buildings, through a mix of energy efficiency, on-site renewable energy production, and off-site renewable energy procurement.</p> <p>The controls cannot be described as “net zero carbon” as they do not include carbon emissions from other sources such as construction materials, furniture and fittings, waste production, transport and food.</p>
The Passive House standard should be included in the controls as one of the performance standards to demonstrate energy efficiency.	Australian Passive House Association	<p>This is possible under the proposed controls without a specific mention of the Passive House standard being necessary.</p> <p>The controls include an option to demonstrate an equivalent performance standard, in lieu of energy intensity, NABERS or Green Star. A proponent seeking recognition of Passive House</p>

Performance Standards for Net Zero Energy Buildings – Summary of and responses to matters raised in submissions

Comment	Raised by	Response
		<p>certification can submit details as part of their development application and demonstrate the certification as equivalent or better than the standards in the controls.</p>
<p>The term “equivalent” should not be included in the controls as an option along with a NABERS rating, Green Star Energy credit or energy intensity metric, as it introduces a risk that the outcomes will not be achieved. More details should be included as to what the City would consider “equivalent”.</p>	<p>GBCA</p>	<p>The controls include an option to demonstrate an equivalent performance standard to account for other sustainability ratings frameworks and certifications that may arise in the time the controls are in place.</p> <p>It is not possible to predetermine and define equivalency further than equivalent to the energy intensity, NABERS and Green Star performance standards included in the controls.</p> <p>Development assessment will include assessment of equivalency of any alternative sustainability ratings, certification or performance metrics provided by a proponent.</p> <p>All applications will be required to submit an Energy Assessment Report prepared by a suitably-qualified professional to demonstrate that an equivalent performance will be met.</p>
<p>The controls should include resilience benchmarks such as those included in Green Star ratings.</p>	<p>GBCA</p>	<p>Resilience to the effects of climate change is an objective of the controls but assessing resilience to all climate impacts is beyond the scope of this project.</p> <p>The scope of the project is focused on reducing carbon emissions from energy use through improvements to energy efficiency, use of on-site renewables and procurement of off-site renewable energy.</p> <p>Reduced energy use aids in resilience to the extent that more efficient buildings can withstand the impacts of climate change without relying on excessive energy use and can better withstand interruptions to energy supply.</p> <p>Other aspects of climate change resilience, such as canopy cover, urban heat island effect, flooding and stormwater management, drought tolerance, etc. are dealt with in other parts of the planning controls.</p>
<p>The controls should include embodied carbon, which are the carbon emissions associated with construction and materials.</p>	<p>GBCA, Caroline Pidcock, Nigel Howard</p>	<p>Emissions from materials and construction are not within the scope of this project.</p> <p>The intent of the controls is to reduce carbon emissions associated with energy use.</p>

Performance Standards for Net Zero Energy Buildings – Summary of and responses to matters raised in submissions

Comment	Raised by	Response
<p>The controls should make new gas connections and appliances not permissible.</p>	<p>GBCA, Caroline Pidcock, Nigel Howard, Randwick Council</p>	<p>In order to be focused on the desired outcome of net zero energy from non-renewable sources, the controls set performance standards to be reached in development, but intentionally do not prescribe specific initiatives or design outcomes. This is to allow industry and regulators to respond to changes in design and technology in achieving the performance standards.</p> <p>The stage two (2026) controls for net zero emissions from energy use requires any gas be accounted for in procuring off-site renewable energy. In practice this will strongly discourage the use of gas in base building services.</p> <p>For the amended controls that apply to alterations to existing development, removal of gas appliances and connections is included as an option to demonstrate active reduction of greenhouse gas emissions, along with improved energy efficiency and procurement of renewable energy.</p>
<p>The second target (2026) controls for higher energy efficiency targets and renewable energy procurement should be brought forward to apply immediately.</p>	<p>Caroline Pidcock, Nigel Howard</p>	<p>The timeframe for introduction of the controls is appropriate and is not proposed to change.</p> <p>Consultation with industry made it clear a stepped approach to net zero energy was vital. The 2026 timeframe gives industry a signal to begin preparing and working towards a new expectation, including adapting their own targets and innovating where required, and to set expectations for commercial tenants in advance of their introduction.</p> <p>The energy efficiency requirements in the first target (2023) provide a positive rate of return, and feedback from industry was that they can be implemented immediately. Given the timing for development of planning controls and public exhibition, 2023 is the soonest reasonable time to implement the new controls.</p>
<p>It is appropriate for the controls to exceed the sustainability requirements of the National Construction Code. Local controls can reflect their local context and should not be bound by national standards.</p>	<p>Department of Planning and Environment – Environment, Energy and Science</p>	<p>Noted.</p> <p>These controls intentionally exceed the sustainability benchmarks in the National Construction Code to set new standards for development appropriate to the local area.</p>
<p>Certain changes should be made to existing, unrelated DCP controls.</p>	<p>Randwick Council</p>	<p>These sections are being reviewed and amended as part of a separate project and are not in the scope of this planning proposal.</p>

Performance Standards for Net Zero Energy Buildings – Summary of and responses to matters raised in submissions

Comment	Raised by	Response
Refrigerants should not be excluded from emissions calculations as their global warming potential is very high.	Strathfield Council	The feedback has been noted. The scope of the controls is limited to reducing carbon emissions from energy use in buildings. Regulating greenhouse gas emissions from other sources is beyond the scope of the project.

Attachment B

**Planning Proposal – Performance
Standards for Net Zero Energy Buildings**

Planning Proposal – Performance Standards for Net Zero Energy Buildings



Table of Contents

Planning Proposal	3
Background	4
Part 1: Objectives and intended outcomes	5
Part 2: Explanation of provisions	5
Part 3: Associated DCP amendments	6
Part 4: Justification	6
Section A – Need for this planning proposal	6
Section B – Relationship to strategic planning framework	11
Section C – Environmental, social and economic impact	19
Section D – State and Commonwealth interests	20
Part 5: Mapping	21
Part 6: Community consultation	21
Part 7: Project timeline	22
Attachment 1 – Development Thresholds and Performance Standards	23
Attachment 2 – Performance Standards for net Zero Energy Buildings Project Report	25
Attachment 3 – Planning for Net Zero Energy Buildings Briefing – Summary Report	26
Attachment 4 – Letters of Support for the Performance Standards	27
Attachment 5 – LEP example clause	28

Post-exhibition amendments in response to submissions and recommended to Council and CSPC for approval are shown in with deletion in ~~strike through~~ and replacement or new text in underline.

Introduction

The Planning Proposal: Performance standards for net zero energy buildings (planning proposal) explains the intent of, and justification for, the amendment of Sydney Local Environmental Plan 2012 (the Sydney LEP) and other relevant City of Sydney Local Environmental Plans (LEPs).

Energy use in buildings is a significant contributor to greenhouse gas emissions in the City of Sydney local government area, as well as Greater Sydney. The purpose of this planning proposal is to reduce greenhouse gas emissions by improving the energy performance of buildings. This will be implemented through LEP amendments that will require new office, shopping centre and hotel developments, as well as major refurbishments and additions to existing buildings in these development types, to achieve net zero energy. The proposed amendments will introduce a new local provision that requires the consent authority to consider during their assessment of the development application if development is either highly efficient and reduces energy use through energy efficiency and the use of on-site renewables or is capable of achieving net zero energy prior to commencing use, depending on when the development application is lodged.

The planning proposal has been prepared in accordance with Section ~~55~~ 3.33 of the Environmental Planning and Assessment Act 1979 (the Act) and the relevant Department of Planning and Environment guidelines for local environmental plans, including A Guide to Preparing Local Environmental Plans and A Guide to Preparing Planning Proposals.

To implement the performance standards and ensure the objectives and intended outcomes of this planning proposal are achieved, the City has also prepared a draft amendment to Sydney Development Control Plan 2012 and Green Square Town Centre Development Control Plan 2012 (the draft DCP). ~~The draft DCP has been prepared so that it may be adopted as a design guide.~~ The City intends to publicly exhibit the draft DCP with this planning proposal.

The standards bring together energy efficiency, on-site renewables and off-site renewables and are to be implemented in stages through planning controls. They have been developed for new office, shopping centre and hotel developments, as well as major refurbishment of and additions of these development types.

Implementation of the planning proposal and the draft DCP will help us achieve the City's target for net zero emissions by 2035 and priorities and actions in Sustainable Sydney 2030-2050 Continuing the Vision, Environmental Action ~~2016-2021~~: Strategy 2021-2025 and Action Plan and City Plan 2026, the City's local strategic planning statement. It will also contribute to the NSW Government's objective to achieve net zero emissions by 2050 and priorities in their plans and strategies, such as the NSW Electricity Strategy and the Greater Sydney Region Plan. Lastly, it will assist developers realise their corporate targets to achieve net zero emissions.

In addition to the environmental benefits of reducing emissions, the implementation of the planning proposal and the draft DCP will contribute to a positive and sustainable business recovery for Greater Sydney and improve building resilience. The staged implementation in the planning proposal and draft DCP amendments also provide industry with time to adjust and certainty when planning for net zero energy development.

Net zero development will reduce running costs for developers, owners and occupants of buildings and improve the comfort for occupants now and in the future when we expect further impacts from

climate change. For example, annually office owners will save \$2,750 per 1000m² and hotel owners \$170 per hotel room. There are also additional public benefits and savings through avoided health, energy network and emissions costs. Implementation also supports the NSW Government's renewable energy zones through investment and job creation and creates demand for jobs and new skills in energy efficiency.

A robust independent evidence base informed the development of the performance standards and timing of their implementation. A consortium of consultants completed energy modelling, construction costing and a cost benefit analysis on a range of development types for office, shopping centre, hotel and mixed-use development. The analysis was based on typical development types and sizes in the city and Greater Sydney now and expected in the future to meet Greater Sydney Region Plan growth targets. A broader public benefits analysis was also completed.

Extensive engagement with industry and government stakeholders also informed the evidence base and the proposed performance standards. Engagement started with industry and government forums in 2018 and continued to this year with stakeholder workshops, an external advisory group, briefings with Greater Sydney councils and individual meetings with developers, NSW Government agencies and peak bodies. Engagement with other Greater Sydney councils also occurred in 2020 and 2021. In March 2021, a briefing of 185 industry and government stakeholders concluded the engagement and identified support for their implementation.

Background

There is an opportunity to reduce greenhouse gas emissions

Energy (electricity and gas) used in buildings is a significant contributor to greenhouse gas emissions in the city and in Greater Sydney. In the city, existing offices, hotels and apartments contribute to 68 per cent of building greenhouse gas emissions.

There is an opportunity to improve the environmental performance of buildings in cities beyond that required by the National Construction Code (NCC). Energy modelling that informed the NCC used development typologies that were reflective of average development across Australia, not necessarily that of higher density development or the range of development typical of Sydney. The city, like other cities across Australia has a high number of mid to high rise buildings compared to low and mid-rise buildings found in smaller cities and regional parts of Australia. As a result, the NCC energy modelling doesn't reflect the range of developments found in large cities. Increasing the energy performance requirements beyond that of the NCC for cities will see a greater reduction in greenhouse gas emissions and provide a greater contribution to achieving the City's and NSW Government's net zero emissions targets sooner.

The City's planning controls currently embed energy performance targets only for new office buildings, which now aligns with the 2019 update to the NCC. There are no targets for other emission intensive development types such as hotels and shopping centres.

The performance standards will deliver net zero energy buildings

Land use planning has a role to play in reducing greenhouse gas emissions and making buildings more resilient in NSW, as well as responding to local government and NSW Government plans and strategies. There is an opportunity to transition buildings to net zero energy across Greater Sydney through planning controls.

The City has developed performance standards for net zero energy buildings for use in local and state planning controls. The performance standards bring together energy efficiency, on-site renewables and off-site renewables. The increases in energy performance are implemented through two step changes, to transition to net zero energy buildings by 2026. They cover new office, shopping centre and hotel developments, as well as major refurbishment of and additions to existing buildings in these development types.

Off-site renewable energy use/procurement is a key part of the performance standards. It is extremely challenging for mid to high-rise developments to achieve net zero energy through energy efficiency and on-site renewables alone. Higher energy use in larger buildings, limited roof space and shading impacts the ability for these buildings to generate enough renewable energy on-site to offset operational energy use. Purchasing off-site renewable energy can offset the remaining energy.

The planning proposal and draft DCP will implement the performance standards for office, shopping centre and hotel developments. They will ensure the City's planning framework delivers on the strategic directions in Sustainable Sydney 2030-2050 Continuing the Vision, and implements actions in Environmental Strategy Action and in the City's local planning statement. The proposed controls will help deliver environmental and economic benefits from development.

Part 1: Objectives and intended outcomes

The objective of this planning proposal is to reduce energy consumption and the associated greenhouse gas emissions of office, shopping centre and hotel developments, as well as improve the resilience of these developments to the impacts of climate change.

The intended outcome will be to facilitate net zero energy development by 2026 for development subject of this planning proposal. This will occur through amendments to the following:

- Sydney Local Environmental Plan 2012
- Sydney Local Environmental Plan (Green Square Town Centre) 2013
- Sydney Local Environmental Plan (Green Square Town Centre – Stage 2) 2013.

Part 2: Explanation of provisions

The proposed outcome will be achieved by including a new local provision in the Sydney LEP and the Green Square Town Centre LEPs, ~~and which are~~ supported by a draft DCP that will:

1. set out the objective of the clause, which is to reduce greenhouse gas emissions and increase the resilience of buildings
2. identify the clause only applies to new developments of and refurbishment and additions to office premises, shopping centres and hotel or motel accommodation developments of certain sizes
3. require the consent authority to be satisfied that development is either highly efficient and reduces energy use through energy efficiency ~~and the use of~~ and/or on-site renewables, will be more efficient and less emissions intensive, ~~or is capable of achieving~~ will have net zero emissions from energy use prior to commencing use, depending on when the development application is lodged and the type of development involved

4. require consideration be given to the relevant performance standards in the supporting DCP when determining if a development is either highly efficient and reduces energy use through energy efficiency ~~and the use of and/or~~ on-site renewables, will be more efficient and less emissions intensive, or is capable of achieving net zero energy prior to commencing use, depending on when the development application is lodged and the development involved.
5. include definitions specific to the local provision for net zero emissions from energy use, net lettable area, ~~refurbishment~~ and shopping centre.

An example clause is included at Attachment 5.

Part 3: Associated DCP amendments

A draft development control plan has been prepared to support the intended outcomes of this planning proposal and the operation of the proposed LEP provisions. The proposed LEP provisions require consideration be given to the DCP.

The draft development control plan sets out the type of development, size thresholds, performance standards and application lodgement timing for development subject to the proposed LEP provision. The draft development control plan's development thresholds and performance standards are included at Attachment 1.

Part 4: Justification

Section A – Need for this planning proposal

There is strategic direction to reduce greenhouse gas emissions

The City has a target for zero emissions by ~~2040~~ 2035. The City's Community Strategic Plan, Sustainable Sydney 2030-2050 Continuing the Vision, includes an objective to implement net zero performance standards in the City's local planning controls. ~~of "greenhouse gas emissions are reduced across the city" and "the city's buildings, infrastructure, emergency services and social systems are resilient to the likely impacts of climate change".~~ In response to this, the City's Environmental Strategy 2021-2025 has a similar action. ~~Action includes an action to "develop a pathway for the City's current planning controls to be strengthened over time to deliver net zero building standards".~~ The City's local planning statement also includes an action to "reduce greenhouse gas emissions by implementing the performance standard pathways framework to achieve net zero energy buildings".

The NSW Government has an objective to achieve net zero emissions by 2050. The NSW Government's NSW Electricity Strategy and Net Zero Plan, Stage 1: 2020-2030 include priorities and actions that contribute to reducing greenhouse gas emissions. In addition, the Greater Sydney Region Plan includes a 'low carbon city' objective, which is given effect through the objectives of the district plans. The district plans include the objective of "A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change".

Many developers have net zero targets in their corporate strategies.

There is a need for the planning proposal as the current requirements in planning and the NCC will not deliver net zero energy buildings.

Q1. Is the planning proposal a result of an endorsed local strategic planning statement, strategic study or report?

Yes. The planning proposal is in response to a strategic project required by an action in the City's planning statement to "Reduce greenhouse gas emissions by: ... b) implementing the performance standard pathways framework to achieve net zero energy buildings".

The strategic project developed performance standards to achieve net zero energy buildings. While the planning proposal doesn't specifically include the performance standards, it requires the consent authority to be satisfied that the development is ~~either highly efficient and reduces energy use through energy efficiency and the use of on-site renewables or is capable of achieving net zero energy prior to commencing use, depending on when the development application is lodged~~ highly efficient and reduces energy use, will be more efficient and less emissions intensive, or will have net zero emissions from energy use depending on the development application type and time of lodgement. If development achieves the performance standards, which will be located in the DCP they will satisfy the LEP provision that is the subject of this planning proposal.

The performance standards are shown at Attachment 1 and the project report is shown at Attachment 2.

Q2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

Yes, the planning proposal is the best means of achieving the objectives and intended outcomes in Part 1.

There are no state planning policies that achieve the outcome of net zero energy buildings, which is the objective of the planning proposal. In the absence of a state planning policy, implementation of the planning proposal is the best approach to achieve net zero energy buildings for key development types.

A new local provision in the Sydney LEP and other relevant Green Square Town Centre LEPs will ensure the implementation of the performance standards. The requirement for development to ~~either reduce energy use through energy efficiency and the use of on-site renewables or be capable of achieving net zero energy prior to commencing use, depending on when the development application is lodged~~ be highly efficient and reduce energy use, be more efficient and less emissions intensive, or have net zero emissions from energy use, depending on the development application type and time of lodgement, is proposed to be included in the LEPs. The detail of the performance standards is to be in the DCPs. It is proposed that compliance with the DCP controls will satisfy the requirements of the Sydney LEP and other relevant LEPs.

The draft DCP accompanying the planning proposal includes more detailed planning controls to implement the performance standards. It identifies the development types and new development, addition and refurbishment thresholds that the performance standards apply to. They set out the performance standards, for steps one and two, and the future dates for implementation. They also set out submission requirements for development applications.

The controls also identify options for demonstrating compliance with the performance standards through recognised planning and design tools such as NABERS and Green Star, as well as an energy intensity target. These options all require third party verification to ensure the design intent is met and simplify the development application assessment process. These options include

meeting an identified energy intensity target, a NABERS rating or a Green Star Buildings rating achieving a certain level of performance in the Energy Use credit or equivalent.

For demonstrating that alterations to existing development will result in improved efficiency and reduced emissions intensity, the DCP also includes options for active reduction of greenhouse gas emissions through removal of gas services and/or procurement of off-site renewable energy.

For demonstrating development will have net zero emissions from energy use, for applications lodged on 1 January 2026 and onwards, the DCP includes the requirement for procurement of off-site renewable energy to cover total energy use of the building, including gas.

The performance standards are supported by a robust evidence base

The performance standards and timing of the step changes are informed by a robust evidence base. A consortium of consultants completed energy modelling, construction costing and a cost benefit analysis for development which is characteristic of the city and Greater Sydney. See Attachment 2 for the project report.

Energy use was modelled for each land use and a corresponding baseline was established, being Section J of the NCC. For each land use, three typologies representative of typical developments in the city and Greater Sydney were analysed. Energy reduction measures were applied to each building typology to identify the maximum potential on-site energy improvement. Energy reduction measures were selected based on current technologies and practices. The increased capital expenditure associated with each measure was individually costed for each typology.

A cost benefit analysis was completed for each of the energy efficiency measures identified through the energy modelling and the off-site measures. This determined the potential profitability of the investment in the measures over 15 and 25 years. The analysis also forecast the change in costs and benefits over time, identifying when efficiency measures will become more cost effective.

Using an iterative energy modelling and cost benefit analysis process, the performance standards and timeframes were developed, determining the most energy efficient and cost-effective steps for each typology. The most conservative result for the three typologies analysed was selected for each land use ensuring all development for that land use could achieve the performance standards.

In the project, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants and embodied energy, are not included.

The cost benefit analysis demonstrates a positive financial return

The cost benefit analysis identified development could achieve a positive financial return at for each step change as shown in table 1 below. A positive internal rate of return (IRR) for each energy efficiency measure and a very small capital expenditure (CapEx) increase were identified. An IRR above zero makes a profit. A CapEx increase is the additional cost to meet the performance standard as a percentage of the full cost of development. The CapEx increase ranges from 0.11% to 1.56%.

For further information see the project report at Attachment 2.

Asset class	Step	IRR	CapEx increase
Office	first	10-37%	0.11%-0.58%
	second	16-28%	0.16%-0.52%
Shopping centre	first	2-23%	0.16%-0.42%
	second	9-11%	0.95%-1.28%
Hotel	first	17-20%	0.15%-0.35%
	second	9-10%	0.24%-0.86%

Table 1: IRR and CapEx results

Extensive stakeholder engagement has informed the performance standards

Extensive engagement with industry and government stakeholders informed the evidence base that supports the performance standards.

In May and November 2018, two forums were held that started the conversation with industry and government to identify issues and opportunities to transition to net zero energy developments through land use planning.

The City engaged with industry and government on the energy reduction measures, initial energy modelling, cost-benefit analysis, the draft performance standards and timeframes, development thresholds and integration of off-site renewables. This happened through the following:

- a) July 2019 to February 2020 - three meetings with an external industry and government advisory group
- b) November 2019 and February 2020 - three stakeholder workshops with industry, government and shopping centre representatives
- c) September and October 2020 - individual meetings with nine developers. The nine developers were Mirvac, Stockland, Lendlease, Frasers, Aqualand, Greenland, Charter Hall, Dexus and Crown Group. The meetings also sought feedback on the implementation of the performance standards given the impacts of COVID. The feedback received at these meetings was extremely valuable and informed the final performance standards and the timing of their implementation
- d) November 2020 - a meeting with executive directors and directors from DPIE and commissioners and staff from the GSC. Feedback from the individual meetings with developers was also discussed
- e) November 2020 - a meeting with staff from the Government Architect NSW
- f) December 2020 and January 2021 - meetings with the Western Sydney Regional Organisation of Councils, Southern Sydney Regional Organisation of Councils and the Northern Planners, a subset of Northern Sydney Regional Organisation of Councils
- g) December 2020 to February 2021 - meetings with representatives of the Property Council of Australia committees, peak bodies and project partners.

Stakeholder feedback on the draft performance standards shaped the final performance standards. It identified that some of the draft performance standards, the development thresholds and implementation timing needed to be amended.

Developers recommended the implementation be delayed by 1-2 years to take into account the impact of COVID, particularly on the retail development market. As a result, the planning controls will be exhibited in 2021 and the implementation of step one delayed to 2023 and step two to 2026.

For office developments, developers identified that step 2, being 6 star NABERS Energy Commitment Agreement or equivalent, was too challenging. Industry feedback recommended the energy efficiency and onsite-renewable component of step 2 is reduced and the amount of off-site renewables procured is increased to still achieve net zero energy. As a result, the minimum energy efficiency and onsite renewables standards of second step were reduced.

For shopping centre developments, developers and the Shopping Centre Council of Australia identified that steps 1 and 2 were challenging as were refurbishments. The Shopping Centre Council of Australia also raised other issues including that shopping centres are heavily regulated, owners disclose energy costs to tenants and that some owners have portfolio-wide commitments to net zero. As a result, the first step for shopping centres was reduced to 4 star NABERS Energy Commitment Agreement or equivalent and the second step was reduced to 5 star NABERS Energy Commitment Agreement or equivalent. The refurbishment threshold was removed.

In response to additional feedback from industry during exhibition, expressing concern over the impacts of requiring existing office buildings to upgrade to the same high standard as new buildings, the controls for alterations to existing offices have been amended. The amended controls provide an alternative pathway to demonstrate improved efficiency coupled with active greenhouse gas reduction measures. These controls are more achievable for older and lower grade buildings, only apply when a substantial upgrade is being proposed, give flexible options in achieving the performance standard and will provide reduction in both energy use and the emissions intensity of energy use.

Industry and government have positively responded to the performance standards

Strong support for the implementation of the performance standards was identified at the industry and government briefing on 11 March 2021 when the final performance standards were presented. See Attachment 3 for a summary report from the briefing.

At the briefing, presentations and messages of support were given from:

- a) the Lord Mayor, Clover Moore
- b) the Honourable Rob Stokes, Minister for Planning and Public Spaces MP
- c) the GSC's Environment Commissioner
- d) Executive Development Director from Lendlease
- e) a development manager from Stockland.

185 people attended the briefing. This included:

- a) 86 representatives from the industry, including developers, industry groups, ecologically sustainable development and planning consultants
- b) 19 representatives from NSW and Victorian governments.
- c) 75 representatives from 24 of the 32 Greater Sydney councils
- d) four representatives from councils outside of NSW.

At the briefing attendees were asked to complete a survey which identified their support for the implementation of the performance standards. Of those that completed the survey, 76% supported the implementation of the performance standards without any changes.

Letters of support for the performance standards have been received from four developers that provided feedback on the draft performance standards. The letters are from Stockland, Frasers, Lendlease, Crown Group, Dexu and Mirvac and are shown at Attachment 4.

Section B – Relationship to strategic planning framework

Q3. Will the planning proposal give effect to the objectives and actions of the applicable regional, or district plan or strategy (including any exhibited draft plans or strategies)?

The Greater Sydney Region Plan and the district plans are used to shape strategic planning in metropolitan Sydney and align planning from regions down to the local area. The City's planning controls are required to give effect to these strategic plans.

The Greater Sydney Region Plan is the NSW Government's overarching strategic plan for growth and change in Sydney. The 20 year plan provides a 40 year vision that seeks to transform Greater Sydney into a metropolis of three cities being the Western Parkland City; the Central River City; and the Eastern Harbour City.

It identifies key challenges facing Greater Sydney, including a projected population increase of 1.7 million and associated requirements to deliver 725,000 new homes and create 1 million new jobs in NSW by 2036 to respond to the population increase.

The Eastern City District Plan (District Plan) sets out the NSW Government's vision, priorities and actions for the Eastern District, which includes the city. It establishes a 20 year vision for the Eastern District to be a global sustainability leader, managing growth while maintaining and enhancing liveability, productivity and attractiveness for residents and visitors. Planning priorities and associated actions for productivity, liveability and sustainability seek to deliver on this vision.

This planning proposal is consistent with and responds to the following priorities from the Greater Sydney Region Plan and District Plan as detailed below:

- 1) Infrastructure - The procurement of off-site renewables in step two of the performance standards will support investment in the NSW Government's renewable energy zones. This gives effect to infrastructure objectives, particularly:
 - a. Region Plan objectives:
 - i. 1 – Infrastructure supports the three cities
 - b. District Plan priorities:
 - i. E1 - Planning for a city supported by infrastructure
- 2) Productivity - The results identified that net zero energy buildings will contribute to a positive and sustainable business recovery for Greater Sydney, creating demand for new skills and jobs in energy efficiency and renewables. This gives effect to productivity objectives, particularly:
 - a. Region Plan objectives:
 - i. 24 – Economic sectors are targets for success
 - b. District Plan priorities:
 - i. E13 - Supporting growth of targeted industry sectors
- 3) Sustainability - The implementation of the performance standards will reduce greenhouse gas emissions through improving energy efficiency, use of on-site renewables and the procurement of off-site renewables to transition buildings to net zero energy. It will also improve the resilience of buildings, improving the comfort for occupants now and in the

future when we expect further impacts from climate change. This gives effect to sustainability objectives, particularly:

- a. Region Plan objectives:
 - i. 33 - A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change
 - ii. 36 - People and places adapt to climate change and future shocks and stresses
- b. District Plan priorities:
 - i. E19 - Reducing carbon emissions and managing energy, water and waste efficiently
 - ii. E20 - Adapting to the impacts of urban and natural hazards and climate change

Q4. Will the planning proposal give effect to a council’s endorsed local strategic planning statement, or another endorsed local strategy or strategic plan?

~~Sustainable Sydney 2030 outlines the vision for the sustainable development of the city to 2030 and beyond. It includes 10 strategic directions to guide the future of the city. This planning proposal is aligned with the following strategic directions:~~

- ~~a) Direction 2 – A Leading Environmental Performer – the planning proposal and draft DCP amendments deliver staged energy performance standards for future development which will reduce greenhouse gas emissions. It will also ensure that buildings are resilient now and, in the future, when we expect further impacts from climate change. The development of the performance standards also demonstrates leadership in environmental performance.~~
- ~~b) Direction 9 – Sustainable Development, Renewal and Design – the planning proposal and draft DCP will support more ecologically sustainable development by transitioning key development types to net zero energy. The City will also lead by example, sharing the results and evidence base with the NSW Government and other Greater Sydney councils, helping to deliver sustainable places. The performance standards will also provide for economic growth and innovation, fostering a culture of continual improvement and going beyond ‘business as usual’.~~
- ~~c) Direction 10 – Implementation through Effective Governance and Partnerships – the project makes a positive contribution to the governance of metropolitan Sydney as the City is leading the way for other councils to implement similar requirements, using the results or a similar project methodology.~~

Sustainable Sydney 2030-2050 Continuing the Vision renews the communities’ vision for the sustainable development of the city to 2050. It includes 10 strategic directions to guide the future of the city, as well as 10 targets against which to measure progress. The proposed planning controls are aligned with the following strategic directions and objectives:

Direction 1 - Responsible governance and stewardship - the project makes a positive contribution to the governance of metropolitan Sydney as the evidence base and results are applicable to development across Greater Sydney and will be shared with the NSW Government and Greater Sydney councils.

Direction 2 - A leading environmental performer- the planning proposal and draft DCP deliver staged energy performance standards for future development which will reduce greenhouse gas emissions. It will also ensure that buildings are resilient now and, in the future, when we expect

further impacts from climate change. The development of the performance standards also demonstrates leadership in environmental performance.

Direction 4 - Design excellence and sustainable development - the planning proposal and draft DCP will support more ecologically sustainable development by transitioning key development types to net zero energy. The City is also leading by example, sharing the results and evidence base with the NSW Government and other Greater Sydney councils to help to deliver sustainable places. The performance standards will also provide for economic growth and innovation, fostering a culture of continual improvement and going beyond ‘business as usual’.

The City’s endorsed planning statement sets out the land use planning context, 20-year vision and planning priorities to positively guide change towards the City’s vision in Sustainable Sydney 2030 for a green, global and connected city. The planning statement explains how the planning system will manage change to achieve the desired outcomes and guides future changes to controls, including those sought by proponents through planning proposals. This planning proposal gives effect to the following planning statement priorities:

- a) I2 (Infrastructure) - Align development and growth with supporting infrastructure - The procurement of off-site renewables in step two of the performance standards supports investment in the NSW Government’s renewable energy zones. This will result in infrastructure that creates a sustainable city being delivered with development.
- b) S2 (Sustainability) - Creating better buildings and places to reduce emissions and waste and use water efficiently – The planning proposal will result in net zero energy buildings, which will reduce greenhouse gas emissions.
- c) S3 (Sustainability) - Increasing resilience of people and infrastructure against natural and urban hazards – Requiring net zero energy buildings will improve the resilience of buildings, improving the comfort for occupants now and in the future when we expect further impacts from climate change.

Q5. Is the planning proposal consistent with applicable State Environmental Planning Policies (SEPPs)?

This planning proposal’s consistency with applicable SEPPs and deemed SEPPs [formerly known as Regional Environmental Plans (REPs)] is shown at table 2. In this table, ‘consistent’ means that the planning proposal does not contradict or hinder the application of the relevant SEPP or REP.

SEPPs with which this planning proposal is consistent	SEPP (Building Sustainability Index: BASIX) 2004; SEPP (Housing for Seniors or People with a Disability) 2004 <u>SEPP (Housing) 2021</u> ; <u>SEPP (Transport and Infrastructure) 2007 2021</u> ; <u>SEPP (State Significant Precincts) 2005</u> ; <u>SEPP (Planning Systems) 2021</u> ; SEPP 65— Design Quality of Residential Flat Development; <u>SEPP (Precincts – Eastern Harbour City) 2021</u> ; <u>SEPP (Exempt and Complying Development Codes) 2008</u>
SEPPs that are not applicable to this planning proposal	SEPP 1— Development Standards ; SEPP 19— Bushland in Urban Areas ; SEPP 21—

	<p>Caravan Parks; SEPP 30—Intensive Agriculture; SEPP 33—Hazardous and Offensive Development; SEPP 36—Manufactured Home Estates; SEPP 44—Koala Habitat Protection; SEPP 47—Moore Park Showground; SEPP 50—Canal Estate Development; SEPP 52—Farm Dams and Other Works in Land and Water Management Plan Areas; SEPP 55—Remediation of Land; SEPP 62—Sustainable Aquaculture; SEPP 64—Advertising and Signage; SEPP 70—Affordable Housing (Revised Schemes); SEPP (Affordable Rental Housing) 2009; SEPP (Coastal Management) 2018; SEPP (Educational Establishments and Child Care Facilities) 2017; SEPP (Exempt and Complying Development Codes) 2008; SEPP (Integration and Repeals) 2016; SEPP (Kosciuszko National Park—Alpine Resorts) 2007; SEPP (Kurnell Peninsula) 1989; SEPP (Mining, Petroleum Production and Extractive Industries) 2007; SEPP (Miscellaneous Consent Provisions) 2007; SEPP (Penrith Lakes Scheme) 1989; SEPP (Rural Lands) 2008; SEPP (Sydney Drinking Water Catchment) 2011; SEPP (Sydney Region Growth Centres) 2006; SEPP (State and Regional Development) 2011; SEPP (Three Ports) 2013; SEPP (Urban Renewal) 2010; SEPP (Vegetation in Non-Rural Areas) 2017; SEPP (Western Sydney Employment Area) 2009; SEPP (Western Sydney Parklands) 2009</p> <p><u>SEPP (Biodiversity and Conservation) 2021;</u> <u>SEPP (Industry and Employment) 2021;</u> <u>SEPP (Precincts – Central River City) 2021;</u> <u>SEPP (Precincts – Western Parkland City) 2021;</u> <u>SEPP (Primary Production) 2021;</u> <u>SEPP (Resilience and Hazards) 2021;</u> <u>SEPP (Resources and Energy) 2021.</u></p>
<p>REPs that are not applicable to this planning proposal</p>	<p>Sydney REP (Sydney Harbour Catchment) 2005; Sydney REP 8—(Central Coast Plateau Areas); Sydney REP 9—Extractive Industry (No 2—1995); Sydney REP 16—Walsh Bay; Sydney REP 20—Hawkesbury-Nepean River (No 2—1997); Sydney REP 24—Homebush Bay Area; Sydney REP 26—City West; Sydney</p>

	<p>REP 30—St Marys; Sydney REP 33—Cooks Cove; Greater Metropolitan REP No 2—Georges River Catchment; Darling Harbour Development Plan No. 1; Sydney Cove Redevelopment Authority Scheme.</p>
--	--

Table 2: Planning proposal’s consistency with applicable SEPPs and deemed SEPPs.

Q6. Is the planning proposal consistent with applicable Ministerial Directions (s.9.1 directions)?

This planning proposal has no applicable Ministerial Directions as shown at table 3.

<p>Ministerial Directions that are not applicable to this planning proposal</p>	<p>1.1 Business and Industrial Zones; 1.2 Rural Zones; 1.3 Mining, Petroleum Production and Extractive Industries; 1.4 Oyster Aquaculture; 1.5 Rural Lands; 2.1 Environment Protection Zones; 2.2 Coastal Management; 2.3 Heritage Conservation; 2.4 Recreation Vehicle Areas; 2.5 Application of E2 and E3 Zones and Environmental Overlays in Far North Coast LEPs; 2.6 Remediation of Contaminated Land; 3.1 Residential Zones; 3.2 Caravan Parks and Manufactured Home Estates; 3.3 Home Occupations (Revoked 9 November 2020); 3.4 Integrating Land Use and Transport; 3.5 Development Near Regulated Airports and Defence Airfields 3.6 Shooting Ranges; 3.7 Reduction in non-hosted short term rental accommodation period; 4.1 Acid Sulphate Soils; 4.2 Mine Subsidence and Unstable Land; 4.3 Flood Prone Land; 4.4 Planning for Bushfire Protection; 5.1 Implementation of Regional Strategies (Revoked 17 October 2017); 5.2 Sydney Drinking Water Catchments; 5.3 Farmland of State and Regional Significance on the NSW Far North Coast; 5.4 Commercial and Retail Development along the Pacific Highway, North Coast; 5.9 North West Rail Link Corridor Strategy; 5.10 Implementation of Regional Plans; 5.11 Development of Aboriginal Land Council land; 6.1 Approval and Referral Requirements; 6.2 Reserving Land for Public Purposes; 6.3 Site Specific Provisions; 7.3 Parramatta Road Corridor Urban Transformation Strategy; 7.4 Implementation of North West Priority Growth Area Land Use and Infrastructure Implementation Plan; 7.5 Implementation of Greater Parramatta Priority Growth Area</p>
---	---

	<p>Interim Land Use and Infrastructure Implementation Plan; 7.6 Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan; 7.7 Implementation of Glenfield to Macarthur Urban Renewal Corridor; 7.8 Implementation of the Western Sydney Aerotropolis Plan; 7.9 Implementation of Bayside West Precincts 2036 Plan; 7.10 Implementation of Planning Principles for the Cooks Cove Precinct; 7.11 Implementation of St Leonards and Crows Nest 2036 Plan; 7.12 Implementation of Greater Macarthur 2040; 7.13 Implementation of the Pyrmont Peninsula Place Strategy.</p>
--	--

Table 3: Planning proposal's consistency with Ministerial Directions

This planning proposal is consistent with applicable Local Planning Directions issued by the Minister for Planning under section 9.1(2) of the Environmental Planning and Assessment Act 1979. Applicable directions are listed in Table 3.

<u>Local Planning Direction</u>	<u>Applicability and consistency</u>
<u>Focus area 1: Planning Systems</u>	
<u>1.1 Implementation of Regional Plans</u>	<u>Consistent. This planning proposal gives effect to objectives in the Greater Sydney Region Plan as detailed in Q3 above. The planning proposal is not inconsistent with any objectives in the Greater Sydney Region Plan, nor does it undermine the achievement of the vision, land use strategy, goals, directions or actions in the Region Plan.</u>
<u>1.2 Development of Aboriginal Land Council land</u>	<u>Not applicable</u>
<u>1.3 Approval and Referral Requirements</u>	<u>Not applicable</u>
<u>1.4 Site Specific Provisions</u>	<u>Not applicable</u>
<u>Focus area 1: Planning Systems – Place-based</u>	
<u>1.5 Parramatta Road Corridor Urban Transformation Strategy</u>	<u>Not applicable</u>
<u>1.6 Implementation of North West Priority Growth Area Land use and Infrastructure Implementation Plan</u>	<u>Not applicable</u>

<u>1.7 Implementation of Greater Parramatta Priority Growth Area Interim Land Use and Infrastructure Implementation Plan</u>	<u>Not applicable</u>
<u>1.8 Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan</u>	<u>Not applicable</u>
<u>1.9 Implementation of Glenfield to Macarthur Urban Renewal Corridor</u>	<u>Not applicable</u>
<u>1.10 Implementation of the Western Sydney Aerotropolis Plan</u>	<u>Not applicable</u>
<u>1.11 Implementation of Bayside West Precincts 2036 Plan</u>	<u>Not applicable</u>
<u>1.12 Implementation of Planning Principles for the Cooks Cove Precinct</u>	<u>Not applicable</u>
<u>1.13 Implementation of St Leonards and Crows Nest 2036 Plan</u>	<u>Not applicable</u>
<u>1.14 Implementation of Greater Macarthur 2040</u>	<u>Not applicable</u>
<u>1.15 Implementation of the Pyrmont Peninsula Place Strategy</u>	<u>Consistent. The planning proposal is consistent with the overall intent of the Pyrmont Peninsula Place Strategy and does not undermine the Plan’s vision, directions, big moves, sub-precinct place priorities, framework for key sites and key infrastructure opportunities.</u>
<u>1.16 North West Rail Link Corridor Strategy</u>	<u>Not applicable</u>
<u>1.17 Implementation of the Bays West Place Strategy</u>	<u>Not applicable</u>
<u>Focus area 2: Design and Place</u>	
[Blank]	
<u>Focus area 3: Biodiversity and Conservation</u>	
<u>3.1 Conservation Zones</u>	<u>Not applicable</u>
<u>3.2 Heritage Conservation</u>	<u>Consistent. The DCP includes controls specific for heritage buildings, so that the proposed</u>

	<u>LEP controls do not result in compromising the conservation of heritage items.</u>
<u>3.3 Sydney Drinking Water Catchments</u>	<u>Not applicable</u>
<u>3.4 Application of C2 and C3 Zones and Environmental Overlays in Far North Coast LEPs</u>	<u>Not applicable</u>
<u>3.5 Recreation Vehicle Areas</u>	<u>Not applicable</u>
<u>Focus area 4: Resilience and Hazards</u>	
<u>4.1 Flooding</u>	<u>Not applicable</u>
<u>4.2 Coastal Management</u>	<u>Not applicable</u>
<u>4.3 Planning for Bushfire Protection</u>	<u>Not applicable</u>
<u>4.4 Remediation of Contaminated Land</u>	<u>Not applicable</u>
<u>4.5 Acid Sulfate Soils</u>	<u>Not applicable</u>
<u>4.6 Mine Subsidence and Unstable Land</u>	<u>Not applicable</u>
<u>Focus area 5: Transport and Infrastructure</u>	
<u>5.1 Integrating Land Use and Transport</u>	<u>Not applicable</u>
<u>5.2 Reserving Land for Public Purposes</u>	<u>Not applicable</u>
<u>5.3 Development Near Regulated Airports and Defence Airfields</u>	<u>Not applicable</u>
<u>5.4 Shooting Ranges</u>	<u>Not applicable</u>
<u>Focus area 6: Housing</u>	
<u>6.1 Residential Zones</u>	<u>Not applicable</u>
<u>6.2 Caravan Parks and Manufactured Home Estates</u>	<u>Not applicable</u>
<u>Focus area 7: Industry and Employment</u>	
<u>7.1 Business and Industrial Zones</u>	<u>Not applicable</u>
<u>7.2 Reduction in non-hosted short-term rental accommodation period</u>	<u>Not applicable</u>

<u>7.3 Commercial and Retail Development along the Pacific Highway, North Coast</u>	<u>Not applicable</u>
<u>Focus area 8: Resources and Energy</u>	
<u>8.1 Mining, Petroleum Production and Extractive Industries</u>	<u>Not applicable</u>
<u>Focus area 9: Primary Production</u>	
<u>9.1 Rural Zones</u>	<u>Not applicable</u>
<u>9.2 Rural Lands</u>	<u>Not applicable</u>
<u>9.3 Oyster Aquaculture</u>	<u>Not applicable</u>
<u>9.4 Farmland of State and Regional Significance on the NSW Far North Coast</u>	<u>Not applicable</u>

Section C – Environmental, social and economic impact

Q7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

This planning proposal will not adversely affect any critical habitat or threatened species, populations or ecological communities, or their habitats.

Q8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

There will be no other detrimental environmental impacts as a result of this planning proposal.

The proposed amendments will reduce greenhouse gas emissions resulting in a positive environmental impact.

Q9. Has the planning proposal adequately addressed any social and economic effects?

This planning proposal facilitates resilient, net zero energy buildings. The key benefits are:

- a) reduced greenhouse gas emissions equating to 21% of the City of Sydney's 2030 target
- b) reduced running costs for developers, owners and occupants of buildings and improved comfort for occupants now and in the future when we expect further impacts from climate change
- c) savings in avoided health, energy network and emissions costs
- d) contribution to a positive and sustainable business recovery for Greater Sydney
- e) demand for new skills and jobs in energy efficiency
- f) support for investment and jobs in the NSW Government's renewable energy zones.

A broader cost benefit analysis was completed that considered the costs and benefits to direct participants such as developers and owners of buildings, and indirect public benefits of health, energy network and emissions savings.

From development that occurs in Greater Sydney, the broader analysis identified that the performance standards will save investors, business and occupants \$1.341 billion between their implementation in 2023 and 2050. This is the result of energy bill savings minus the cost to implement the performance standards.

The broader analysis also identified savings to the public of \$1.811 billion between 2023 and 2050. This is through savings to NSW energy consumers of \$842 million from avoided power generation from traditional sources such as coal and \$618 million from avoided additional network infrastructure for traditional power generation. The community in Sydney, the Hunter Valley, and NSW taxpayers will also save \$35 million from avoided health costs resulting from better air quality. Lastly, the public in general will save \$316 million attributed to avoided emission costs. For further information see the project report at Attachment 2.

A separate City analysis on the procurement of off-site renewables in step two of the performance standards is estimated to generate \$13 million for renewable energy producers from development in the city alone. This supports investment and jobs in the NSW Government's renewable energy zones.

Section D – State and Commonwealth interests

Q10. Is there adequate public infrastructure for the planning proposal?

Yes, the proposed amendments do not increase the need for public infrastructure.

The associated broader cost benefit found the implementation of the performance standards will reduce the need for additional power supply network infrastructure going forwards.

Q11. What are the views of state and Commonwealth public authorities consulted in accordance with the Gateway determination?

~~The Gateway determination will advise the public authorities to be consulted, as part of this planning proposal process. Any issues raised will be incorporated into this planning proposal following consultation in the public exhibition period.~~

In November 2020, a meeting occurred with key DPIE executive directors, directors and staff (Eastern District Regional Unit, Resource Policy and Reform Implementation, BASIX, NABERS, Climate Resilience and Net Zero Emissions, Sustainability Programs teams) and GSC commissioners and staff on the draft performance standards, implementation timeframes, development thresholds and the integration of off-site renewables. Individual developer feedback was also discussed. At that meeting it was recommended that these performance standards had potential for use in the draft Design and Place SEPP.

In November 2020, a meeting with staff from the Government Architect NSW discussed the draft performance standards and the cost benefit analysis. No view was provided by the staff at that meeting.

Greater Sydney Commission are a project partner and the Environment Commissioner spoke in support of the performance standards at the 11 March 2021 briefing to 185 industry and

government stakeholders. The Environment Commissioner also encouraged all other councils in Greater Sydney to use the evidence base to implement the performance standards.

At the briefing industry and government attendees were asked to complete a survey which identified their support for the implementation of the performance standards. Of those that completed the survey, 76% supported the implementation of the performance standards without any changes.

The Gateway determination required consultation with the Environment, Energy and Science group within the Department of Planning and Environment. A submission provided by the group supported the planning proposal, stating that it provided a robust evidence base and included well-articulated standards. The submission also expressed the view that local controls should be permitted to exceed the requirements of the National Construction Code.

The submission highlighted the need for alignment with the draft State Environmental Planning Policy – Design and Place, however this draft SEPP was withdrawn by the Minister for Planning Anthony Roberts on 5 April 2022. Nevertheless, both policies were developed in close consultation and this planning proposal is consistent with the former draft SEPP.

The Gateway determination also required consultation with relevant utility and service providers. Ausgrid responded with some clarification questions but did not make a formal submission and expressed no view on the planning proposal.

Part 5: Mapping

This planning proposal does not require any maps.

Part 6: Community consultation

~~This planning proposal is to be exhibited in accordance with the Gateway determination once issued by DPIE and the City's Community Participation Plan.~~

~~It is anticipated the Gateway determination will require public exhibition for a period of not less than 28 days in accordance with of the Environmental Planning and Assessment Act 1979 and section 4.5 of A Guide to preparing Local Environmental Plans.~~

~~Exhibition material will be made available on the City's website.~~

~~Consultation with relevant NSW agencies, authorities and other relevant organisations will be undertaken in accordance with the Gateway determination.~~

This planning proposal received Gateway determination on 1 October 2021, enabling public exhibition after minor amendments were made.

This planning proposal was exhibited for 28 days beginning 18 November 2021 and closing 17 December 2021. Exhibition material was made available on the City of Sydney website. 11 submissions were received during the exhibition period.

Ten submissions were received from community members, organisations and property industry groups.

Part 7: Project timeline

The anticipated timeframe for the completion of the planning proposal is as follows.

It is to be noted that the proposed LEP provisions are intended to take effect on 1 January 2023.

	<u>Oct 21</u>	<u>Nov 21</u>	<u>Dec 21</u>	<u>Jan 22</u>	<u>Feb 22</u>	<u>Mar 22</u>	<u>Apr 22</u>	<u>May 22</u>	<u>June 22</u>	<u>July 22</u>	<u>Aug 22</u>	<u>Sep 22</u>	<u>Oct 22</u>
Receive Gateway determination													
Public Exhibition of Planning Proposal													
Government agency consultation													
Consideration of submissions													
Post exhibition consideration of Planning Proposal													
Draft and finalise LEP													
LEP made													

Attachment 1 – Development Thresholds and Performance Standards

Proposed land use	Development threshold for performance standards	Energy performance standards	
		Applications submitted between 1 January 2023 – 31 December 2025	Applications submitted from 1 January 2026 onwards
Office (base building)	A new office building containing a net lettable area (NLA) of 1,000m ² or more	<ul style="list-style-type: none"> - maximum 45 kWh/yr/m² of Gross Floor Area (GFA), or - 5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or - certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent 	<ul style="list-style-type: none"> - maximum 45 kWh/yr/m² of GFA, or - 5.5 Star NABERS Energy CA + 25%, or - certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent <p>and</p> <ul style="list-style-type: none"> - renewable energy procurement equivalent to “net zero <u>emissions from energy use</u>” or a maximum of 45 kWh/yr/m² of GFA
	A refurbishment* to an existing office building that contains a NLA of 1,000m ² or more		
	An existing office building of 1,000m ² NLA or more with an addition of 50% or more NLA		
Retail (applies to shopping centre base building only)	A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m ² or more	<ul style="list-style-type: none"> - maximum 55 kWh/yr/m² of GFA, or - 4 star NABERS Energy CA, or - certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent 	<ul style="list-style-type: none"> - maximum 45 kWh/yr/m² of GFA, or - 5 star NABERS Energy CA, or - certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent <p>and</p> <ul style="list-style-type: none"> - renewable energy procurement equivalent to “net zero <u>emissions from energy use</u>” or a maximum of 45 kWh/yr/m² of GFA
	An existing shopping centre of 5,000m ² GLAR or more with an addition of 50% or more GLAR		
Hotel (whole of building)	A new hotel of 100 rooms or more	<ul style="list-style-type: none"> - maximum 245 kWh/yr/m² of GFA, or - 4 star NABERS Energy CA, or - certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent 	<ul style="list-style-type: none"> - maximum 240 kWh/yr/m² of GFA, or - 4 star NABERS Energy CA + 10%, or - certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent <p>and</p> <ul style="list-style-type: none"> - renewable energy procurement equivalent to “net zero <u>emissions</u>
	A refurbishment* to an existing hotel that contains 100 rooms or more		
	An existing hotel of 100 rooms or more with an		

Planning Proposal – Performance Standards for Net Zero Energy Buildings

	addition of 50% or more hotel rooms		<u>from energy use</u> " or a maximum of 240 kWh/yr/m ² of GFA
Mixed use	Where one or more of the above thresholds for each proposed use apply	- The above performance standards apply for each proposed use	- The above performance standards apply for each proposed use

~~*Refurbishment means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.~~

The office and shopping centre performance standards are for base building only. This means only the energy used in central services and common areas such as heating and cooling systems, lifts and lobby lighting is considered. For hotel and multi-unit residential development, the performance standards cover the entire building, which includes the base building, the individual hotel rooms and apartments, and other amenities like bars, cafes and pools.

Attachment 2 – Performance Standards for net Zero Energy Buildings Project Report

Attachment 3 – Planning for Net Zero Energy Buildings Briefing – Summary Report

Attachment 4 – Letters of Support for the Performance Standards

Attachment 5 – LEP example clause

X.XX Net zero energy emissions development

(1) The objective of this clause is to reduce the production of greenhouse gas emissions from development and contribute to the resilience of development to climate change.

(2) This clause applies to the following development:

Development	Development thresholds for performance standards
office (base building)	a new office building containing a net lettable area (NLA) of 1,000m ² or more
	a refurbishment* <u>alteration</u> to an existing office building that contains an NLA of 1,000m ² or more <u>involving 50% or more of the existing NLA</u>
retail (applies to shopping centre base building only)	an existing office building of 1,000m ² NLA or more with an addition of 50% or more NLA
	a new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m ² or more
hotel (whole of building)	an existing shopping centre of 5,000m ² GLAR or more with an addition of 50% or more GLAR
	a new hotel of 100 rooms or more
mixed use	a refurbishment* <u>alteration</u> to an existing hotel that contains 100 rooms or more <u>involving 50% or more of the existing GFA</u>
	an existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms
mixed use	where one or more of the above thresholds for each proposed use apply

(3) Development consent must not be granted to development to which this clause applies unless the consent authority is satisfied that:

- for applications lodged on or after 1 January 2023 ~~and 31 December 2025~~ the development is highly efficient and reduces energy use through energy efficiency ~~and the use of~~ and/or on-site renewables, ~~and~~
- for applications involving alterations to existing office premises, the development will be more efficient and less emissions intensive; and
- for applications lodged on or after 1 January 2026 that the development ~~is capable of achieving~~ will have net zero emissions from energy use.

(4) The consent authority must have regard to the extent to which the development will achieve any relevant standards identified in a development control plan made by the Council in respect of the land when considering whether development:

- a) is highly efficient and reduces energy use through energy efficiency ~~and the use of~~ and/or on-site renewables, ~~and~~
- b) will be more efficient and less emissions intensive; and
- c) ~~is capable of achieving~~ will have net zero emissions from energy use.

(5) In this clause—

Net lettable area means the area of the building as set out in the Property Council of Australia Method of Measurement.

Net zero emissions from energy use means the development consumes no more energy than is provided by a combination of:

- a) renewable energy generated on-site, ~~or~~ and
- b) renewable energy sourced/procured from off-site sources for a period of at least five years.

In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.

Shopping centre means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.

Refurbishment ~~means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.~~



Attachment B1

**Planning Proposal Attachment 2 –
Performance Standards for Net Zero Energy
Buildings Project Report**



Planning for net zero energy buildings

Performance standards pathways to achieve high-performing net zero energy buildings in Greater Sydney



Contents

Executive summary	06
Background	12
Pathways to net zero	20
Implementation	37
Benefits	46
Project recommendations	49
Appendix 1 Building and systems description	54
Typology description	55
Appendix 2 Modelling and cost benefit analysis	59
Appendix 3 Proposed DCP and LEP clauses	92
Appendix 4 Planning and design tool appraisal	97
Appendix 5 Green star energy credit comparison	104

List of tables and figures

Tables

Table 1:	Asset classes and targets	09
Table 2:	Asset classes and typologies	21
Table 3:	Energy reduction measures by building component	27
Table 4:	Office asset class targets	31
Table 5:	Shopping centre asset class targets	32
Table 6:	Hotel asset class targets	33
Table 7:	Residential asset class targets	35
Table 8:	Total direct impacts, 2023-2050	46
Table 9:	Total indirect impacts, 2023-2050	47
Table 10:	Total indirect impacts, 2023-2050	48
Table 11:	Summary of targets and development size triggers	50

Appendix 1 Building and systems description

Table 1:	Office typologies	55
Table 2:	Shopping centre typologies	56
Table 3:	Hotel typologies	57
Table 4:	Multi-unit residential typologies	58

Appendix 2 Modelling and cost benefit analysis

Table 1:	Asset classes and typologies	62
Table 2:	Energy efficiency measures considered and applicability	63
Table 3:	CBA model	70
Table 4:	Reference rates of return for cost effectiveness	71
Table 5:	Office results	72
Table 6:	Office energy results for financially viable measures	74
Table 7:	Office CBA results for financially viable measures	74
Table 8:	Shopping centre results	76
Table 9:	Shopping centre energy results for financially viable measures	78
Table 10:	Shopping centre CBA results for financially viable measures	78

Table 11: Hotel results	81
Table 12: Hotel energy results for financially viable measures	83
Table 13: Hotel CBA results for financially viable measures	83
Table 14: Multi-unit residential results	84
Table 15: Multi-unit residential energy results for financially viable measures	86
Table 16: Multi-unit residential CBA results for financially viable measures	88
Table 17: Mixed use typologies	90
Table 18: Mixed use results	91
Table 19: Mixed use energy results for financially viable measures	93
Table 20: Mixed use CBA results for financially viable measures	93

Appendix 3 Proposed DCP and LEP clauses

Table 1: Development threshold and energy performance standards	94
Table 2: Net zero energy emissions development	95

Appendix 5 Green star energy credit comparison

Table 1: Energy reductions for the first target	105
Table 2: Shows the required reductions for the second target	105

Figures

Figure 1: Timeline of the performance standard pathways towards net zero	30
--	----

Appendix 2 Modelling and cost benefit analysis

Figure 1: Modelling approach	60
Figure 2: Public benefits from net zero compliance, 2023-2050	68
Figure 3: Analysis model	69
Figure 4: Office cumulative energy intensity reduction of energy efficiency reduction measures	73
Figure 5: Shopping centre cumulative energy intensity reduction by energy efficiency reduction measure	77
Figure 6: Hotel cumulative energy intensity reduction per energy efficiency reduction measure	82
Figure 7: Multi-unit residential cumulative energy intensity reduction by energy efficiency reduction measure	85
Figure 8: Mixed use cumulative energy intensity reduction by financial viability per energy efficiency reduction measure	90

Abbreviations

Acronym	Description
AHU	Air handling unit
ASBEC	Australian Sustainable Built Environment Council
ATAP	Australian Tourism Accreditation Program
ACH	Air change per hour
BASIX	Building Sustainability Index
BIPV	Building integrated photovoltaic panels
CAV	Constant air volume
CBA	Cost benefit analysis
COP	Coefficient of performance
DCP	Development Control Plan
DHW	Domestic hot water
DISER	Department of Science, Energy and Resources
DPIE	Department of Planning, Industry and Environment
EER	Energy efficiency ratio
FCU	Fan coil unit
GBCA	Green Building Council of Australia
GFA	Gross floor area
GLAR	Gross lettable area - retail
GSC	Greater Sydney Commission

Acronym	Description
HHW	Heating hot water
HVAC	Heating, ventilation and air conditioning
IPLV	Integrated part-load value
IRR	Internal rate of return
LEP	Local Environmental Plan
LPD	Lighting Power Density
NABERS	National Australian Built Environment Rating System
NatHERS	Nationwide House Energy Rating Scheme
NCC	National construction code
NLA	Net lettable area
NSA	Net sellable area
PCA	Property Council of Australia
PV	Photovoltaic
SHGC	Solar heat gain coefficient
TRY	Test reference year
VAV	Variable air volume
VRF	Variable refrigerant volume
VSD	Variable speed drive
VT	Vertical Transport
WWR	Window to wall ratio

Units

Units	Description
\$	Dollars (AUD)
oC	Degree Celsius
kW	Kilowatt
kWh/a	Kilowatt per annum
kWh/yr/m ²	Kilowatt per year, per square meter
MWh/a	Megawatt per annum
MJ/a	Megajoule per annum
GJ/a	Gigajoule per annum
l/s/p	Litre per second per person
l/s/m ²	Litre per second per square metre
ACH	Air change per hour
mm	Millimetre
m	Metre
m ²	Square metre
m ² /p	Square metre per person
W/m ²	Watt per square metre
m ² K/W	Square metre kelvin per watt (R value)
W/m ² K	Watt per square metre kelvin (U value)

Executive summary

Why net zero?

It is globally recognised and agreed that to meet the ambitions of the Paris Agreement, global carbon emissions must reach net zero by around 2050.

Councils work within international, national and state frameworks to reduce greenhouse gas emissions. The aim to drive down greenhouse gas emissions in the built environment – the subject of this report – is part of the City of Sydney's (the City) ambition to reach net zero emissions by 2040 and work together with other Greater Sydney councils to support them achieve their net zero goals.

As part of this work, the City, recognises that the energy used in the operation of buildings is the largest contributor to greenhouse gas emissions in Greater Sydney. It accounts for around 55 per cent of greenhouse gas emissions in Greater Sydney¹.

The City is looking to understand how the planning system can be optimised to drive down greenhouse gas emissions from the built environment. This will respond to the NSW Government and the City's net zero emissions target, as well as 'the low carbon city' objective in the *Greater Sydney Region Plan - A Metropolis of Three Cities* (Region Plan), and other local government greenhouse gas emission reduction targets.

A net zero energy building is highly energy efficient and consumes no more energy than that which is generated on-site and/or procured from off-site renewable energy sources.

Councils use existing planning and design tools such as NABERS, Green Star and BASIX to drive lower energy use in developments – these will help the progress towards net zero. However, most buildings, such as those that shape the skyline across Sydney, require off-site solutions to achieve a net zero target.

There are limited market incentives for the development industry to go above and beyond mandated standards and codes to achieve net zero emissions – the benefits of an energy efficient building go largely to the asset owner and tenants after completion in the form of lower energy costs.

This report looks at how the City and other Greater Sydney councils can embed **optimum energy efficiency, on-site renewable energy and off-site renewable energy** to set a path to net zero in the planning and design process for larger buildings. It proposes:

- performance standards
- controls within the planning system.

The performance standards are step change improvements in energy performance to transition to net zero energy developments, as well as major refurbishments of existing buildings. Implementing the performance standards will have a tangible impact on lowering greenhouse gas emissions in the built environment and improve building resilience in a cost-effective manner, as well as contribute to a positive and sustainable business recovery for Greater Sydney.

¹ Exploring Net Zero Emissions for Greater Sydney, prepared by Kinesis for the Greater Sydney Commission, 2015

About this report

This report summarises an extensive program of work that began in 2018 to:

- identify the most appropriate performance standards (or targets) that, if met, can achieve high-performing, net zero energy **office, shopping centre, hotel, multi-unit residential, and mixed-use developments** (including new and major refurbishments) and that could be incorporated into planning controls
- develop an evidence base, including stakeholder engagement and a robust cost benefit analysis, to support the recommended performance standards
- recommend approaches to implement the performance standards within the NSW planning system.



Stakeholder engagement at Forum 2 in November 2018.

Developing the performance standards

This program of work was informed by two City of Sydney-facilitated industry and government forums held in 2018. The forums identified issues and opportunities to support the net zero emissions by 2050 target within the NSW planning system and to meet the ambitions of the Region Plan and Resilient Sydney.

From this foundation, the program of work considered four building asset classes:

1. Office (base building)
2. Shopping centre (base building)
3. Hotel (whole building)
4. Multi-unit residential (whole building)

Mixed use was also considered as component uses of the four asset types.

The program then:

- included **stakeholder engagement** to understand stakeholder needs and objectives and secure stakeholder support for the performance standards
- **established a baseline** for each non-residential asset type, based on Section J of the National Construction Code (NCC) 2019 and BASIX requirements for residential buildings
- included consultation with specialist energy-efficiency engineers to determine **energy reduction measures**, which were applied to each building type to identify the maximum potential on-site improvement and to individually cost the capital expenditure increase associated with the energy reduction measures for each type of building
- used a **cost benefit analysis (CBA)** of the recommended energy reduction measures for each building type to determine commercial viability, based on a comparison of capital expenditure increase to ongoing energy savings across a 15 to 25-year timeline, by:
 - identifying and combining cost effective measures to determine the most energy efficient and cost effective first step for each building type
 - forecasting changes in costs and benefits over time to inform the staging of more stringent requirements, on the assumption that different measures will become more cost effective
 - considering the costs and benefits to direct development participants (developers, owners and occupants) and indirect participants (the public) through energy savings.
- determined recommended performance standards or targets through **robust industry and government stakeholder engagement** sessions and a review of planning and design tools, to avoid introducing new requirements, such as:
 - National Australian Built Environment Rating System (NABERS)
 - Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
 - Green Star Design and As Built (and Green Star Buildings).

Workable targets and implementation

The report recommends a first and second target for each asset class, with the first target implemented in 2023 and the second in 2026. This includes a single on-site energy intensity (kWh/yr/m²) target for each asset class or equivalent options to meet that target within existing planning and design tools. These targets are shown in Table 1.

In recognition that most buildings will not achieve net zero through cost effective energy efficiency and on-site renewables alone, off-site renewables will need to be purchased. The additional cost of the off-site option was included in the CBA and the final results.

Table 1: Asset classes and targets

Asset class	First target (2023)	Second target (2026)
Office (base building)	Maximum 45 kWh/yr/m ² , or equivalent NABERS Energy or Green Star Buildings credits, or equivalent	Maximum 45 kWh/yr/m ² , or equivalent NABERS Energy or Green Star Buildings credits, or equivalent, and renewable energy procurement to net zero
Shopping centre (base building)	Maximum 55 kWh/yr/m ² , or equivalent NABERS Energy or Green Star Buildings credits, or equivalent	Maximum 45 kWh/yr/m ² , or equivalent NABERS Energy or Green Star Buildings credits, or equivalent, and renewable energy procurement to net zero
Hotel (whole of building)	Maximum 245 kWh/yr/m ² , or equivalent NABERS Energy or Green Star Buildings credits, or equivalent	Maximum 240 kWh/yr/m ² , or equivalent NABERS Energy or Green Star Buildings credits, or equivalent, and renewable energy procurement to net zero
Multi-unit residential (whole of building)		
6-10 storeys	Basix Energy 40	Basix Energy 45 and renewable energy procurement to net zero
11-20 storeys	Basix Energy 35	Basix Energy 40 and renewable energy procurement to net zero
21-30 storeys	Basix Energy 30	Basix Energy 35 and renewable energy procurement to net zero
Mixed use	Individual asset component targets identified above	Individual asset component targets identified above

Off-site renewable energy will be an imperative for most developments. This requires provision within the planning system to ensure appropriate and lasting implementation.

The following planning options were considered to support implementation of the targets. These options can be implemented individually or in combination. Options A and B provide the preferred balance of legislative weight to achieve the net zero objective while being less prescriptive to provide flexibility.

The options are:

- **Option A: Amend Local Environmental Plan (LEP)**

Add clauses to the Standard LEP requiring best practice environmentally sensitive design, coupled with a specific clause relating to the targets.

- **Option B: Amend Development Control Plan (DCP)**

Add DCP controls to set targets. This allows flexibility for development that achieves a high degree of efficiency and meets the net zero objectives yet cannot meet the specific target.

- **Option C: Amend Region Plan and district plans**

In addition to amending the LEP and DCP, add a clear policy direction to the Region Plan and district plans to implement the performance standards to net zero energy across Greater Sydney.

- **Option D: Amend BASIX**

Amending BASIX targets provides consistency across Greater Sydney and progress to net zero for residential development.

- **Option E: Add to the proposed Design and Place SEPP**

Add the performance standards and options to demonstrate compliance.

Project recommendations

The project identified key changes needed inside and outside of planning to support the transition to net zero emissions and implement the performance standards. These recommendations have been developed through engagement with industry and government and are detailed in the Project Recommendations section.

A summary of the recommendations is included below:

- incorporating targets into planning controls
- advocating to the Department of Planning, Industry and Environment (DPIE) to implement the targets in legislation and state policies
- updating Region Plan and district plans to support the implementation of the targets across Greater Sydney
- embedding methods to recognise off-site renewables in planning
- updating design and planning tools to maintain relevance
- reviewing targets over time to maintain relevance
- providing educational programs for councils, industry and the community to assist with implementation of the targets
- exploring mandatory building performance disclosure for more asset classes
- advocating for the extension of the Renewable Energy Target to 2050 to support the use of off-site renewables.



Development under construction (Western City District), Image by Greater Sydney Commission.

Background

Why net zero?

Global efforts to tackle climate change include a united undertaking to reduce greenhouse gas emissions, as required under the Paris Agreement. The Paris Agreement, signed by 94 countries – including Australia – aims to:

“Strengthen the global response to the threat of climate change by keeping global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue other efforts to limit the temperature increase even further to 1.5 degrees Celsius.” (United Nations, 2017).

It is globally recognised and agreed that to meet this goal, global carbon emissions must reach net zero by around 2050.

Australia is committed to reducing economy-wide greenhouse gas emissions by 26 to 28 per cent below 2005 levels by 2030. All states and territories have committed to be net zero by 2050 or earlier.



Image by City of Sydney.



The NSW Government aligns with national and international commitments through the NSW Climate Change Policy Framework, which:

- identifies a net zero emissions objective by 2050
- aims to build NSW's resilience to a changing climate.

Further, the *Net Zero Plan Stage 1: 2020 – 2030* sets out the NSW Government's plan to reduce emissions, with an initial focus on implementing proven emission reduction technologies and empowering consumers and business to make sustainable choices.

Councils work within international, national and state frameworks to reduce greenhouse gas emissions. The City of Sydney's (the City) ambition is to achieve net zero emissions by 2040 and work together with other Greater Sydney councils to support them achieve their greenhouse gas emission reduction targets, the NSW Government's net zero emissions target and 'the low carbon city' objective in the *Greater Sydney Region Plan - A Metropolis of Three Cities* (Region Plan). The City is looking to understand how the planning system can be optimised to drive down greenhouse gas emissions from the built environment.

As part of this work, the City, recognises that the energy used in the operation of buildings is the largest contributor to greenhouse gas emissions in Greater Sydney. It accounts for around 55 per cent of greenhouse gas emissions in Greater Sydney².

Achieving net zero emissions requires action across several sectors of the economy. The focus of this report is on the greenhouse gas emissions of the built environment, specifically offices, shopping centres, hotels, multi-unit residential and buildings accommodating a mix of these uses (mixed use).

Many newly built assets will be operational for more than 20 years with minimal changes to their energy using systems. As the party responsible for planning and building approvals, councils can drive lower built environment greenhouse gas emissions.

Definition of net zero for this project

For the purposes of this project, a **net zero energy development** means a development that consumes no more energy than is provided by a combination of:

- renewable energy generated on-site, or
- renewable energy procured from off-site sources for a period of 5 years.

In this definition, energy includes electricity, thermal energy and gas, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.

This definition recognises that the energy consumption considered in the analysis undertaken as part of this overall program of work is operational only and associated with building emissions from on-site gas and electricity consumption. The analysis does not include energy associated with waste, transport or embodied energy.

Benefits

Net zero buildings will bring direct benefits to the community by achieving health savings through reduced pollution, as well as cost savings through reduced infrastructure requirements. It will also help to build greater resilience within the community to a changing climate.

In terms of the economy, net zero buildings can help to:

- create jobs and demand for new skills in the energy efficiency (design and operation) component of the building construction and management sectors, as well as in the renewable energy sector
- reduce the need to build additional energy infrastructure, potentially reducing costs
- lower operational costs
- drive growth in the renewable energy sector
- drive innovation in the sustainable building sector.

The environment will benefit from the overall contribution to the global effort to reduce emissions.

² Exploring Net Zero Emissions for Greater Sydney, prepared by Kinesis for the Greater Sydney Commission, 2015

The challenge

Driving sustainability in the built environment has been a focus of government and industry since the 1990s, with the implementation of many mechanisms to improve the energy efficiency of buildings such as NABERS, Green Star, BASIX and Section J of the National Construction Code.

These mechanisms have helped to move the energy efficiency of buildings towards net zero; more is required to achieve net zero.

The program of work behind this report has found that the use of energy efficiency and on-site renewable energy alone will not always achieve net zero energy. In large building asset classes such as offices, shopping centres, hotels, multi-unit residential and mixed-use developments, purchasing off-site renewable energy is nearly always required to achieve net zero energy.

Some developers already purchase off-site renewable energy through schemes such as power purchase agreements (PPAs) and GreenPower. These schemes are voluntary.

Further, there is little incentive for developers to go above and beyond mandated standards and codes to achieve net zero, as the benefits of an energy efficient building are largely split between the long-term asset owner and the occupants or tenants.

To ensure energy efficient buildings are built, **optimum energy efficiency and on-site generation must be embedded into the planning and design process** of these asset classes and performance standards and controls within the planning system will be an essential mechanism.

Objectives of the report

This report focuses on addressing this challenge in the context of the Greater Sydney region.

This report summarises an extensive program of work, focused on Greater Sydney, that began in 2018 to:

- identify the most appropriate performance standards (or targets) to achieve high-performing, net zero energy, **office, shopping centre, hotel, multi-unit residential, and mixed-use developments** (including new and major refurbishments)
- develop an evidence base, including stakeholder engagement and a robust cost benefit analysis, to inform the development of the performance standards for Greater Sydney
- recommend approaches to implement the performance standards within the NSW planning system.

The report considers the performance standards required to make each asset class as efficient as possible in its design and use of on-site renewables, before looking to off-site renewables to make up any remaining energy balance.



Stakeholder engagement

Consultation and engagement with developers, industry experts and across government has been essential to a full consideration of the challenges and opportunities of net zero energy buildings and to inform the development and implementation of the performance standards.

The program of work kicked off with two industry and government forums in 2018. These were facilitated by the City to identify issues and opportunities in land use planning to support the NSW Government's target of net zero emissions by 2050, and 'the low carbon city' objective in the Region Plan and Resilient Sydney.

The forums in 2018 explored the planning challenges associated with achieving high-performance, net zero energy buildings. This included:

- lack of mandatory regulation relating to energy performance for all asset classes and where it exists, it is not up to date and therefore limits rather than facilitates energy performance
- design and planning tools such as NABERS and BASIX are not updated regularly. BASIX is slow to respond and keep up to date with technology and doesn't encourage higher levels of performance. councils have limited options to influence energy performance of residential developments
- high rise buildings cannot achieve net zero on-site and need to use off-site renewables or shared precinct energy infrastructure
- the process from buying a site to the submission of a development application is long and therefore expectations need to be known upfront to provide certainty
- councils require more resources and support to improve knowledge, understanding, monitoring and enforcement of design and planning tools
- there is inadequate post-development monitoring and enforcement of energy performance

- developers would like incentives to overcome financial barriers and internal organisational resistance. While some councils would prefer, they are not used to bridge the gap between minimum and higher performance requirements
- lack of clarity on what the developer must submit to council to demonstrate compliance with sustainability requirements
- lack of transparency and accountability in monitoring and enforcing energy efficiency outcomes by councils and private certifiers
- lack of leadership and overall strategic direction for achieving net zero. The property industry would like clear requirements from government to support a transition to net zero developments.

Additional engagement sessions during 2019 to 2020 informed the development of the performance standards. This included:

- three meetings with the Planning Leadership Advisory Group, an external industry and government group, on project methodology, technical elements and implementation
- two industry and government workshops with many participants from the first two forums to seek feedback on the initial energy modelling, cost benefit analysis and potential off-site measures that could be recognised in planning
- meetings with industry experts, including Paul Bannister, an energy efficiency specialist who completed the energy modelling for the regulatory impact statement for Australian Building Codes Board (ABCB), and industry groups such as Australian Sustainable Built Environment Council (ASBEC), Clean Energy Finance Corporation (CEFC), Green Building Council of Australia (GBCA) and the Shopping Centres Council. These meetings discussed energy efficiency measures, offsite renewable energy procurement and other offset options.

These sessions highlighted the following issues.

1. Performance standards

Stakeholders were consulted on the preference between a performance standard per asset class (four standards) or performance standards per building typology within an asset class (12 standards). While both options were supported, feedback indicated that per asset class is the approach most likely to allow clarity through the planning controls. The per-typology option could complicate planning controls, as they could cause confusion or limit the ability for developments dissimilar to the proposed building typologies to apply the performance standards.

2. Structure of the targets

There was a preference for setting overall targets for each asset class, including a minimum energy efficiency requirement, which can be met through energy efficiency measures and on-site renewable energy generation. An overall target approach for each asset class offers greater flexibility for each specific building.

3. Steepness of the performance standards to achieve net zero energy

Stakeholders were asked whether the performance standards should have a shallow or steep trajectory. Stakeholders agreed to immediate action, however noted that they require ample lead time to factor in cost and design implications to prepare for increasing targets.

Most stakeholders agreed the first step should be a step up but not cost prohibitive.

4. Industry-wide communication and education

To support early integration of net zero energy design strategies and avoid costs that arise when these are addressed too late in the design process, performance standards must be clearly communicated. Planning controls must be clear, consistent and enforceable.

5. Offsite renewable energy procurement options

Stakeholders want choice and flexibility in potential off-site renewable energy procurement options rather than a specific offset mechanism.

Further engagement took place between 2020 and 2021 to get feedback on the draft performance standards and timeframes, development thresholds and the integration of off-site renewables:

- individual meetings with nine developers. The nine developers were Mirvac, Stockland, Lendlease, Frasers, Aqualand, Greenland, Charter Hall, Dexus and Crown Group. The meetings sought feedback on the implementation of the performance standards given the impacts of COVID
- a meeting with executive directors and directors from DPIE and commissioners and staff from the GSC. Feedback from the individual meetings with developers was also discussed
- a meeting with staff from the Government Architect NSW
- meetings with the Western Sydney Regional Organisation of Councils, Southern Sydney Regional Organisation of Councils and the Northern Planners, a subset of Northern Sydney Regional Organisation of Councils
- meetings with representatives of the Property Council of Australia committees, other peak bodies and project partners.

The feedback received in these meetings was incorporated into the performance standards as follows:

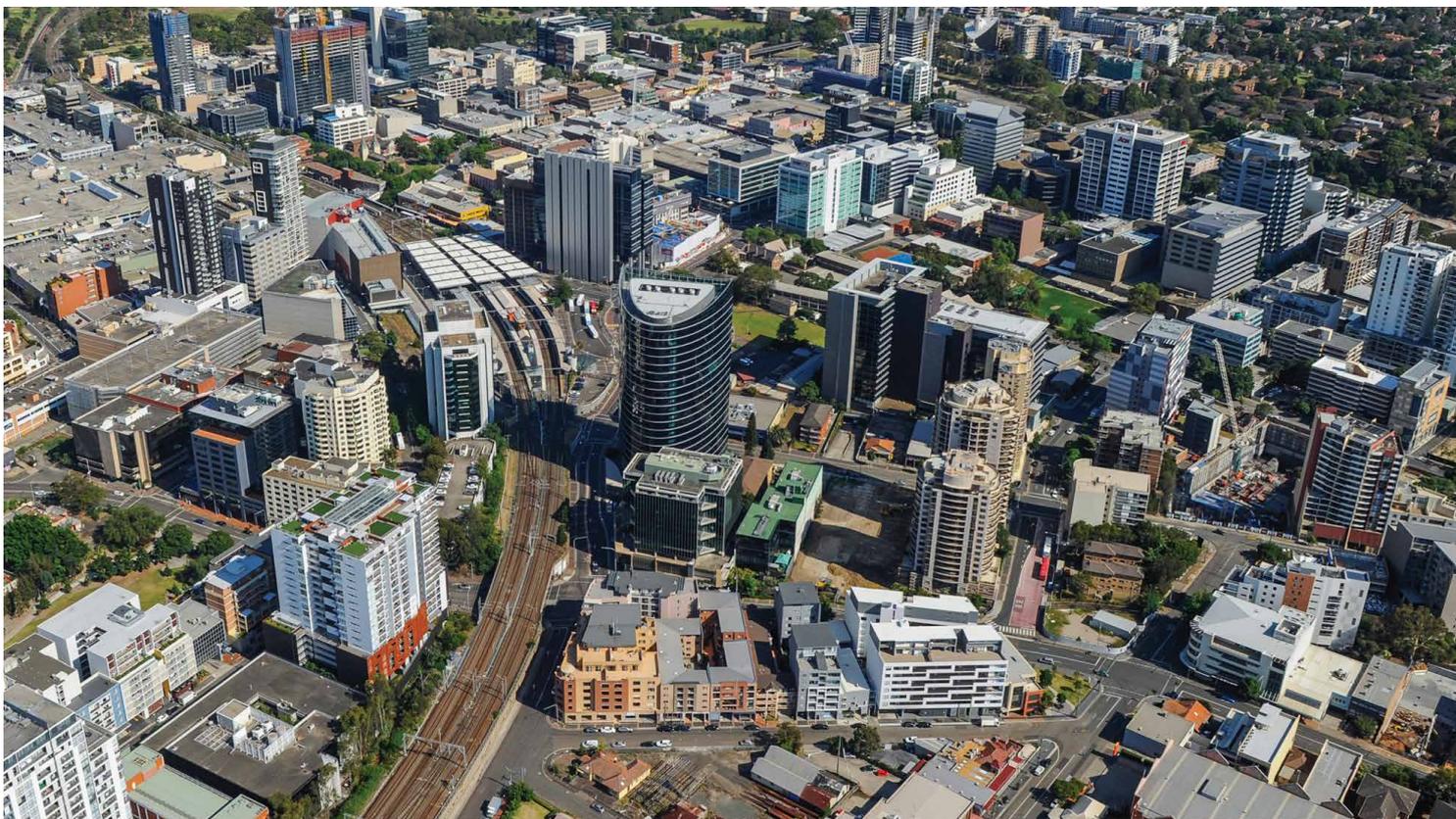
- reduced the minimum energy efficiency and onsite renewables standards in step 2 for office and shopping centres
- removed the ability to use Energy Saving Certificates to achieve to net zero energy as an offsite measure
- removed the need to apply the standards to the refurbishment of shopping centres
- delayed the implementation of the performance standards to respond to impacts from COVID.

This level of engagement has been consistent throughout the program of work. Successful implementation will only come with support for the performance standards from property developers, owners, industry groups and government.

NSW planning system

Land use planning has a key role to play in reducing greenhouse gas emissions and making buildings more resilient in NSW, as well as responding to council and NSW Government plans and strategies. There is an opportunity to transition buildings to net zero energy across Greater Sydney through the NSW planning system.

The performance standards have been developed for use in the NSW planning system. The planning system covers planning controls such as state environment planning policies (SEPPs), local environmental plans (LEPs) and development controls plans (DCPs). It also covers strategic planning, such as Greater Sydney Region Plan - A Metropolis of Three Cities (Region Plan), district plans and local strategic planning statement (LSPSs).



Aerial view of Parramatta CBD (Central City District). Image by Greater Sydney Commission.

State and local planning controls

- A **SEPP** is prepared by the NSW Government. They provide the framework for the LEP and DCP and cannot be overridden by the LEP. It deals with issues important to NSW or a region. Of more than 30 SEPPs, several include high level sustainability objectives or requirements. For example, State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 aims to reduce water and greenhouse gas emissions in NSW residential development in NSW.
- **LEPs** are prepared by councils in NSW. They guide local land planning decisions through zoning and development controls, providing a framework for land use, and the size and form of development. Several LEPs, such as those for the City of Sydney, City of Ryde, City of Parramatta and City of Canterbury-Bankstown, already include clauses relating to energy efficiency and provide controls or incentives to achieve better energy outcomes in buildings, including renewable energy.
- **DCPs** are prepared by councils in NSW. They provide detailed planning and design guidelines to support the LEP and must be considered during a development assessment. DCPs differ depending on an area's location, context, community needs or design requirements. Many Greater Sydney councils include sustainability guidelines in DCPs that address energy efficiency and on-site renewables.

Strategic planning documents

- The **Region Plan** is prepared by the Greater Sydney Commission (GSC) and approved by the NSW Government. The Region Plan provides a 40-year vision and a 20-year strategic direction to manage change and growth for Greater Sydney. It informs the district plans, LSPSs, LEPs and assessment of planning proposals. There is a 'a low carbon city' objective in the Region Plan that supports initiatives that contribute to the NSW Government net zero emissions target.
- Each of the five **district plans** in Greater Sydney are prepared by the GSC. They provide a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the vision of the Region Plan. They contain planning priorities and actions for implementing the Region Plan at a district level, providing a bridge between Greater Sydney and local government planning. They contain actions that support the implementation of the performance standards.
- **Local strategic planning statements (LSPS)** are prepared by council. They give effect to the Region Plan and district plans in Greater Sydney and inform reviews and amendments to LEPs. The LSPS is a 10-year strategic land use plan. Some Greater Sydney councils recognise the NSW Government net zero emissions by 2050 target in their LSPS or include provisions to achieve more energy efficient buildings. Many councils also have actions in their LSPS to work with the NSW Government on improving BASIX to increase the energy efficiency of residential buildings.

The performance standards and evidence base have been developed for use by all Greater Sydney councils, as well as the NSW Government for implementation through state and local planning controls. This will also be a key opportunity for Greater Sydney councils and the NSW Government to contribute to their net zero emissions targets and respond to their plans and strategies.

International learnings

The program of work considered experiences from jurisdictions around the world in addressing climate change through planning policy.

Planning systems and mechanisms in New York, Seattle, Vancouver and the state of California include increasingly higher energy efficiency standards to achieve net zero buildings over time.

International case studies show that policies and codes to increase energy efficiency in buildings are reviewed every few years. This aligns with the NCC, which is updated every three years. Conversely, the BASIX SEPP (applying to the residential sector in NSW) has been subject to minimal review other than one stringency uplift for the energy (greenhouse gas) target in 2017.

Incentives are used in some jurisdictions. Seattle uses a system of voluntary incentives. New York includes incentives in the planning ordinance to achieve levels of on-site solar energy generation in developments. Similar incentives are part of the City of Vancouver Zero Emissions Building Plan (2016). An incentives framework is available under the NSW system – for example Bankstown LEP 2015 – however, this is not largely utilised across Greater Sydney.

The most ambitious emissions reduction programs are in Vancouver, where the framework includes an incremental approach to emissions and energy use and relies on a series of incentives to encourage innovation and best practice.

Other common elements from overseas experiences are the need for:

- a strong national or state policy position supported by legislation
- a planning hierarchy that establishes the long-term strategy for the development of energy efficiency in buildings
- zoning plans, codes and ordinances that control land use and built form at a local level that include controls relating to energy
- incentives to achieve energy outcomes above code.

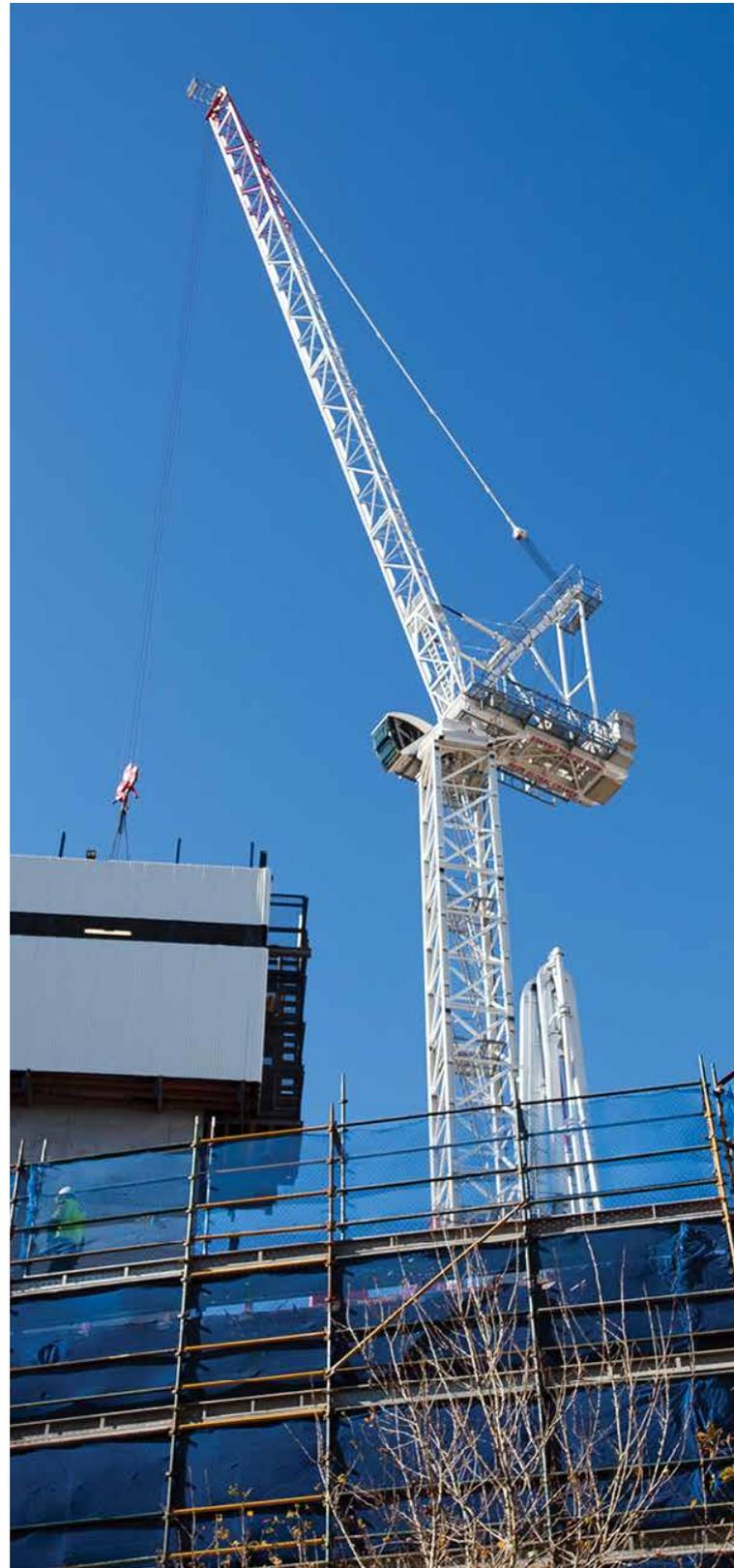


Image by Greater Sydney Commission.

Pathways to net zero

Assessment process

An iterative collaboration between energy modelling, cost benefit analysis (CBA) and stakeholder engagement informed the energy reduction targets and proposed performance standards.

Stakeholder engagement

Industry and government stakeholders provided feedback on the approach to the assessment including energy efficiency initiatives modelled, draft results of the energy modelling, cost benefit analysis and potential off-site renewables mechanisms. Where feedback differed, it was tested with other stakeholders and industry experts.

Determination of a baseline

A baseline was established for each asset class. This was based on Section J of the NCC for the office, shopping centre and hotel asset classes and the NatHERS protocol and BASIX requirements for residential assets.

Energy reduction measures

Energy reduction measures were applied to each building typology to identify the maximum potential on-site improvement. The capital expenditure increase associated with each measure was individually costed for each typology. Energy efficiency measures were selected based on the application of current technologies and practices.

Cost benefit analysis

Energy reduction measures for each typology underwent a CBA to determine commercial viability based on capital expenditure increase compared to energy savings across a 15 to 25-year life of a building. An internal rate of return (IRR) was developed to determine the return on investment. An IRR above zero is the point at which a project breaks even. The CBA process identified and combined cost-effective measures to determine the most energy efficient and cost effective first step for each typology.

The analysis forecast the change in costs and benefits over time as different measures becoming cost effective in the future.

A further public CBA considered the costs and benefits to direct participants such as developers, owners and occupants of buildings, and indirect benefits to the public arising from energy savings.

Implementation options

An analysis of the NSW planning system to incorporate the performance standards to net zero energy into planning controls was discussed with senior planners and planning lawyers. Several approaches to both the energy reduction and mechanisms for recognising off-site renewables were considered, with opportunities and challenges for each approach considered.

Off-site energy procurement

A range of off-site renewable energy and energy efficiency options were investigated and discussed with stakeholders to close the gap between cost effective on-site measures and the achievement of net zero energy buildings. The CBA included the off-site renewable energy options and the timing for possible implementation.

Stakeholder engagement on draft performance standards

The project team met with key industry associations and developers to outline the draft targets, timing, development thresholds and the integration of off-site renewables. This allowed for direct feedback based on the current development market, updates to the rating tools and trends in the procurement of renewable energy and related certificates.

Final recommendations

From these activities, targets, timing of implementation, development thresholds, offsite measures and implementation options in the NSW planning system have been recommended.



Asset classes

The program assessed four asset classes:

- office (base building)
- shopping centre (base building)
- hotel (whole building)
- multi-unit residential (whole building).

Three building typologies based on recently approved development in Greater Sydney were analysed for each asset class.

A mixed-use asset class was also considered as component uses of the four asset types.

Table 2: Asset classes and typologies

Asset class	Typologies selected for assessment purposes	Gross floor area	Scope
Office	Premium grade (PCA) - 37 storeys	67,684m ²	Base building
	Grade A (PCA) - 20 storeys	35,635m ²	
	Grade B (PCA) - 4 storeys	8,878m ²	
Shopping centre	Regional - 5 storeys	114,443m ²	Base building
	Sub-regional - 2 storeys	26,560m ²	
	Neighbourhood - 1 storey	7,359m ²	
Hotel	5 Star (ATAP) - 50 storeys	38,975m ²	Whole building
	4 Star (ATAP) - 24 storeys	11,262m ²	
	4 Star (ATAP) - 10 storeys	4,420m ²	
Multi-unit residential	High rise - 25 storeys	16,995m ²	Whole building
	Mid rise - 15 storeys	9,858m ²	
	Low rise - 9 storeys	7,847m ²	





Determination of baseline

A baseline was established for each asset class.

NCC Section J

For office, shopping centre and hotel asset classes the baseline was based on Section J “Energy Efficiency” of Volume One of the National Construction Code (NCC) 2019. Section J sets the minimum, mandatory standards for energy efficiency and greenhouse gas emissions performance for residential and non-residential buildings in Australia. The Australian Building Control Board (ABCB) is responsible for developing and improving the NCC.

This was used to develop the baseline energy performance in the analysis for the office, shopping centre and hotel asset classes, as all buildings must meet the minimum NCC energy efficiency requirements.

Two primary compliance pathways exist to meet the Section J requirements:

- deemed-to-satisfy (DTS) pathway, which mandates minimum requirements for individual building elements
- performance pathway, which requires energy modelling to demonstrate the proposed design meets the minimum standard when one or more of the minimum DTS requirements cannot be met. Energy modelling is carried out either using the NCC prescribed JV3 methodology or using Green Star Design & As Built or NABERS Energy methodologies for office buildings.

The NCC is updated every three years. The ABCB is aiming to increase the stringency of energy efficiency provisions on a financial cost/benefit basis at each interval. The next update is due in 2022, so industry engagement could start in 2021.

BASIX

For multi-unit residential development, the baseline was based on BASIX Energy minimum compliance requirements. BASIX is referred to in the NCC as the standard for residential buildings in NSW.

BASIX is a legislated state planning instrument that regulates the energy and water efficiency and thermal comfort of residential buildings in NSW. The BASIX tool sets minimum compliance requirements (targets) for residential development at all scales from single dwellings to high rise apartments. Department of Planning, Industry and Environment (DPIE) is responsible for developing and improving BASIX.

Relevant planning and design tools

Industry uses the following planning and design tools to demonstrate compliance with planning controls:

- National Australian Built Environment Rating System (NABERS)
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
- Green Star Design and As Built.

Each of these three existing planning and design tools allow for third-party verification of performance, boosting confidence in the accuracy of the predicted building performance through an established and consistent methodology. This provides assurance that the design will meet the intent for councils, developers and property owners. Third-party verification also improves the efficiency of the planning assessment process by reducing the complexity for planning assessors.

Stakeholders noted that some of these tools are not always kept up to date with industry practice; that the methodologies behind the tools should be more transparent; and given Green Star is administered by a non-government organisation, there is a risk that the tools are not aligned. Further information on the issues and opportunities with the planning and design tools are detailed in Appendix 4.

The performance standards to net zero use these existing tools where they apply to an asset class. See further information below on these tools.

An energy intensity target can also be used to demonstrate compliance with the controls. It is not an existing tool and there is no existing third-party verification method. To demonstrate compliance with the energy intensity target proponents will use the NABERS Independent Design Review Panel to formally verify energy modelling. This will confirm that the development can reasonably achieve the performance standard if constructed in accordance with its approved design and technology. Using the NABERS Independent Design Review Panel ensures there is a robust third-party verification process for the energy intensity standard, similar to the verification method for NABERS and Green Star.

NABERS

NABERS is a benchmarking tool that measures the environmental performance of buildings in terms of energy, water, waste and the indoor environment. The DPIE is responsible for developing and improving NABERS. For this assessment, the NABERS Energy tool has only been applied to the non-residential asset classes analysed. While NABERS Energy can be used for multi-unit residential assets, it only considers the common areas and not the individual apartments, unlike BASIX which considers both. In addition, in NSW, BASIX is the regulatory tool applicable to residential building energy efficiency, so the use of NABERS as the planning and design tool is not relevant for multi-unit residential development.

NABERS is a voluntary tool and uses recorded energy usage data to rate building performance. A NABERS rating can be agreed at the design stage of new buildings through a commitment agreement that binds a development to a level of performance that is verified post occupancy. This ensures the early consideration and implementation of design strategies.

A commitment agreement involves an independent review of the building and system design and energy system modelling to ensure it can achieve the targeted NABERS rating.

NABERS ratings are benchmarked in half-star increments from 0 stars to 6.0 stars, where a zero-star rating indicates the building is performing well below average, while a six-star rating indicates the building is market-leading.

Green Star

Green Star Design and As Built is one of several Green Star rating tools developed by the GBCA. It is a voluntary rating tool and covers the design, construction and commissioning phase of a building.

Green Star ratings apply to any type of building and cover a range of sustainable design elements. Energy consumption represents 20 Green Star rating credits out of a possible 110 credits.

The energy credit rewards reduced operational greenhouse gas emissions and uses three pathways to demonstrate compliance.



The pathways include:

- prescriptive pathway - points awarded where operational greenhouse gas emissions are reduced through specific best-practice building attributes
- alternative pathways based on building use - points awarded where NatHERS, BASIX or a NABERS commitment agreement is used to demonstrate that predicted greenhouse gas emissions will be reduced compared to a typical building
- reference building pathway - points awarded from achieving the minimum conditional requirement of a 10 per cent improvement on a Green Star reference building to achieving maximum carbon neutral operations. The reference building is derived from the Section J minimum requirement for non-residential buildings or BASIX/NatHERS for residential buildings.

The office asset class is subject to two modelling pathways: 15C NABERS Commitment Agreement pathway or 15E Reference building pathway.

The 15E Reference building pathway is selected as the pathway for analysis as it applies to all asset classes and allows for comparison between asset classes as well as a straightforward understanding of the targets by industry. Similar to NABERS, for this assessment, Green Star has only been applied to the non-residential asset classes analysed.

Green Star recognises projects for specific initiatives such as the provision of on-site energy storage, on-site renewable energy systems, off-site renewable energy procurement through the ability to purchase LGCs, GreenPower and PPAs.

The GBCA has developed a new version of Green Star called Green Star for New Buildings. This was released in October 2020. The current proposition is that before 31 December 2021 either the old or new tool can be used but from January 2022, newly registered projects must use Green Star for New Buildings.

One of the key changes in the Green Star for New Buildings tool is the development of the 'Energy use' credit in the 'Positive' category. This change more closely aligns with the net zero performance standards and awards developments achieving 20 per cent and 30 per cent improvement in energy use against NCC compliance with 'Credit achievement' and 'Exceptional performance' respectively and a 10 per cent improvement in energy stipulated as the 'Minimum expectation'.

Further information of how the Green Star Design and As Built energy credit compares to the Green Star for New Buildings energy use credit is shown in Appendix 5.

BASIX

The BASIX tool sets minimum compliance requirements (targets) for residential development at all scales from single dwellings to high rise apartments in NSW. Development proponents must demonstrate compliance with the following minimum BASIX Energy targets, measured as residential greenhouse gas emission savings per person:

- six storeys or higher = BASIX Energy 25
- four to five storeys = BASIX Energy 35
- three storeys and under = BASIX Energy 45

Only residential buildings 6 storeys and above were used for this assessment.

Thermal comfort which is factored into the BASIX Energy score and is modelled using tools approved under the federal government NatHERS scheme. It assesses the performance of passive design elements in minimising theoretical energy demand for space heating and cooling within apartment dwellings. Passive design elements include fabric and glazing, shading, orientation and natural ventilation.

The estimated energy demand related to maintaining year-round thermal comfort (i.e. estimated annual mechanical space heating and cooling demands) is combined with other building services for lighting, domestic water heating, ventilation and other equipment to calculate a percentage improvement against a specific benchmark. Different target scores must be achieved depending on the number of storeys and climate zone.



Image by Paul Patterson.

Cost effective energy reduction measures

To improve performance beyond what can be achieved through existing minimum energy requirements in NCC Section J or BASIX, additional energy reduction measures such as façade improvements, energy efficiency measures, fuel-switching technologies and on-site renewable electricity were investigated. These were selected based on:

These were selected based on:

- existing published studies used for similar analyses³
- industry trends and future projections (e.g. increase in equipment efficiencies)
- best-practice measures to reduce energy consumption (e.g. ceiling fans for residential buildings).

The façade is a vital building component to high-performing, energy efficient buildings. For this assessment, the façade was optimised to improve the efficiency of the building itself, rather than through passive design such as building orientation or form, as these issues are only determined based on the context of each site or commercial requirements.

Close to 20,000 combinations of parameters were assessed to derive the optimum combination for each asset class. This included building orientation; window to wall ratio; insulation of wall, floor, and roof; glazing performance; and the extent of shading. This is detailed in Appendix 1.

After investigating the optimum performance for the façade, further energy reduction was sought through a wide range of energy efficiency measures. These are outlined in Table 3.

³ ASBEC, Climate Works Australia (July 2018) Built to Perform, Building Code Energy Performance Trajectory Project; and Low Carbon Living (October 2018), SP0016 Building Code Energy Performance Trajectory Final Technical Report

Table 3: Energy reduction measures by building component

Building component	Description
Building envelope	<p>The building envelope includes all the walls, floors, roof, windows and shading that enclose the building from its surroundings to reduce unwanted heat gain and loss.</p> <p>A higher performing façade encloses the building and prevents thermal transfers to maintain the internal conditions, achieve desired internal conditions with minimum effort, saving energy. Enhanced building sealing avoids the transfer of heat through uncontrolled air infiltration and exfiltration, maintaining internal conditions and requiring less energy from building systems to maintain the desired thermal environment. This can lead to more resilient buildings that can withstand extreme temperatures with less energy.</p>
Fan system	<p>Fans circulate the air in heating, ventilation and air conditioning (HVAC) systems. Different types – such as axial or centrifugal are suitable for different applications. Each has different efficiencies.</p> <p>Fans account for a high proportion of building energy consumption and 34 per cent of total HVAC consumption⁴. Efficiencies in fans will result in energy savings for the building overall.</p>
Mechanical plant - heating and cooling	<p>Large buildings typically have dedicated mechanical heating and cooling systems to maintain internal temperatures to comfortable levels and humidity at specified levels. Demand might be driven by heating or cooling dependent on the use of the building and the location/orientation.</p> <p>Improving the energy performance of the mechanical plant increases energy savings and improves thermal comfort.</p>
Lighting	<p>Lighting is generally provided for regular hours of occupancy with some lights on outside those hours (e.g. security lights, after hours usage or signage).</p> <p>Where appropriate, lighting controls can be provided, avoiding unnecessary lighting and associated energy consumption. Optimised lighting layouts can reduce the number of fixtures. Lighting is a key consumer of energy in a building; improved efficiency will see greater energy reductions.</p>
Vertical transport	<p>Vertical transport (lifts) distributes people and goods through multi-storey buildings. It is an essential service provided by the base building. Enhancing lift efficiencies by reducing the number of floors they service and maximising the efficiency of mechanical equipment can reduce base building power consumption while providing the same level of service.</p>
Appliances and equipment	<p>Appliances and equipment cover items such as white goods, computers, printers and audio-visual equipment. While each appliance might use comparatively little energy, when scaled across a whole building the equipment makes up a significant portion of total electricity consumption. This consumption is not included in base building energy, so is not considered for offices and shopping centres within this analysis.</p> <p>High efficiency appliances and equipment can reduce the operational energy of buildings through the direct reduction in electricity, and in some cases through the reduction in HVAC energy consumption due to lower heat generated in the space.</p>
Renewable electricity	<p>Renewable electricity can be produced on-site and consumed directly within a building with excess electricity being stored on-site or exported to the grid. On-site electricity generation in Australia is typically achieved through rooftop photovoltaic (PV) panels. To maximise the electricity production, the orientation of the panels needs to be optimised and the roof space needs to be free from shading.</p> <p>On-site renewable energy generation reduces a building's dependence on the electricity grid and enhances the building's resilience, particularly during adverse events such as blackouts. If batteries are installed, the stored electricity from on-site generation can help to reduce the demand for electricity in the peak usage times. A financial return can be achieved through energy savings and, if the system is large enough, from exporting electricity.</p> <p>Off-site renewable electricity is typically produced in solar or wind farms and is fed into the grid. Through contractual arrangements such as power purchase agreements, a developer can purchase an equivalent amount of electricity as renewable electricity to achieve net zero as defined in this report.</p>

⁴ www.energy.gov.au/sites/default/files/hvac-factsheet-energy-breakdown.pdf?acsf_files_redirect

Omitted measures

Several energy efficiency measures were considered but omitted from the assessment for this program of work, including natural ventilation, temperature setpoints, and battery storage. They are detailed later in the modelling methodology for the cost benefit analysis (Appendix 2).

Heat pumps were included in the opportunity analysis and were found to be cost effective for residential, but generally not for non-residential assets. Apart from heat pumps, electrification was not further investigated. The City understands some developers are starting to design and construct fully electric buildings, with no connection to natural gas. The City supports electrification of buildings in the drive to net zero, however in recognition that not all planning and design tools encourage electrification and it isn't always cost-effective for all asset classes, at this stage the City has not required electrification.

Limitations of this assessment

For the purposes of this report, the assessment focused on finding a solution that is feasible for most building typologies within an asset class. At an individual building level, there may be innovative technologies and approaches that could be applied to achieve a better result than what is reported as the 'maximum energy efficiency potential' performance of a building.

Further information about the assessment of energy reduction measures is provided in Appendix 2.





Round table discussion 2

- Point 1: Q1 How can we ensure that the data is being gathered from a 2018-2020 period? Can we get the data from the National Consumer Credit Register?
- Point 2: Q2 Can the data gathering be used to support other work or better services to users, providers or consumers, and how can we ensure that the data is being gathered in a way that is secure and safe?
- Point 3: Q3 Can we use the data to support other work or better services to users, providers or consumers, and how can we ensure that the data is being gathered in a way that is secure and safe?

00:29

Our vision is for Australia's buildings to be sustainable and resilient.

10

Performance standards (targets)

Following modelling and CBA of the energy reduction measures for each typology in each asset class, as well as stakeholder feedback, targets were set against applicable planning and design tools.

A first (2023) and second (2026) target has been determined for each asset class. There is a gap in the implementation of the targets in planning controls to allow for industry to adapt to the targets and innovate, especially as the second target is known well in advance.

Timeline

The timing of the implementation of the targets was discussed with stakeholders. Where the targets could be met with cost effective energy reduction measures, as determined by the CBA, stakeholders indicated these could be implemented through a sound and sustainability focused design process almost immediately; 2023 allows for the exhibition of the targets to the broader industry and time for implementation across multiple Sydney councils. This will be 1 year later than the next version of the NCC.

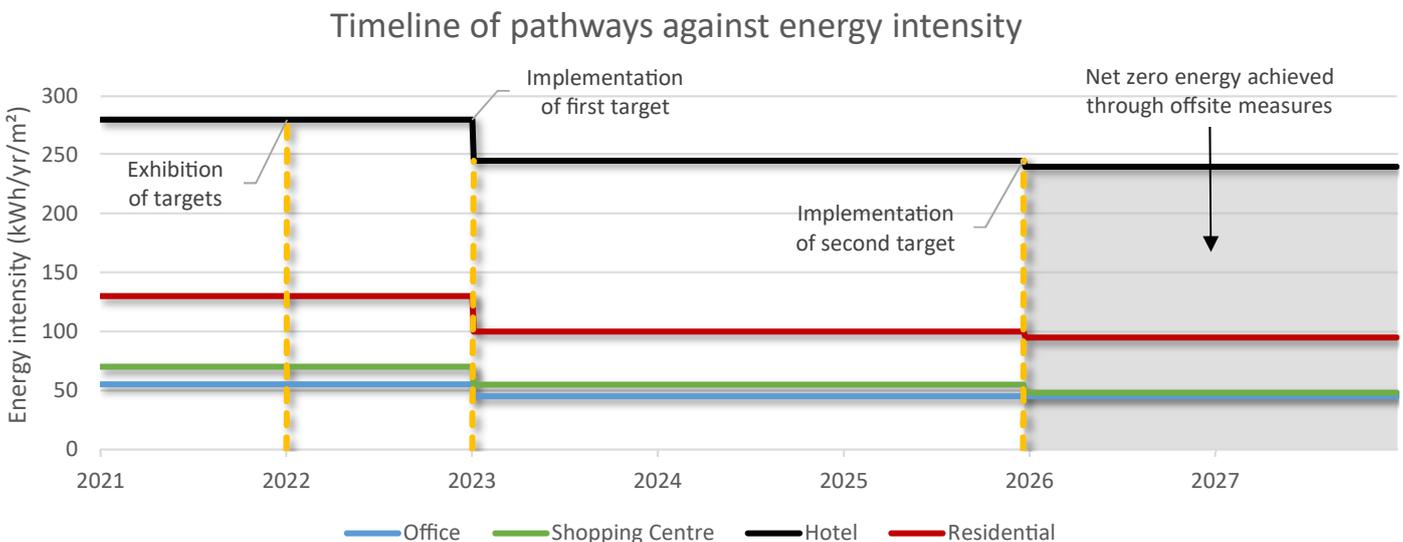
The implementation timing of the second target again aligns to be 1 year later than the subsequent NCC update and allows sufficient lead time for industry to plan and adjust their strategies, especially with the application of the off-site renewable energy component. Figure 1 below shows the key dates and targets for each asset type.

Target measure

A single on-site energy intensity (kWh/yr/m²) target is identified for each asset class, along with equivalent options to meet that target using existing planning and design tools.

As the number and extent of energy reduction and on-site generation measures varies across the different building typologies, the easiest to achieve target across an asset class has been selected.

Figure 1: Timeline of the performance standard pathways towards net zero





An energy intensity target of 45 kWh/yr/m² for the base building, or a similar equivalent in NABERS Energy or Green Star Buildings credits, is recommended as the first target.

The energy intensity target for the second stage remains the same, however there is the additional requirement to invest in off-site renewable energy procurement to achieve the net zero target. Both these targets, including the off-site renewable procurement would achieve a positive financial return with positive internal rates of return (IRRs).

Table 4: Office asset class targets

Target	Target tools	Methods	IRR (25 year)/ Capital expenditure increase
NCC 2019 baseline	NCC 2019, or 5.5 star NABERS Energy Commitment Agreement	-	-
First target (2023)	45 kWh/yr/m ² , or 5.5 Star NABERS Energy Commitment Agreement (+25%), or Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent	Energy efficiency On-site renewables	IRR: 10-37% Capital expenditure increase: 0.11%-0.58%
Second target (2026)	First step, and Renewable Energy Procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m ² of GFA	Energy efficiency Onsite renewables Offsite renewable procurement	IRR: 16-28% Capital expenditure increase: 0.16%-0.52%



An energy intensity target of 55 kWh/yr/m² for the base building, or a similar equivalent in NABERS Energy or Green Star Buildings credits, is recommended as the first target.

A further improvement in maximum energy intensity and off-site renewable energy procurement is needed for the second target of 45 kWh/yr/m². Both these targets, including the off-site renewable procurement will achieve a positive financial return with positive IRRs.

Table 5: Shopping centre asset class targets

Target	Target tools	Methods	IRR (25 year)/ Capital expenditure increase
NCC 2019 baseline	NCC 2019, equivalent to 3.5 Star NABERS Energy	-	-
First target (2023)	55 kWh/yr/m ² , or 4 Star NABERS Energy Commitment Agreement, or Certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent	Energy efficiency On-site renewables	IRR: 2-23% Capital expenditure increase: 0.16%-0.42%
Second target (2026)	45 kWh/yr/m ² GFA, or 5 star NABERS Energy Commitment Agreement, or Certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent and Renewable Energy Procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m ² of GFA	Energy efficiency On-site renewables Off-site renewable procurement	IRR: 9-11% Capital expenditure increase: 0.95%-1.28%



An energy intensity target of 245 kWh/yr/m² for the whole building, or a similar equivalent in NABERS Energy or Green Star Buildings credits, is recommended as the first target.

A slight improvement in maximum energy intensity is needed for the second target to 240 kWh/yr/m², with additional off-site renewable energy procurement allowed. These targets will achieve a positive financial return with positive IRRs, including off-site renewable procurement.

Table 6: Hotel asset class targets

Target	Target tools	Methods	IRR (25 year)/ Capital expenditure increase
NCC 2019 baseline	NCC 2019, equivalent to 3.5 Star NABERS Energy	-	-
First target (2023)	245 kWh/yr/m ² , or 4.0 star NABERS Energy Commitment Agreement, or Certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent	Energy efficiency On-site renewables	IRR: 17-20% Capital expenditure increase: 0.15%-0.35%
Second target (2026)	240 kWh/yr/m ² , or 4.0 star NABERS Energy Commitment Agreement (+10%), or Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent and Renewable Energy Procurement equivalent to “net zero energy” or a maximum of 240 kWh/yr/m ² of GFA	Energy efficiency On-site renewables Off-site renewable procurement	9-10% (IRR 25 years) Capital expenditure increase: 0.24%-0.86%



For mixed use developments, the targets for office, shopping centre, hotel or the residential portion of the development applies.



Different BASIX targets for the whole building have been set for three different height bands to reflect the modelling and developer experiences that BASIX ratings are harder to achieve as height increases.

The portion of off-site renewable energy procurement has been calculated for the whole building (common area and individual apartments) to align with how BASIX operates.

As BASIX covers whole building, there are challenges applying off-site renewable energy procurement to individual units, due to the nature of strata governance.

These can be met by an Owners Corporation changing its by-laws (s135 SSMA) or by changes to NSW Government legislation. By similar means it could be practically required for common areas of strata buildings and may be possible for whole building for Build to Rent as this asset class develops, depending on how the NSW legislation is designed.

The targets outlined in Table 7 achieve a positive financial return with positive IRRs, including off-site renewable procurement.

Table 7: Residential asset class targets

6-10 Storeys

Target	Target tools	Methods	IRR (25 year)/ Capital expenditure increase
NCC 2019 baseline	BASIX 25	-	-
First target (2023)	BASIX 40	Energy efficiency + On-site renewables	IRR: 28% Capital expenditure increase: 0.64%
Second target (2026)	BASIX 45 and Renewable energy procurement equivalent to “net zero energy” or a maximum of 85 kWh/yr/m ² of GFA	Energy efficiency + On-site renewables and Off-site renewable procurement	IRR: 20% Capital expenditure increase: 1.56%

11-20 Storeys

Target	Target tools	Methods	IRR (25 year)/ Capital expenditure increase
NCC 2019 baseline	BASIX 25	-	-
First target (2023)	BASIX 35	Energy efficiency + On-site renewables	IRR: 23% Capital expenditure increase: 0.64%
Second target (2026)	BASIX Energy 40 and Renewable energy procurement equivalent to “net zero energy” or a maximum of 90 kWh/yr/m ² of GFA	Energy efficiency + On-site renewables and Off-site renewable procurement	IRR: 18% Capital expenditure increase: 0.79%

21-30 Storeys

Target	Target tools	Methods	IRR (25 year)/ Capital expenditure increase
NCC 2019 baseline	BASIX 25	-	-
First target (2023)	BASIX 30	Energy efficiency + On-site renewables	IRR: 22% Capital expenditure increase: 0.64%
Second target (2026)	BASIX 35 and Renewable energy procurement equivalent to “net zero energy” or a maximum of 95 kWh/yr/m ² of GFA	Energy efficiency + On-site renewables and Off-site renewable procurement	IRR: 20% Capital expenditure increase: 0.67%



Implementation



Implementation will rely on a combination of embedding energy reduction targets and a model for off-site renewables procurement in the NSW planning system.

Implementation options

There are options or a combination of options to implement the performance standards in the NSW planning system.

The most immediate implementation opportunity is for councils to amend their LEPs and DCPs to include the performance standards. Other options include amending state-based plans, policies and legislation, to provide consistency across Greater Sydney.

A combination of options A and B will provide the preferred balance of legislative weight to achieve the net zero objective while being less prescriptive to provide flexibility.

Option A: LEP amendment

LEPs guide development outcomes and have statutory weight. Amending the Standard LEP to include clauses requiring best practice environmentally sensitive design, coupled with a specific clause relating to the targets, is suitable to meet the first and second target. Amending the LEP does not require policy or legislative change by the NSW Government.

The timeframe to make amendments to an LEP could be up to 12 months.

Councils could make one or numerous amendments to clauses in the LEP based on the structure of their LEP. The LEP could include clauses that require developments to address energy targets across the asset classes based on a trajectory towards net zero, or a new Part or Division for energy targets, including the land/development to which the Part or Division applies, objectives, definitions and direct reference to the consent authority.

The clauses should detail the staged approach by identifying the overall target with interim steps such as applications lodged between a date range must achieve a target and applications lodged after that date range must achieve a different target. Councils may provide an incentive clause such as additional height and/or floorspace ratio (FSR) to enable the application of targets beyond BASIX compliance requirements for certain residential development.

Pros

- A LEP provision provides the necessary legislative weight during the assessment of applications to ensure the net zero objective can be achieved.
- Councils can choose the appropriate clause to implement net zero energy targets to suit their LGA.
- The process to amend an LEP is driven by the council and can be commenced within a timeframe determined by the council.
- The Minister may provide delegation to council to make the LEP which can expedite its implementation.

Cons

- An LEP amendment requires the approval of the Minister, unless the Minister delegates the determining LEP amendments to councils. The Minister must support the amendments for the LEP to be made.
- The clause may need to be supported by additional incentive clauses for residential development.
- Once incorporated into the LEP, there is limited flexibility to vary the planning controls for particular developments and amending the development standard requires an amendment to the LEP.



Option B: DCP amendment

This approach would see DCP controls include details of the performance standards.

It allows flexibility for councils to consider scenarios where a development achieves a high degree of efficiency and meets the net zero objectives yet cannot meet the specific target.

Councils are responsible for amending the DCP, so they have control over the timing and implementation of the standards. The LEP and DCP amendments could occur simultaneously and could take up to 12 months.

The DCP would include a control with the specific targets and the details of the staged approach to meet net zero energy development. It would also identify the development to which the control applies and any other detail required to support the assessment and implementation of the performance standards.

Pros

- The DCP provides flexibility for alternative solutions that meet the net zero objectives.
- Amending the DCP is council's responsibility and can be undertaken within a timeframe determined by the council.

Cons

- A standalone DCP clause will not provide sufficient legislative weight to achieve the net zero objective.
- The clause may need to be supported by additional incentive clauses for residential development.

Option C: Amendment to Region Plan and district plans

Amending the Region Plan and district plans to include a clear policy direction to implement the performance standards across Greater Sydney provides a secure line of sight between state and local strategic planning documents and planning controls.

Given the requirement for LEPs and DCPs to demonstrate consistency with state, regional strategies and district plans, aligning the Region Plan and district plans will assist in the required justification for LEP and DCP amendments. The amendment to the Region Plan and district plans would also give greater weight to each council's LSPS.

This approach requires the GSC, in collaboration with councils, to include the performance standards in the next review of the Region Plan and district plans. This would be the responsibility of the GSC and authorised by the NSW Government.

This could take up to 12 months and could be linked to the broader updates in 2022-23.

A new objective or an amendment to Objective 33 of the Region Plan could require all development to be net zero energy by 2026 with suggested wording:

Strategy 34.1 - Support the transition to net zero emissions through implementing controls to achieve net zero energy in all office, shopping centre, hotel and residential flat buildings by 2026.

Pros

- More certainty at a regional and district level will ensure a clear line of sight across the hierarchy of strategic documents.
- Supports council LEP amendments which will demonstrate consistency with the Region Plan and NSW Government strategies.
- This will demonstrate commitment in the planning system to achieving the NSW Government net zero emissions target.

Cons

- Strategic plans are not a matter for consideration in the assessment of development applications.
- Only likely to occur as part of a broader review under a timeframe that will be driven by the NSW Government.
- Region Plan requires support by the GSC and approval by the Minister for Planning.
- Amendments to the Region Plan or district plans may still be too broad.



Option D: Amendment to BASIX

Amending BASIX targets would provide the line of sight, certainty, transparency for both short-term and long-term targets to net zero energy residential buildings in the NSW planning system. It is an option that would provide consistency across Greater Sydney and is necessary to progress net zero for residential development.

Pros

- Essential to deliver net zero for residential buildings given the restrictions of the BASIX SEPP.
- Provides planning certainty and consistency.
- Avoids the needs for separate council amendments.

Cons

- The significant work required to make the amendments may be a cause of hesitation by the NSW Government and councils to take action.
- Limited to residential development with other options needed to implement net zero for office, shopping centre and hotel developments.
- May require the BASIX tool to be updated to recognise off-site renewables in addition to updating the targets.

Option E: Inclusion to the proposed Design and Place SEPP

The proposed Design and Place SEPP will put design and place quality at the forefront of any new residential, mixed use, commercial and industrial development. The NSW Government aims to reduce prescriptive measures and encourage innovation with the overriding goal to promote the sustainable growth and resilience of regions and cities. The draft SEPP will amalgamate some existing SEPPs, design guides, frameworks and tools, including BASIX. This also provides an opportunity to update existing planning policies, such as reviewing the targets in BASIX. The Explanation of Intended Effect document also proposes alternative compliance pathways for residential development other than BASIX.

The inclusion of the performance standards in the SEPP would provide certainty and transparency for the implementation of the targets in the NSW planning system.

Options D and E could be implemented in combination.

Pros

- The Explanation of Intended Effect for the SEPP proposes a principle for net zero.
- Provides planning certainty for inclusion of net zero energy targets in residential and non-residential development.

Cons

- The SEPP will include new design considerations, which are unknown at this time.
- The proposed SEPP will cover NSW and doesn't currently reflect the difference in regions, cities and LGAs. A state-wide approach to the targets would miss the opportunities specific to the development and climate of different regions.
- There is no assurance at this stage that the performance standards will be included.

Off-site renewable energy and efficiency procurement

Prior to the industry and government stakeholder forums in 2018, developers identified the current technology challenges for high rise development to achieve net zero energy buildings. On-site options are limited due to shading and small roof spaces of large buildings in Greater Sydney so a mechanism for the purchase of off-site renewable energy or equivalent certificates was needed to allow developments to achieve net zero.

Ideally any method to recognise off-site measures in planning should:

- allow a proponent to achieve a percentage of off-site renewables
- cover predicted operational energy use for a set period
- encourage competition
- meet national energy retail laws
- include easy to understand documentation for planning assessment
- meet compliance requirements
- fit within a recognised accreditation scheme
- be enabled through the NSW planning system or a legal framework.



Wind turbines - Sapphire wind farm, Inverrewl.
Image source www.sapphirewindfarm.com.au

The following four off-site renewable energy and energy efficiency mechanisms were identified for exploration following consultation with stakeholders such as the CEFC, Integral Group, Frasers, Greenland, AMP Capital, DPIE, GBCA and Six Capitals:

- **Purchasing Greenpower.** GreenPower is a government accredited renewable energy product and is purchased with an electricity contract. Once purchased it cannot be sold again.
- **Retiring large-scale generation certificates (LGCs).** LGCs are certificates created from generation of renewable energy by an accredited renewable energy generator. One LGC is equal to one megawatt hour (MWH) of renewable electricity generated from an accredited generator. Purchased LGCs are tradable, so to ensure they are not used again or sold, they need to be retired.
- **Retiring energy efficiency saving certificates (ESCs).** ESCs are a NSW Government scheme based on credits arising from implemented energy efficiency projects in NSW. Similar to LGCs they are a tradable commodity so need to be retired to ensure they have the desired effect.
- Enter into or adding a new development to an existing **renewable energy power purchase agreement (PPAs).** A PPA involves purchasing renewable electricity directly from a renewable energy generator or retailer. LGCs are provided to the user and need to be retired.

It was also considered that these options could be in place for a period of five to ten years.

These options were considered due to their recognition in the Australian market as suitable greenhouse gas emission offsets. Each option is already subject to a robust governance system, such that clear documentation can be provided to meet planning requirements. LGCs, GreenPower and PPAs are in use and accepted through the Green Star rating tool. Under NABERS currently, GreenPower is the only recognised form of renewable energy procurement. NABERS will be updating this to voluntarily retiring LGCs in 2022.

There are some issues for further consideration with the use of these options, including:

- diesel and gas cannot be offset through generation of off-site renewables or energy efficiency under the Greenhouse Gas Protocol unless a renewable fuel is available, which means the building in theory is not *net zero energy*; only *net zero electricity*
- the Federal Government's policy relating to LGCs is currently set to end in 2030
- LGCs, ESCs and GreenPower must be purchased annually based on the energy used for a development to be branded net zero energy
- estimations are required in terms of calculating the projected percentage of renewable energy in the grid for a five-year period.

In discussion with industry and government as part of the stakeholder engagement, it was agreed that the use of ESCs was not suitable for use in this program. ESCs are not currently being recognised by the Federal Government Climate Active Program or considered a suitable offset under the Greenhouse Gas Protocol for calculating the greenhouse gas emissions footprint of an organisation.

Next steps

These options will require more discussion with developers, industry groups, councils and state agencies, including DPIE, to refine the options and establish a robust assessment process (including clarity around required documentation to support a development application).

This could begin with voluntary pilots of the options by proponents of development ahead of 2026 to finetune processes and assess industry acceptance.



Preferred options for successful implementation

The targets need to be included in the planning controls. This will have greater impetus if supported by references to net zero energy development within strategic planning documents such as the Region Plan and district plans.

Both approaches need to be practical and achievable within the timeframe. Given this, the following approaches are recommended:

Achieving the first target (2023)

For all asset classes, councils could implement a combination of Options A and B (see Implementation section) by amending the LEP and DCP.

Amendments to the LEP and DCP in combination allows councils some flexibility in how they will achieve the target while still providing the necessary legislative weight to the net zero objective in the assessment of development applications.

Implementation of the performance standards in LEPs and DCPs is not possible for multi-unit residential development without the use of incentives. If a council wants to implement a higher BASIX Energy score for residential developments that is higher than the BASIX SEPP, either the SEPP needs to be altered or the council will need to amend its LEP to incorporate incentives for developers to reach the recommended target. As not all councils support an incentives-based approach in planning, it is recommended that the BASIX SEPP is amended to ensure widespread and consistent implementation of the first target.

Achieving the second target (2026)

For many developments, the purchase of offsite renewable energy will be a key element to reach the second target of net zero. The NSW planning system will need to allow for the purchase of offsite renewables to be recognised in the assessment of development applications.

Currently this approach is voluntarily, through agreements outside the planning system such as power purchase agreements. Any council requirements for off-site renewables applied through a condition of consent could be challenged in the Land and Environment Court. To negate this risk and to ensure a consistent approach, it is recommended that the Region Plan or district plans be amended to reflect the targets, creating a direct link.

Benefits

The economic benefits of implementing the proposed performance standards are significant. If implemented across Greater Sydney, cost-benefit analysis modelling estimates a net economic benefit to 2050 of **\$3.1 billion**, comprising **\$1.3 billion** to direct development participants (developers, owners and occupants) through energy bill savings and **\$1.8 billion** to indirect participants (the public) from the avoided public cost associated with energy savings. All costs and benefits in this analysis are discounted at a rate of 7%, and dollar values are in real (2020) AUD\$.

Direct participant impacts

The costs for direct development participants (developers, owners and occupants) include increased construction costs and the cost of purchasing offsite renewable energy, and benefits accrued from lower energy bills. The total compliance costs for direct development participants between 2023 and 2050 are estimated to be \$0.9 billion. These costs are offset by discounted energy bill savings of \$2.3 billion as detailed in Table 8. That means an estimated net economic benefit of \$1.4 billion.

Other benefits associated with net zero and energy efficient buildings, including increased property values, increased occupant comfort, building resilience and investor premiums for corporate emission reductions are not quantified.

Table 8: Total direct impacts, 2023-2050

Category	Office	Shopping centre	Hotel	Multi-unit residential	TOTAL Sydney
Upgrade costs (\$m)	46	62	19	819	946
Total electricity savings (GJ)	3,141,364	3,282,762	180,354	51,764,254	58,368,735
Total gas savings (GJ)	-170,588	-10,276	2,705,445	15,559,238	18,083,818
Bill savings (\$m)	106	101	40	2,040	2,287



Indirect participant impacts

The public benefit of implementing the performance standards is significant. Indirect benefits include both long term and short term avoided costs associated with lower electricity and gas generation and lower network demands, along with avoided greenhouse gas emission costs and health benefits from avoided coal-fired electricity generation.

The total public benefits from implementing the targets are estimated to be \$1.8 billion, as detailed in Table 9. The public costs associated with administration is not expected to be significant, as planning conditions already apply to all participants. The incremental administrative costs, which are the extra costs to the public to implement these targets compared to business as usual are estimated to comprise approximately \$10 million between 2023 and 2050.

Table 9: Total indirect impacts, 2023-2050

Category	Office	Shopping centre	Hotel	Multi-unit residential	TOTAL Sydney
Avoided greenhouse gas emissions (tonnes CO ₂ -e)	233,717	4,535,678	237,324	150,366	5,157,085
Off-site greenhouse gas emissions (tonnes CO ₂ -e)	602,799	6,462,053	321,462	840,596	8,226,910
Avoided energy generation costs (\$m)	46	745	48	3	842
Avoided energy network costs (\$m)	29	574	17	-1	618
Avoided carbon emission costs (\$m)	15	278	15	9	316
Avoided health costs (\$m)	2	31	2	0	35
Total public benefit (\$m)	91	1,627	81	11	1,811

Total economic impact

The total economic impact of the scheme is determined by the total net cost to direct participants and the indirect costs and benefits to the broader public. As seen in Table 10, the total net present value of the scheme is **\$3.1 billion**.

Overall, the total benefit to cost ratio for the initiative is 4.3 for each dollar invested to achieve the target, direct and indirect participants receive \$4.30. This confirms that implementing the targets for all asset classes is highly cost effective.

Table 10: Total indirect impacts, 2023-2050

Category	Office	Shopping centre	Hotel	Multi-unit residential	TOTAL Sydney
Discounted private costs (\$m)	46	819	62	19	946
Discounted private benefits (\$m)	106	2,040	101	40	2,287
Discounted public costs (\$m)	0	8	1	0	10
Discounted public benefits (\$m)	91	1,627	81	11	1,811
Total economic value (\$m)	150	2,841	120	32	3,142
Total benefit to cost ratio	17	4.4	2.9	2.6	4.3



Project recommendations

The project identified key changes needed inside and outside of planning to support the transition to net zero emissions and implement the performance standards.

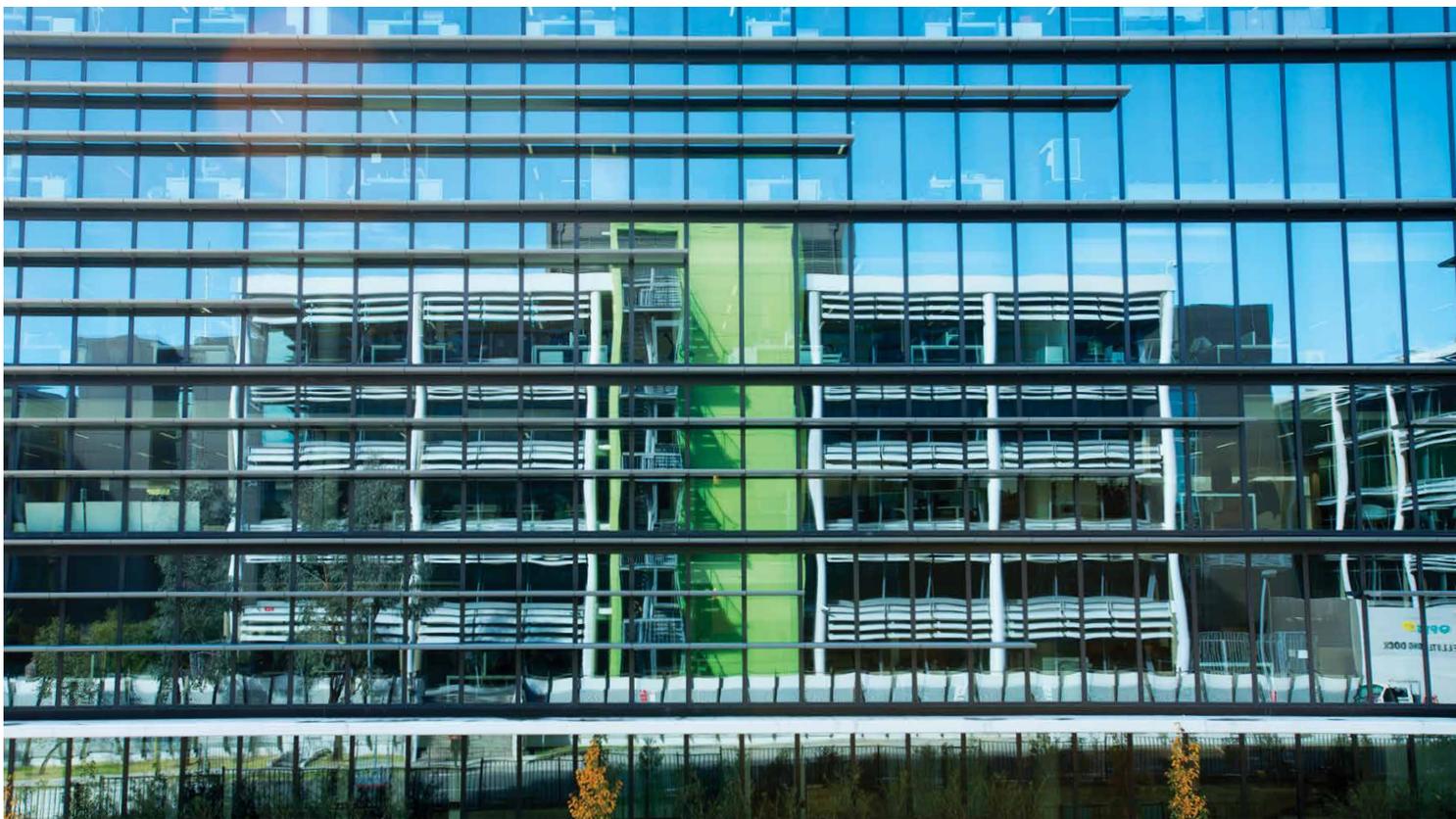
These recommendations have been developed through engagement with industry and government. Electrification, waste, transport and embodied energy are not included in these recommendations, as they were not in the original project scope.

Recommendations are grouped as short-term, medium-term and long-term.

Planning

Short (1-2 years)

- DPIE and all councils across Greater Sydney consistently implement the performance standards and timeframes, as identified in Table 8, in their planning controls (see options on how these can be implemented in an LEP and DCP in the Implementation Options).



Office buildings in Macquarie Park (North City District). Image by Greater Sydney Commission.

Table 11: Summary of targets and development size triggers

Proposed use	Development threshold for performance standards	Performance standards	
		Step one	Step two
		Applications submitted between 1 January 2023 – 31 December 2025	Applications submitted from 1 January 2026 onwards
Office (base building)	A new office building containing a net lettable area (NLA) of 1,000m ² or more	Maximum 45 kWh/yr/m ² of Gross Floor Area (GFA), or	Maximum 45 kWh/yr/m ² of GFA, or
	A refurbishment* to an existing office building that contains a NLA of 1,000m ² or more	5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or	5.5 Star NABERS Energy CA + 25%, or
	An existing office building of 1,000m ² NLA or more with an addition of 50% or more NLA	Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent	Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent and Renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m ² of GFA
Retail (applies to shopping centre base building only)	A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m ² or more	Maximum 55 kWh/yr/m ² of GFA, or	Maximum 45 kWh/yr/m ² of GFA, or
	An existing shopping centre of 5,000m ² GLAR or more with an addition of 50% or more GLAR	4 star NABERS Energy CA, or Certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent	5 star NABERS Energy CA, or Certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent and Renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m ² of GFA
Hotel (whole of building)	A new hotel of 100 rooms or more	Maximum 245 kWh/yr/m ² of GFA, or	Maximum 240 kWh/yr/m ² of GFA, or
	A refurbishment* to an existing hotel that contains 100 rooms or more	4 star NABERS Energy CA, or	4 star NABERS Energy CA + 10%, or
	An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms	Certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent	Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent and Renewable energy procurement equivalent to “net zero energy” or a maximum of 240 kWh/yr/m ² of GFA

Proposed use	Development threshold for performance standards	Performance standards	
		Step one Applications submitted between 1 January 2023 – 31 December 2025	Step two Applications submitted from 1 January 2026 onwards
Multi-unit residential (whole of building)	6-10 storeys	BASIX Energy 40	BASIX Energy 45 and Renewable energy procurement equivalent to “net zero energy” or a maximum of 85 kWh/yr/m ² of GFA
	11-20 storeys	BASIX Energy 35	BASIX Energy 40 and Renewable energy procurement equivalent to “net zero energy” or a maximum of 90 kWh/yr/m ² of GFA
	21-30 storeys	BASIX Energy 30	BASIX Energy 35 and Renewable energy procurement equivalent to “net zero energy” or a maximum of 95 kWh/yr/m ² of GFA
Mixed use	The above threshold for each use	The above performance standards apply for each proposed use	The above performance standards apply for each proposed use

* **Refurbishment** means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building’s volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.

* **Refurbishments and additions - fifty per cent threshold has been used as:**

- Most developments would typically upgrade their plant and systems when development involves rebuilding or an alteration to more than half of the existing building
- Clause 2, Section 94 of the Environmental Planning and Assessment Regulation 2000, allows a consent authority to require an existing building to be brought into total or partial conformity with the NCC This can be required where the development involves rebuilding or an alteration to more than half of the existing building. At that point an upgrade to of the plant and systems may occur to ensure conformity with the NCC.



Central Park urban renewal development (Eastern City District).

- DPIE to explore reviewing BASIX Energy targets for multi-unit residential development above 6 storeys and introducing additional targets for specific height bands in high-rise development (defined by BASIX as above 6 storeys) for BASIX Energy. For example, for 6-10 storeys, for 11-20 storey and 21-30 storeys.
- DPIE to consider regularly updating and publicly disclosing the emissions factors in the BASIX and NABERS tools.
- The City to collaborate with the property industry to finalise the methods to recognise and embed offsite renewables in planning.

Medium (2-3 years)

- GSC to consider amending the Region Plan and/or the district plans to support the implementation of the performance standards to achieve net zero energy in all office, shopping centre, hotel and residential apartment developments by 2030.
- DPIE to investigate updating BASIX to reference net zero energy by 2026 to support the implementation of the multi-unit residential high-rise targets and timeframes across Greater Sydney.

Long term (4-5 years)

- GSC to consider including an action in the district plans to require all councils across Greater Sydney to reflect the performance standards to achieve net zero energy for all new developments by 2030.
- The City to review the performance standards to maintain relevance, as industry adapts to higher standards and the planning and design tools change.



Non-planning

Short (1-2 years)

- The City to work with the Office of the Local Government to investigate the opportunity for all councils across Greater Sydney to include an action in their Community Strategic Plan (CSP) for all new developments to be net zero energy by 2026 (dependent on councils timing of their CSP review.)
- DPIE to consider working with the development industry and councils to regularly update their tools (BASIX and NABERS) to implement the pathways, maintain relevance as industry adapts to higher standards and to improve compliance.
- GBCA to consider working with the development industry and councils to regularly update their Green Star to implement the pathways, maintain relevance as industry adapts to higher standards and to improve compliance.
- DPIE with assistance from councils across Greater Sydney to explore implementing an education program to support planning and assessment officers, architects, sustainability consultants and developers to understand energy use in buildings, how the planning and design tools work and required documentation needed for them to determine compliance with the targets.

Medium (2-3 years)

- DPIE to explore implementing an education program that targets purchasers and tenants so they value the investment made to design and deliver energy performance that goes beyond minimum standards.
- DPIE with the Department of Industry, Science, Energy and Resources (DISER) to investigate introducing a mandatory building performance disclosure for hotels to drive demand for efficient hotels and support hotel operators to manage operational performance.
- DPIE with the DISER to investigate developing a rating tool and process that supports the disclosure of energy performance of multi-unit residential buildings at point of sale. This will drive demand for energy efficient apartments and save tenants money.

Long term (4-5 years)

- The City, GBCA, ASBEC and other key stakeholders to advocate for extending the Renewable Energy Target to 2050 to support the use of off-site renewables and the transition to net zero emissions by 2050.

Appendix 1

Building and systems description

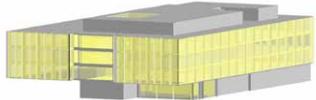


Typology description

Office

The office typologies that were used for the analysis are shown below ranging in height and floor plate.

Table 1: Office typologies

Premium (PCA) - 37 storeys	Grade A (PCA) - 20 storeys	Grade B (PCA) - 4 storeys
		
Floors above ground: 37	Floors above ground: 20	Floors above ground: 4
GFA: 67,684m ²	GFA: 35,635m ²	GFA: 8,878m ²
NLA: 59,419m ²	NLA: 30,121m ²	NLA: 6,960m ²
Floor plate: 1,870m ²	Floor plate: 1,790m ²	Floor plate: 2,757m ²
Car parking spaces: 200 (Underground)	Car parking spaces: 65 (Underground)	Car parking spaces: 17 (Ground level)
WWR: 76%	WWR: 76%	WWR: 81%

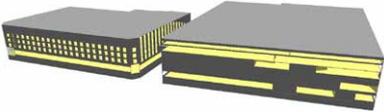
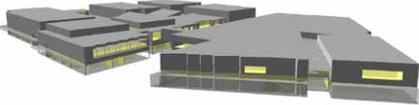
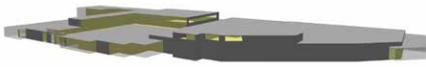
The parameters used for the baseline models were a combination of:

- deemed-to-Satisfy provisions of Section J of NCC 2019 Volume One
- parameters arising from Performance Verification method JV3 of NCC 2019 Volume One
- PCA Quality Matrix 2019 (3rd Edition) parameters for each office grade
- business as usual for parameters not covered by the above references.

Shopping centre

The shopping centre typologies that were used for the analysis are shown below.

Table 2: Shopping centre typologies

Regional - 5 storeys	Sub-regional - 2 storeys	Neighbourhood - 1 storey
		
Floors above ground: 5	Floors above ground: 2	Floors above ground: 1
GFA: 114,443m ²	GFA: 26,560m ²	GFA: 7,359m ²
GLAR: 84,813m ²	GLAR: 23,414m ²	GLAR: 3,021m ²
Floor plate: 19,413m ²	Floor plate: 17,321m ²	Floor plate: 7,359m ²
Car parking spaces: 850 (Underground)	Car parking spaces: 690 (Underground)	Car parking spaces: 314 (External)
WWR: 28%	WWR: 20%	WWR: 20%

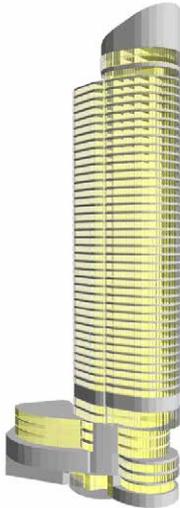
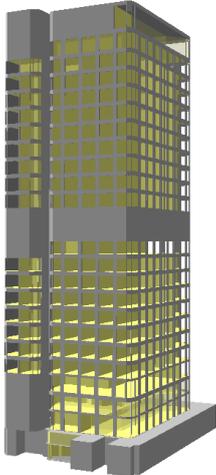
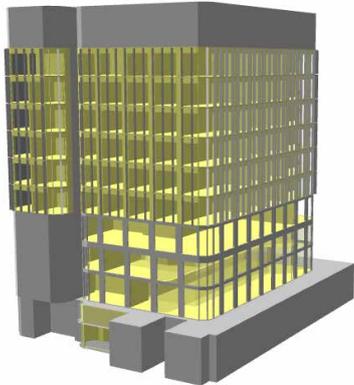
The parameters used for the baseline models were a combination of:

- deemed-to-Satisfy provisions of Section J of NCC 2019 Volume One
- parameters arising from Performance Verification method JV3 of NCC 2019 Volume One
- business as usual for parameters not covered by the above references.

Hotel

The hotel typologies that were used for the analysis are shown below.

Table 3: Hotel typologies

5 Star (ATAP) - 50 storeys	4 Star (ATAP) - 24 storeys	4 Star (ATAP) - 10 storeys
		
Floors above ground: 50 GFA: 38,975m ² Floor plate: 886m ² Rooms: 514 Car parking spaces: 100 (Underground) WWR: 66%	Floors above ground: 24 GFA: 11,262m ² Floor plate: 564m ² Rooms: 252 Car parking spaces: 30 (Underground) WWR: 57%	Floors above ground: 10 GFA: 4,420m ² Floor plate: 548m ² Rooms: 92 Car parking spaces: 0 WWR: 58 %

The parameters used for the baseline models were a combination of:

- deemed-to-Satisfy provisions of Section J of NCC 2019 Volume One
- parameters arising from Performance Verification method JV3 of NCC 2019 Volume One
- business as usual for parameters not covered by the above references.

Multi-unit residential

The shopping centre typologies that were used for the analysis are shown below.

Table 4: Multi-unit residential typologies

25 storeys	15 storeys	9 storeys
		
Floors above ground: 25	Floors above ground: 15	Floors above ground: 9
GFA: 16,995m ²	GFA: 9,858m ²	GFA: 7,847m ²
NSA: 14,165m ²	NSA: 8,286m ²	NSA: 6,599m ²
Floor plate: 691m ²	Floor plate: 657m ²	Floor plate: 872m ²
Apartments: 194	Apartments: 105	Apartments: 90
Car parking spaces: 170 (Underground)	Car parking spaces: 100 (Underground)	Car parking spaces: 60 (Underground)
WWR: 35%	WWR: 34%	WWR: 33%

The parameters used for the baseline models were a combination of:

- NatHERS protocol compliant parameters determined through modelling
- BASIX requirements determined through modelling
- business as usual for parameters not covered by the above references.

Appendix 2

Modelling and cost benefit analysis

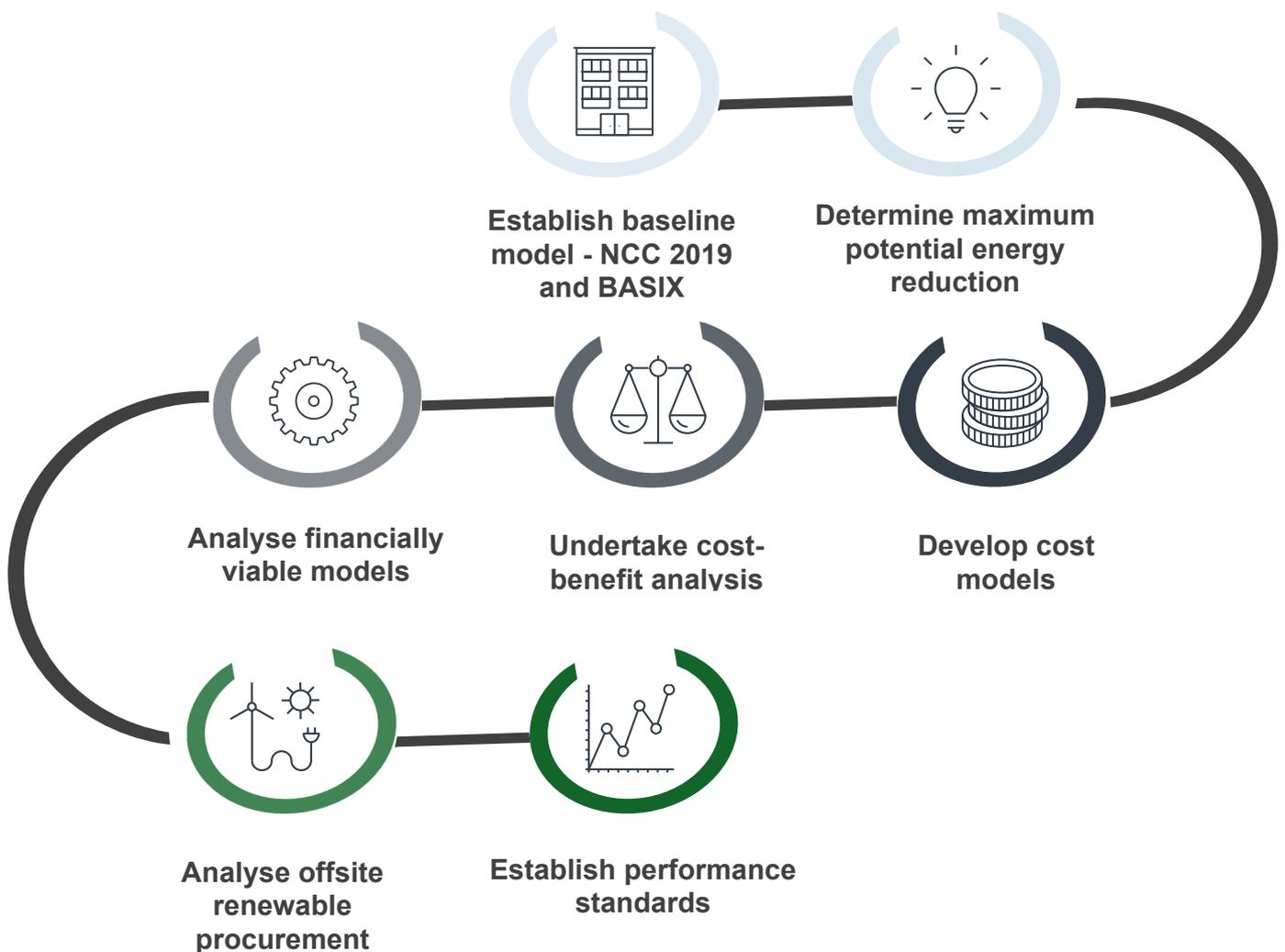


Modelling methodology

Energy consumption modelling was based on existing and proposed development designs, across five asset classes

This seven-phase approach is shown in Figure 1.

Figure 1: Modelling approach





Modelling approach

1. Establish baseline model

This step determined the suitable typologies for each asset class from a range of existing or proposed development designs that represented development in Greater Sydney, with a focus on high rise development. Three typologies were selected for each asset class, with each uplifted to meet NCC 2019 Section J.

2. Determine maximum potential energy reduction

This step determined maximum level of energy efficiency that could be achieved by optimising the building envelope and ensuring best practice building systems were provided in developments. The installation of onsite renewable energy generation was also considered in this analysis up to a maximum of 60% of a developments roof area.

3. Develop cost models

Cost models, based on this maximum level of energy efficiency, were developed for the baseline model and each individual energy reduction measure of the maximum energy reduction potential model.

4. Undertake cost-benefit analysis

The cost benefit analysis identified which individual energy efficiency measures within the maximum energy efficiency potential model were financially viable or would become financially viable before 2050. An internal rate of return (IRR) was developed for each initiative and compared against the uplift in capital investment.

5. Analyse financially viable models

Individually viable measures were aggregated to determine the financially viable energy efficiency measures for each typology from implementation to 2050. Feedback was sought from the external advisory group, as well as industry and government stakeholders at workshops on the measures.

6. Analyse offsite renewable procurement

Accounting for onsite energy reductions, offsite renewable procurement options were assessed for their viability in planning and their cost impact. This was informed by feedback from stakeholders.

7. Establish performance standards

The final phase determined the targets from the financially viable energy reductions by considering the financially viable energy efficiency measures and feedback from stakeholders.

The analysis covered major refurbishments as well as new developments where major refurbishment means only the existing façade, floorplates and key structures are retained. It was assumed that the base case for a major refurbishment is a building with non-NCC compliant building fabric and glazing. Therefore, a major refurbishment would trigger Section J and all building fabric and glazing would need to be upgraded to meet Section J requirements.

It was therefore assumed that all energy efficiency initiatives applied for a new development can be achieved in a major refurbishment without modifying the building structure.

Assets and typologies

Table 1 shows the typologies in each asset class, how they are defined for the purposes of this assessment, and the scope considered in this analysis. The building typologies ranged in size and scale and were drawn from recent development applications in Greater Sydney.

Energy reduction measures

To improve the typologies beyond the baseline performance (in line with Section J NCC 2019 Volume One for non-residential developments or NatHERS and BASIX modelling requirements for multi-unit residential), additional energy reduction measures were investigated.

Several energy reduction measures were investigated in the analysis including façade improvements, HVAC improvements, fuel-switching technologies and onsite renewable electricity. The full list of measures investigated and applicability to each asset class is detailed in Table 2.

Table 1: Asset classes and typologies

Asset class	Typologies selected for assessment purposes	Gross floor area	Scope
Office	Premium grade (PCA) - 37 storeys	67,684m ²	Base building
	Grade A (PCA) - 20 storeys	35,635m ²	
	Grade B (PCA) - 4 storeys	8,878m ²	
Shopping centre	Regional - 5 storeys	114,443m ²	Base building
	Sub-regional - 2 storeys	26,560m ²	
	Neighbourhood - 1 storey	7,359m ²	
Hotel	5 Star (ATAP) - 50 storeys	38,975m ²	Whole building
	4 Star (ATAP) - 24 storeys	11,262m ²	
	4 Star (ATAP) - 10 storeys	4,420m ²	
Multi-unit residential	25 storeys	16,995m ²	Whole building
	15 storeys	9,858m ²	
	9 storeys	7,847m ²	



Table 2: Energy efficiency measures considered and applicability

Measure	Building component	Description	Applicability of measure to asset class			
			Office	Shopping centre	Hotel	Residential
Façade optimisation	Building envelope	Improved fabric thermal performance with increased insulation, higher performance glazing and increased shading provision	Applicable	Applicable	Applicable	Applicable
Improved building sealing	Building envelope	Improved sealing of building fabric to reduce air infiltration	-	-	Applicable	Applicable
Fan ductwork optimisation	Fan system	Increased duct sizes	Applicable	-	Applicable	-
Variable speed drive fan system	Fan system	Installation of VSD and controls on fans	-	Applicable	Applicable	Applicable
Additional fan systems	Fan system	Installation of ceiling fans	-	-	-	Applicable
Plant efficiency improvement	Mechanical plant	Improving mechanical plant efficiencies for chillers or heat pumps	Applicable	Applicable	Applicable	Applicable
Heat recovery plant	Mechanical plant	Improvement of heat recovery systems	-	Applicable	Applicable	-
Electrification of energy	Mechanical plant	Converting heat plant for DHW or HHW to heat pumps	Applicable	Applicable	Applicable	Applicable
Improved LPD	Lighting	Increased efficiency and/or improved layout of light fittings	Applicable	Applicable	Applicable	Applicable

Measure	Building component	Description	Applicability of measure to asset class			
			Office	Shopping centre	Hotel	Residential
Additional lighting controls	Lighting	Additional lighting control features including daylight, motion sensors and time controls	Applicable	Applicable	Applicable	Applicable
VT efficiency improvement	Vertical transport	Improving lift and/or escalator efficiency and reducing standby power	Applicable	Applicable	Applicable	Applicable
Improved efficiency of appliances	Appliances and equipment	Installation of higher efficiency rated appliances and equipment	-	-	Applicable	Applicable
Onsite renewable energy generation	Renewable electricity	Installation of rooftop PV panels to 60% of the roof area or to net zero electricity consumption, whichever is smaller	Applicable	Applicable	Applicable	Applicable

These measures were selected based on:

- published studies used for similar analyses¹
- industry trends and future projections (e.g. increase in equipment efficiencies)
- best practice measures for reduction of energy consumption (e.g. ceiling fans for multi-unit residential buildings).

¹ ASBEC, Climate Works Australia (July 2018) Built to Perform, Building Code Energy Performance Trajectory Project; and Low Carbon Living (October 2018), SP0016 Building Code Energy Performance Trajectory Final Technical Report



The façade is an important building component to consider when assessing the potential for high-performing, energy efficient buildings. In this analysis, the façade was optimised to improve the envelope of the building rather than driving efficiency through passive design such as building orientation or form.

Passive design typically responds to the site context and is constrained by the shape of the site and commercial requirements. These elements cannot be accounted for in this assessment.

Close to 20,000 combinations of parameters were assessed to derive the optimum combination of various façade performance parameters and design to achieve the best energy efficiency outcome for each typology. The parameters for façade improvements were:

- building orientation
- window to wall ratio
- insulation of wall, floor and roof
- glazing performance
- extent of shading.

After investigating the optimum performance for the façade, further energy reduction was sought through energy efficiency measures.

Selected energy reduction measures were initially assessed individually to determine cost and energy viability. Combined, these measures can outperform or underperform compared to individual improvements depending on the measure.

For example, pairing the efficiency of the cooling system with more efficient lighting systems will generally result in a lower percentage of energy improvement than if the measures were taken independently. While adding improvements together will result in a better lighting system and reduce both energy consumption and cooling load.

As such, the aggregate models' energy and cost results in this analysis are not equal to the sum of the energy results of the individual components.

Electrical infrastructure

Electrical infrastructure in the built environment is determined by IEC60439² and AS/NZS3008³. These standards determine the capacities of electrical infrastructure such as distribution boards and cable sizes. Energy efficiency and onsite renewables can impact the electrical infrastructure requirements of a building.

As a particular energy efficiency measure or combination of measures could decrease or increase electrical infrastructure requirements, the cost impact has been accounted for by a quantity surveyor in the cost benefit analysis.

Renewable energy options

The following renewable energy options were considered:

- photovoltaic (PV) panels for electricity generation
- building integrated PV (BIPV)
- solar thermal panels for domestic hot water
- small-scale wind turbine for electricity generation.

Of these, BIPV, solar thermal panels and small-scale wind turbines were considered unviable.

The viability of BIPV would be affected by overshadowing, as is common in urban centres across Greater Sydney. Solar thermal panels are not practical for high rise buildings due to their relatively short design life and would typically only be able to serve the top three floors without impacting efficiency. Small scale wind turbines need reliable and fast wind to be cost effective; unlikely in an urban, high-rise environment where wind tunnels and turbulence is common.

Roof mounted PV panels were selected as the most feasible renewable energy option due to their ease of installation and comparatively short return on investment. They are a proven, common and accepted technology for all building typologies.

2 IEC 60439: Low-voltage switchgear and control gear assemblies

3 AS/NZS3008: Cable sizing calculator

The onsite renewable energy generation measure includes a PV array sized to the smaller of 60% of the roof area to account for space required for mechanical plant equipment and other services (e.g. cooling towers, building maintenance unit equipment etc.), or to achieve net zero electricity onsite.

The selection of PV panels is not intended to dictate PV as the only viable onsite renewable energy generation; rather, it is indicative of the potential viable performance of onsite renewable energy generation across the asset classes. Designers should investigate potential options to suit each site during concept and design development.

Omitted measures

Several energy efficiency measures were considered but omitted for the purposes of this technical energy analysis. Recognising that many projects would benefit from several of these measures, their viability could be investigated on a project by project basis. The energy modelling was based on conservative scenarios to ensure all development proposals across the analysed asset classes can achieve the targets without being onerous.

The measures discounted in this analysis are:

- **commissioning, building tuning and operational management** - a building that is commissioned and tuned correctly results in lower energy consumption; however, this is difficult to influence at the planning stage as it relies on mechanical and electrical contractors.
- **temperature set points** - while using a wider temperature set point range can reduce energy consumption significantly, this is determined by the occupants and building management not the building designer
- **passive design** - measures that would require redesign of the selected typologies (e.g. measures related to adjustment of floor depths, integrated shading or orientation) are project specific, and should be investigated on a project by project basis.

- **natural and cross ventilation** - energy efficiency improvements derived from natural and cross ventilation need to be incorporated into the design of the building based on its exposure and site context. Through good design, and if external conditions are suitable, there are many opportunities for maximising cross or natural ventilation opportunities to improve performance.
- **reduction of thermal bridging** - thermal bridges generally occur in the building fabric where the thermal performance is compromised due to framing. The level of bridging depends on the construction methods and detailing used in the building. As there are currently no accepted metrics in Australia to quantify thermal bridging, it is not possible to include it as a potential energy reduction measure.
- **ground source heat pumps** - this technology is still in development in Australia. In high-density urban areas, typically only vertical ground source heat pumps would be viable (as opposed to horizontal) due to space limitations and underground tunnelling. For vertical ground source heat pumps, a network of pipes would need to be 100m deep, which results in very high initial capital costs compared to other technologies. In less constrained sites, the opportunity to use horizontal ground loops reduces initial capital costs.
- **batteries** - batteries store electricity to be used when needed. The electricity could come from onsite renewables or imported grid electricity during peak hours. While this technology can reduce operational electricity costs and emissions, it does not reduce total energy used.
- **hydrogen technology** - this technology has near zero emissions and can be used as an alternative for natural gas in heating systems or cogeneration. However, there are still financial and technical hurdles to overcome with this technology for building projects.

Further, diesel for emergency generators were not considered as they typically only use diesel in emergencies or during testing, meaning the energy associated is negligible.

The analysis did not consider specific environmental contexts such as overshadowing or cooling effects from nearby water bodies.



Approach to cost benefit analysis

A cost benefit analysis (CBA) determines whether it is economically viable to proceed with a project. Measured through metrics such as internal rate of return (IRR), a CBA can determine how likely the investment is to give a return and how quickly the return will be realised.

The CBA:

- estimates the private and public benefits of different energy efficiency measures in newly constructed buildings and major refurbishments, and how these benefits vary over time
- determines the cost effectiveness of these measures based on construction costs and calculates benefits to inform the development of the performance standards
- estimates the net costs and benefits at a metropolitan scale based on estimated costs and benefits, and expected levels of new construction and major refurbishments in Greater Sydney.

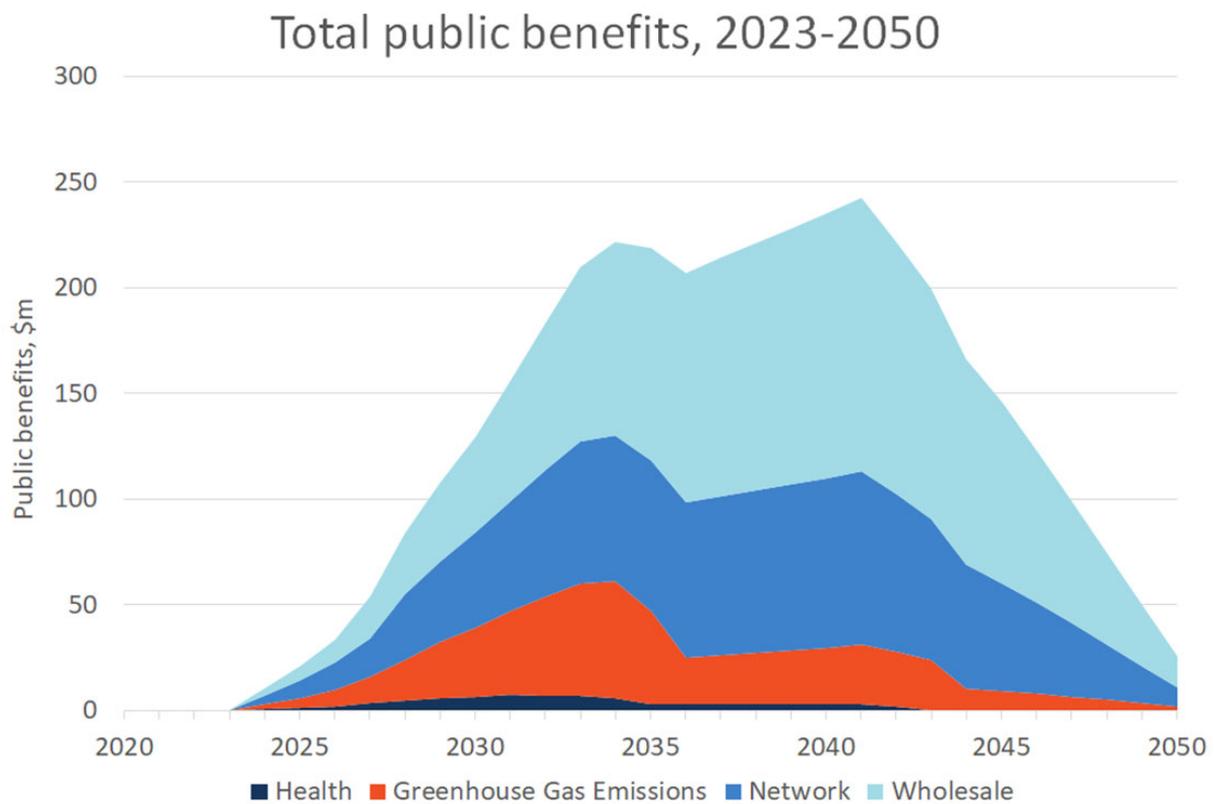
The analysis includes both costs and benefits to developers, owners and occupants, and indirect benefits to the public arising from energy savings.

These public benefits include:

- avoided network costs, realised through the reduction in energy network infrastructure and maintenance costs
- avoided generation costs, realised through the reduction in costs associated with the generation of energy, particularly in terms of fuel and facilities required to generate electricity
- avoided costs to health services, realised through reduced pollution from the reduction in burning of fossil fuels
- avoided greenhouse gas emission costs, realised through the reduction in offset credits required to be purchased in order to meet requirements.

These public benefits will change over time, as shown in Figure 2. Avoided greenhouse gas emissions benefits increase from 2026 due to the purchase of renewable energy procurement for compliance from that time. Greenhouse gas emissions benefits and health benefits decline from 2030 due to the forecast retirement of coal-fired generators in NSW, which will reduce the greenhouse gas intensity and pollution.

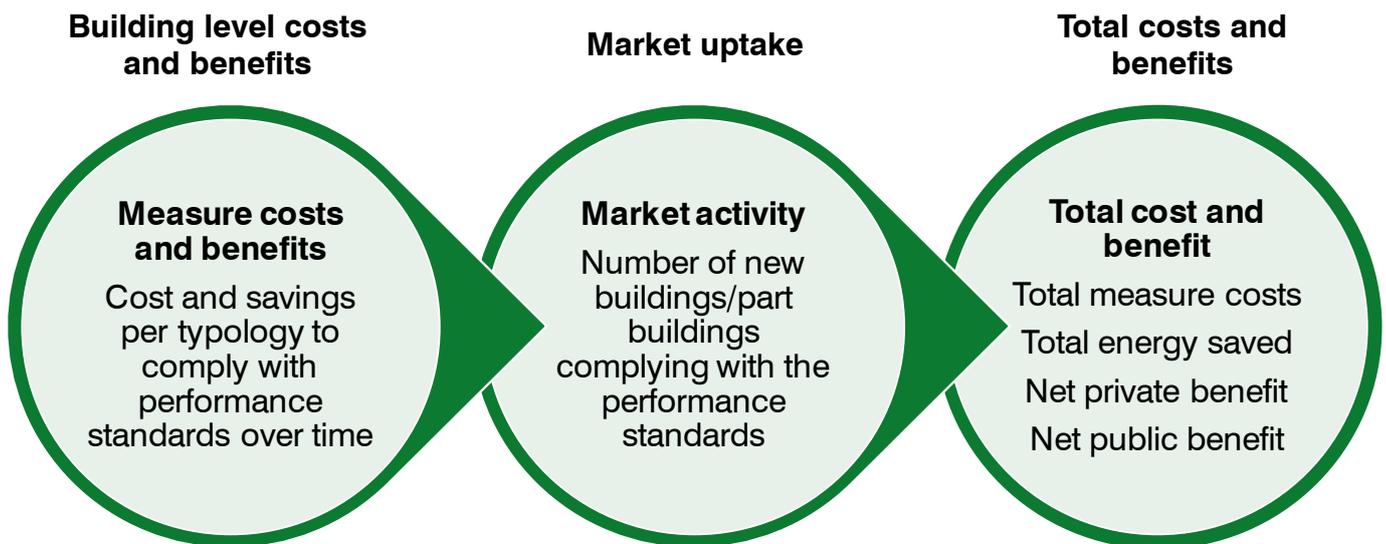
Figure 2: Public benefits from net zero compliance, 2023-2050



The CBA determined cost effective energy efficiency measures for each building type, as well as forecasting changed costs and benefits over time. This informed the staging of targets, as different upgrade activities are expected to become more cost effective in the future.

The individual components of the analysis model are detailed in Figure 3.

Figure 3: Analysis model



The CBA considered the costs and benefits of between 8 and 12 individual measures, six scenarios representing a combination of measures, and offsite renewable scenarios for each asset class. The costs and benefits of each of these analyses were modelled for 15 asset class typologies and two different climate zones. The steps involved in the model are detailed in Table 3.

Table 3: CBA model

Model step	Description
Determine costs	<p>Costs for energy reduction measures were adjusted over time using industry learning factors that account for product cost changes (e.g. price reductions due to increased demand, or due to technological innovation), and construction cost changes (e.g. lower trade costs as familiarity increases and innovations in construction techniques).</p> <p>Offsite renewable procurement was estimated based on long-term projections of spot prices for LGC.</p>
Determine private savings	<p>Annual and lifetime energy bill savings were estimated using projected energy prices for larger users (commercial buildings and the strata component of residential buildings) and household energy prices for apartment energy consumption.</p>
Determine net private benefit	<p>The net private benefit represented the net value for direct market participants, apportioned between developers, owners, and occupants, with building developers paying upfront compliance costs, and building owners and occupants enjoying ongoing energy cost savings. In this context, 'cost effective' implies that the energy cost savings offset the upfront capital costs of the measure. The CBA does not model any imperfect transfers between parties such as between the developer and owner/tenant.</p> <p>The private net benefit of each energy reduction measure is calculated in terms of:</p> <ul style="list-style-type: none"> • the IRR on the investment (over 15 and 25 years, reflecting the effective life of some technologies) • the net present value (NPV) of the investment (discounted at seven per cent) where NPV is the present dollar equivalent value of the investment at the end of the period • the increased capital cost as a proportion of total building cost and per m² of building space • the annual bill savings per m² of building space.
Determine market activity	<p>Costs and benefits at a metropolitan scale were estimated using historic and short-term projections of building activity for the Greater Sydney office, shopping centre, hotel and residential markets, based on published data.</p>
Estimate short run and long run avoided costs	<p>The CBA estimated public benefits from data on the broader benefits of reduced pollution (including greenhouse gas emissions) from reductions in non-renewable energy generation such as coal, and reduced public costs from energy networks as energy efficiency activity reduces the demand on the electricity grid (marginal avoided operation and capacity costs).</p>



Results

Energy results are presented as an energy intensity rate in kWh/yr/m² and expressed as a percentage energy reduction against the NCC 2019 or BASIX compliant baseline. The CBA results are shown as an IRR for 15 and 25 years, as well as a capital cost increase of each measure.

The IRR is the discount rate which would make the NPV of cash flows associated with the measure equal zero. This IRR can then be compared to alternative investments to determine whether the measure is considered cost effective.

A negative IRR implies the total positive cash flows (bill savings) are less than the negative cash flow (upfront cost). A positive IRR means that the bill savings outweigh the upfront cost. Higher IRRs show a greater overall return on investment.

The IRR is calculated in real terms; it does not include inflation. Table 4 shows a range of typical returns for alternative investments to provide some context on investment returns available to proponents of development in comparison to the IRRs available for investing in higher energy efficiency and onsite renewables.

The results presented for each of the asset classes below include the assessment of both financially viable and non-financially viable measures, which were used to inform the performance standards. The final targets are generally more achievable than the final financially viable models presented below, as not every financially viable measure needs to be implemented for the targets to be achieved.

A long return period reflects the effective life of some measures. Most measures have an effective life of between 7 and 15 years, and with continued energy bill reductions ending from this point. For these measures, the IRR does not change if a much shorter period is selected.

The analysis was based on conservative modelling, irrespective of development context. As such, developments designed to their context should exceed the performance indicated with little to no cost impact.

Table 4: Reference rates of return for cost effectiveness

Activity	Typical rate of return	Notes
Cash rate	0-4%	Based on range year to year - Reserve Bank of Australia www.rba.gov.au/statistics/cash-rate/
10 year government bond	1-3%	Based on range year to year – Reserve Bank of Australia www.rba.gov.au/statistics/tables
Australian shares	4%	Based on average annual S&P/ASX 200 Price Index increase year to year https://www.asx.com.au/about/historical-market-statistics.htm
Central rate for cost effectiveness (Australian and NSW Government guidelines)	7%	NSW Treasury (current as at 2020) - TPP17-03 NSW Guide to Cost Benefit Analysis Department of Prime Minister and Cabinet – Cost Benefit Analysis Guidance Note March 2020

Office

The office asset class can reduce energy consumption by approximately 35 per cent compared to an NCC 2019 compliant office development even before onsite renewable energy generation is applied to the building, which can further reduce energy consumption to more than 40 per cent compared to an NCC 2019 compliant office development. However, when the CBA is applied not all the 40 per cent energy reduction is cost effective.

The detailed energy and CBA results for each of the measures analysed for the office asset class are presented in Table 5 below. The results present a relatively consistent percentage reduction in energy across each of the models analysed; given variances these are presented as a range in Table 5.

The largest difference in energy reduction potential between the typologies is from onsite renewable energy generation. This difference relates to the ratio of roof area to floor area. A typology with a large roof area and a small floor area will have the capacity to integrate a larger amount of renewable energy generation over the roof area and offset a smaller energy consumption over the floor area.

The energy efficiency opportunities in larger office buildings with more centralised services are generally more cost effective while small buildings can more easily achieve financial viability from onsite renewables due to a higher ratio of roof area to floor area albeit at greater percentage increase of capital expenditure.

The office asset class considers base building energy only and does not account for a tenant's energy consumption, typically tenancy power and lighting.

Table 5: Office results

Energy reduction measure	Energy reduction	IRR (15 years)	IRR (25 years)	Capital cost increase (as % of development)
Façade optimisation	1.4% - 5.8%	(-35%) - (-24%)	(-21%) - (-12%)	2.95% - 3.50%
Fan ductwork optimisation	7.5% - 9.6%	32% - 82%	33% - 82%	0.03% - 0.10%
Plant efficiency improvement	5.3% - 7.4%	0% - 5%	1% - 5%	0.40% - 0.51%
Electrification of energy	8.0% - 12.9%	(-17%) - (-14%)	(-16%) - (-13%)	0.44% - 0.86%
Improved lighting power density	1.9% - 7.1%	3% - 21%	3% - 21%	0.06% - 0.12%
Additional lighting controls	1.9% - 3.3%	(-10%) - (-3%)	(-10%) - (-3%)	0.08% - 0.17%
Vertical transport efficiency improvement	2.6% - 2.9%	(-19%) - (-16%)	(-17%) - (-14%)	0.69% - 0.89%
Onsite renewable energy generation	7.9% - 64.5%	1% - 3%	6% - 8%	0.27% - 3.66%

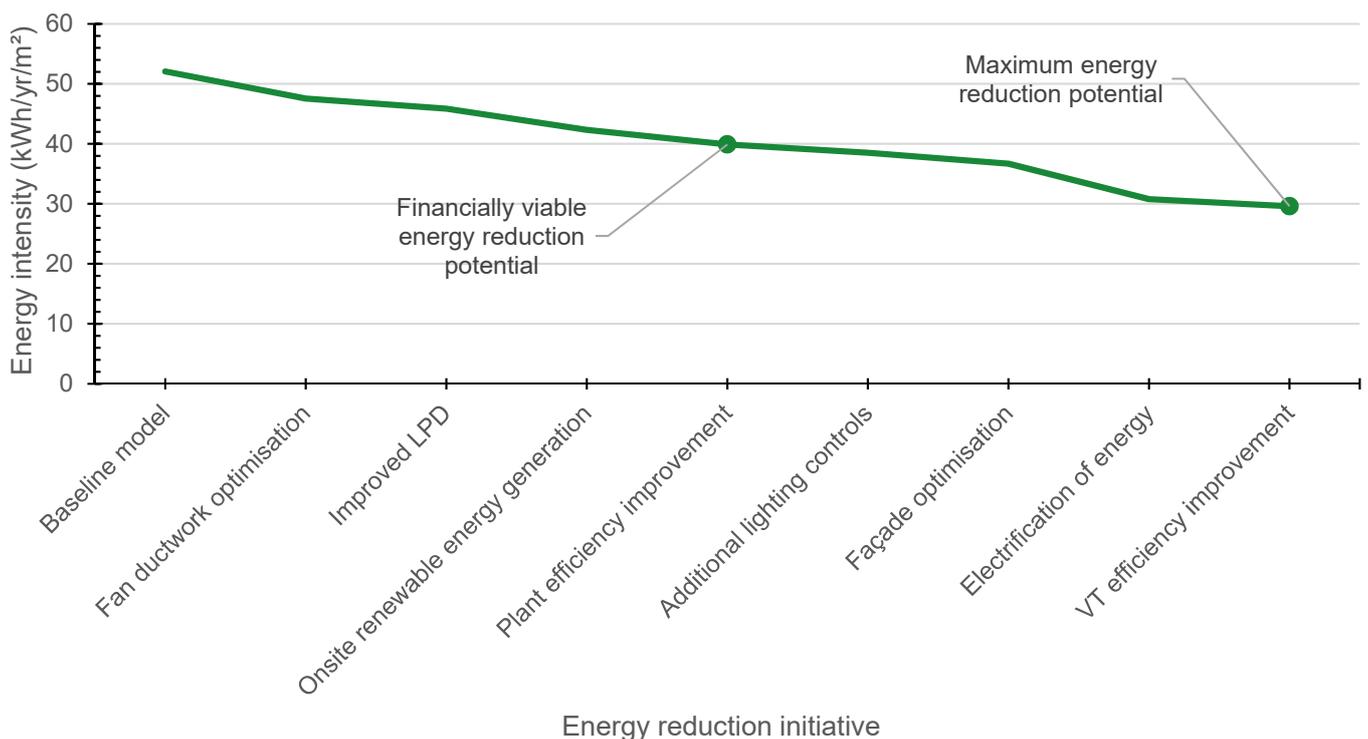


The cumulative reductions in order of financial viability are plotted in Figure 4. The limit of financial viability occurs at approximately 40 kWh/yr/m² and the maximum energy intensity reduction potential is approximately 30 kWh/yr/m².

Only four of the analysed measures in Figure 4 achieve a positive IRR on a cost-effective basis and return a 23 per cent to 85 per cent improvement on energy performance over the NCC 2019 baseline:

- fan ductwork optimisation
- improved lighting power density
- onsite renewable energy generation
- plant efficiency improvement.

Figure 4: Office cumulative energy intensity reduction of energy efficiency reduction measures



The financially viable energy reduction measures were aggregated and the results translated into the planning and design tools. The results are shown in Table 6. Note, the percentage values in the NABERS Energy rating column refer to the percentage above the NABERS star band.

Table 6: Office energy results for financially viable measures

Energy reduction model	Energy intensity kWh/yr/m ²	NCC 2019 energy reduction	NABERS Energy rating	Green Star Buildings certified rating and Credit 22 criteria
NCC 2019 baseline model	48.9 - 55.2	-	5.5 star (+9%) - 5.5 star (+19%)	-
Financially viable model without onsite renewable energy generation	39.4 - 48.3	11.9% - 21.2%	5.5 star (+27%) - 6.0 star (+4%)	Minimum Expectation - Credit Achievement
Financially viable model with onsite renewable energy generation	7.6 - 40.7	23.3% - 84.9%	6.0 star (+13%) - 6.0 star (+94%)	Credit Achievement - Exceptional Performance
Maximum energy potential without onsite renewable energy generation	30.7 - 36.5	33.9% - 37.3%	5.5 star (+31%) - 6.0 star (+8%)	Exceptional Performance
Maximum energy potential with onsite renewable energy generation	-0.9 - 29.6	42.7% - 101.8%	6.0 star (+19%) - 6.0 star (+101%)	Exceptional Performance

Table 7: Office CBA results for financially viable measures

Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without onsite renewable energy generation	0% - 7%	0% - 7%	0.49% - 0.74%
Financially viable model with onsite renewable energy generation	(-5%) - 4%	(-4%) - 4%	0.76% - 4.39%
Maximum energy potential without onsite renewable energy generation	(-13%) - (-5%)	(-11%) - (-8%)	4.65% - 6.16%
Maximum energy potential with onsite renewable energy generation	(-15%) - (-11%)	(-8%) - 0%	4.92% - 9.82%



As shown in the previous table, it is financially viable to achieve a 12 to 21 per cent reduction on NCC 2019 Section J without renewable energy generation and approximately a 2 to 85 per cent reduction with onsite renewable energy generation, depending on the ratio of roof to floor area.

In NABERS Energy this translates to between a high (i.e. significantly exceeding the star-band threshold) 5.5 star to a low (i.e. just exceeding the threshold) 6.0 star rating without renewable energy generation and a high 6.0 star rating with onsite renewable energy generation. In Green Star Buildings the financially viable model will achieve credit achievement through Credit 22.

Office developments with fewer floors have the potential to go beyond net zero energy and achieve net positive energy if the development generates more energy than it would consume annually through onsite renewable energy generation, as the building form has a high ratio of roof area to floor area.



Commercial office buildings (Eastern City District).
Image by Jamie Williams.

Shopping centre

The shopping centre asset class considers base building energy only and does not account for a tenant's energy consumption.

The energy analysis indicates a reduction in energy consumption of approximately 35 per cent compared to an NCC 2019 compliant shopping centre development. The inclusion of onsite renewable energy generation increases the energy reduction to at least 80 per cent compared to an NCC 2019 compliant development and potentially up to net zero, given the significant roof area to floor area ratio of shopping centre developments.

However, when the CBA is applied not all the 80 per cent energy reduction is cost effective.

The detailed energy and CBA results for each of the measures are presented in Table 8.

The results indicate a reasonable variation between the energy analysis and CBA. The largest range in an energy reduction measure relates to the onsite renewable energy due to the ratio of roof area to floor area. The largest range for a measure in the CBA relates to the heat recovery plant and the financial viability of applying the energy reduction measure to central services of larger shopping centres compared to the decentralised services of smaller shopping centres.

Table 8: Shopping centre results

Energy reduction measure	NCC 2019 energy reduction	IRR (15 years)	IRR (25 years)	Capital cost increase
Variable air fan system	9.8% - 16.2%	(-3%) - 19%	(-3%) - 19%	0.17% - 0.34%
Plant efficiency improvement	3.6% - 4.7%	(-13%) - 13%	(-12%) - 14%	0.21% - 1.01%
Heat recovery plant	0.3% - 1.6%	OPEX Increase - 621%	(-32%) - 621%	0.00% - 0.14%
Electrification of energy	11.4% - 26.2%	(-9%) - 20%	(-8%) - 21%	0.20% - 0.39%
Improved lighting power density	1.9% - 3.5%	12% - 20%	12% - 20%	0.07% - 0.11%
Additional lighting controls	0.7% - 8.0%	(-18%) - 18%	(-18%) - 18%	0.06% - 0.09%
Vertical transport efficiency improvement	1.3% - 1.7%	(-18%) - (-14%)	(-16%) - (-12%)	0.40% - 0.40%
Onsite renewable energy generation	33.4% - 64.2%	(-2%) - 4%	4% - 8%	1.57% - 2.60%



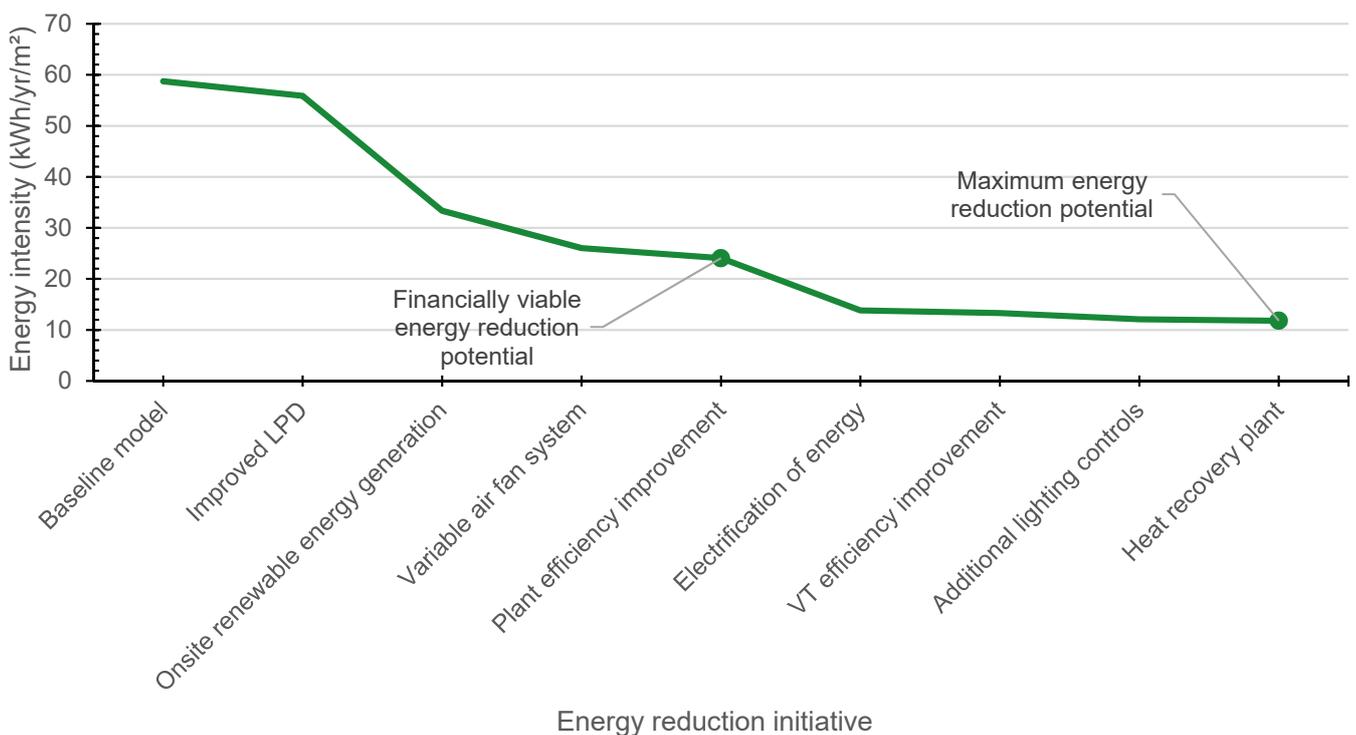
The cumulative reductions in order of financial viability are plotted in Figure 5. These indicate the cumulative reduction in energy intensity when measures are aggregated. The limit of financial viability occurs at approximately 25 kWh/yr/m² and a maximum energy intensity reduction occurs at approximately 10 kWh/yr/m².

Like offices, energy efficiency opportunities are more likely to be financially viable in multi-storey shopping centres with more centralised services, compared to small centres with few storeys that can achieve higher financial viability through onsite renewables due to a higher ratio of roof area to floor area albeit at greater percentage increase of capital expenditure.

The CBA demonstrates that only four of the analysed measures achieve a positive IRR and could be implemented on a cost-effective basis, returning a 48 to 85 per cent improvement on energy performance over the NCC 2019 baseline:

- improved lighting power density
- onsite renewable energy generation
- variable air fan system
- plant efficiency improvement.

Figure 5: Shopping centre cumulative energy intensity reduction by energy efficiency reduction measure



The financially viable energy reduction measures were aggregated and results translated into the planning and design tools (Table 9). Percentage values in the NABERS Energy rating column refer to the percentage above the NABERS star band.

Table 9: Shopping centre energy results for financially viable measures

Energy reduction model	Energy intensity kWh/yr/m ²	NCC 2019 energy reduction	NABERS Energy rating	Green Star Buildings certified rating and Credit 22 criteria
NCC 2019 baseline model	50.9 - 68.4	-	3.5 star (+3%) - 5 star (+1%)	-
Financially viable model without onsite renewable energy generation	39.7 - 57.5	14.7% - 22.1%	4.0 star (+12%) - 5.5 star (+4%)	Minimum Expectation - Credit Achievement
Financially viable model with onsite renewable energy generation	8.4 - 34.9	48.2% - 84.8%	6.0 star (+48%) - 6.0 star (+91%)	Exceptional Performance
Maximum energy potential without onsite renewable energy generation	31.3 - 35.1	37.5% - 49.5%	4.5 star (+0%) - 5.5 star (+7%)	Exceptional Performance
Maximum energy potential with onsite renewable energy generation	-1.9 - 11.8	82.5% - 103.3%	6.0 star (+52%) - 6.0 star (+108%)	Exceptional Performance

Table 10: Shopping centre CBA results for financially viable measures

Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without onsite renewable energy generation	(-12%) - 12%	(-12%) - 12%	0.44% - 1.46%
Financially viable model with onsite renewable energy generation	(-9%) - 1%	(-6%) - 1%	2.01% - 4.06%
Maximum energy potential without onsite renewable energy generation	(-3%) - 5%	(-9%) - 8%	1.10% - 2.49%
Maximum energy potential with onsite renewable energy generation	(-9%) - 8%	3% - 7%	2.67% - 5.09%



The analysis shows that it is financially viable to achieve a 15 to 22 per cent reduction on NCC 2019 Section J without renewable energy generation and a 48 to 85 per cent reduction with the inclusion of onsite renewable energy generation, depending on the proportion of roof space to building height.

In NABERS Energy this translates to between a 4.0 star and 5.5 star rating without renewable energy generation and a high 6.0 star rating with onsite renewable energy generation. In Green Star Buildings the financially viable model will achieve the minimum expectation or credit achievement without onsite renewable energy generation for Credit 22. However, with onsite renewable energy generation the model will easily achieve exceptional performance.

Like offices, shopping centres with fewer floors have the potential to go beyond net zero energy and achieve net positive energy via onsite renewables as the development would generate more energy than it would consume annually as the building form has a high ratio of roof area to floor area.



Image by Paul Patterson.

Hotel

The hotel asset class considers whole of building energy. Whole of building includes the base building, the individual hotel rooms, and other amenities like bars, cafes and pools.

Hotel analysis results differ vastly compared to offices and shopping centres. Before financial viability is considered, an improvement of more than 45 per cent compared to an NCC 2019 compliant hotel development can be achieved. Onsite renewable energy generation significantly increases the energy reduction to approximately 50 per cent compared to an NCC 2019 compliant hotel development. However, when the CBA is applied, not all the energy reduction is economically viable.



Manly skyline (North City District). Image by Greater Sydney Commission.



The results of the models analysed, presented in Table 11, remain relatively consistent both in energy reduction and in the CBA. The hotel asset class includes additional applicable measures, including improved building sealing due to overnight operation and improved efficiency of appliances due to the whole of building scope.

These measures show the largest financial return and the second largest energy intensity reduction respectively. The greatest energy intensity reduction is achieved through the electrification of energy due to the larger domestic hot water demand.

Further, while the onsite renewable energy generation was one of the most effective energy intensity reduction measures in the office and shopping centre asset classes the impact is less pronounced in the hotel asset class due to the larger energy consumption associated with the whole of building scope and typically small roof area of hotels in Greater Sydney.

The detailed energy and CBA results for the hotel asset class are presented in Table 11.

The hotel asset class considers whole of building energy, which means it accounts for the energy consumption of the hotel rooms and amenities.

Table 11: Hotel results

Energy reduction measure	NCC 2019 energy reduction	IRR (15 years)	IRR (25 years)	Capital cost increase
Façade optimisation	2.1% - 2.9%	(-32%) - (-27%)	(-18%) - (-15%)	7.40% - 9.94%
Improved building sealing	1.3% - 1.9%	140% - CAPEX Decrease	140% - 170%	-0.01% - 0.01%
Fan ductwork optimisation	1.0% - 1.3%	(-10%) - (-4%)	(-2%) - 3%	0.23% - 0.32%
Variable air fan system	2.0% - 3.4%	(-25%) - (-18%)	(-25%) - (-18%)	0.80% - 1.79%
Plant efficiency improvement	1.1% - 1.5%	(-9%) - 35%	(-7%) - 35%	0.08% - 0.94%
Heat recovery plant	1.2% - 1.5%	(-19%) - (-13%)	(-19%) - (-13%)	0.17% - 0.44%
Electrification of energy	22.0% - 26.6%	(-5%) - 15%	(-4%) - 15%	0.31% - 1.74%
Improved lighting power density	2.6% - 3.6%	(-8%) - (-5%)	(-8%) - (-5%)	0.42% - 0.58%
Additional lighting controls	1.0% - 1.1%	(-22%) - (-16%)	(-22%) - (-16%)	0.30% - 0.42%
Vertical transport efficiency improvement	0.4% - 1.3%	(-19%) - (-11%)	(-17%) - (-9%)	0.35% - 0.57%
Improved efficiency of appliances	10.3% - 10.7%	13% - 17%	13% - 17%	0.15% - 0.34%
Onsite renewable energy generation	0.4% - 6.5%	(-1%) - 1%	5% - 7%	0.14% - 1.14%

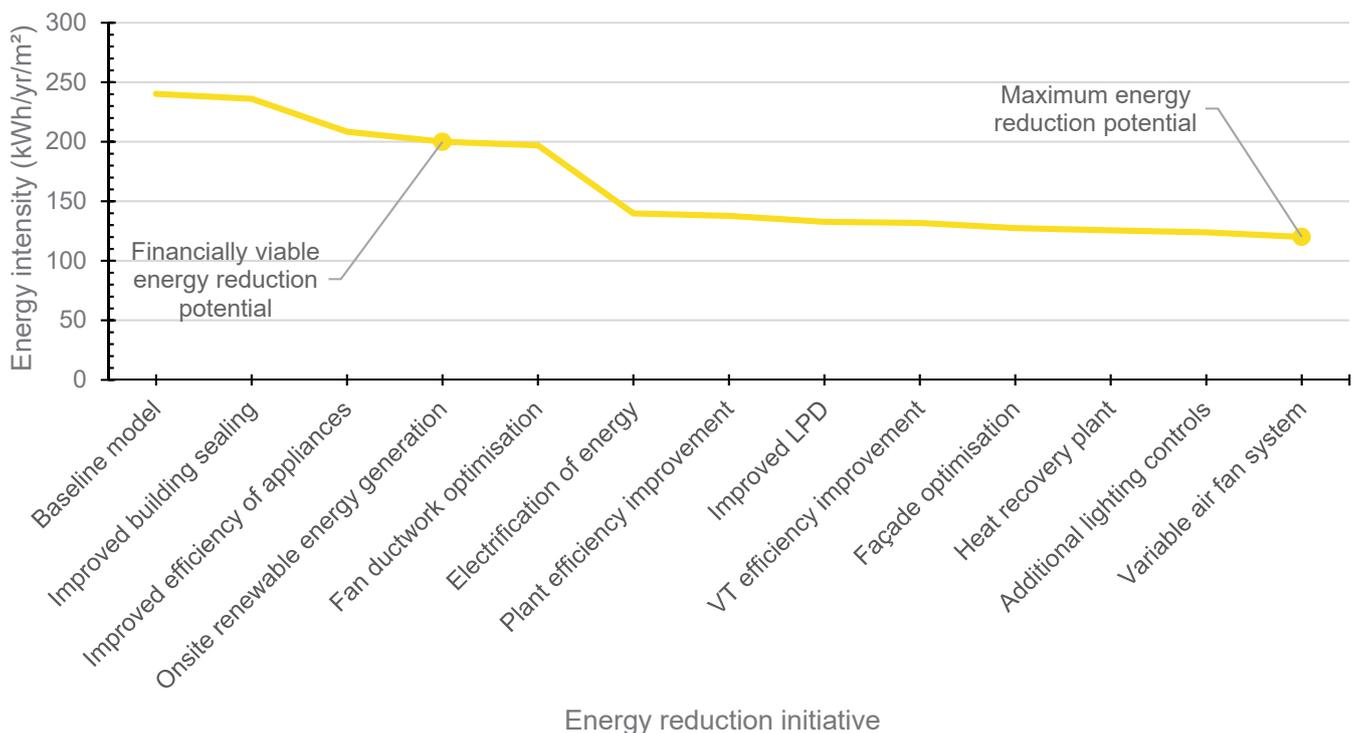
The cumulative reductions in order of financial viability are plotted in Figure 6. These indicate that when energy efficiency measures are aggregated, the maximum point of financial viability occurs at approximately 200 kWh/yr/m² and the maximum energy intensity reduction potential occurs at approximately 120 kWh/yr/m².

Larger developments achieve a more positive IRR for energy efficiency, especially with building system and management controls over non-regulated energy use (plug-in loads such as appliances). Onsite renewable energy generation has less impact in the hotel asset class compared to other classes.

The CBA demonstrates that only three of the analysed measures achieve a positive IRR and could be implemented on a cost-effective basis and return a 14 to 19 per cent improvement on energy performance over the NCC 2019 baseline:

- improved building sealing
- improved efficiency of appliances
- onsite renewable energy generation.

Figure 6: Hotel cumulative energy intensity reduction per energy efficiency reduction measure



The financially viable energy reduction measures were aggregated and results translated into the planning and design tools (Table 12). Percentage values in the NABERS Energy rating column refer to the percentage above the NABERS star band.

It is financially viable to achieve an approximately 12 per cent reduction on NCC 2019 Section J without renewable energy generation and an approximately 14 to 19 per cent reduction with onsite renewable energy generation, depending on the ratio of roof area to floor area.

In NABERS Energy this translates to approximately a 4 star rating. In Green Star Buildings, the financially viable model without renewable energy generation is generally only able to achieve minimum expectation for Credit 22. Even with onsite renewable energy incorporated the modelling indicates it is still unable to achieve the credit achievement threshold in energy reduction of 20%.

Table 12: Hotel energy results for financially viable measures

Energy reduction model	Energy intensity kWh/yr/m ²	NCC 2019 energy reduction	NABERS Energy rating	Green Star Buildings certified rating and Credit 22 criteria
NCC 2019 baseline model	190.4 - 278.6	-	3.5 star (+15%) - 4.0 star (+13%)	-
Financially viable model without onsite renewable energy generation	167.6 - 246.2	11.5% - 12.4%	4.0 star (+3%) - 4.0 star (+16%)	Minimum Expectation
Financially viable model with onsite renewable energy generation	164.6 - 239.5	13.5% - 18.7%	4.0 star (+13%) - 4.0 star (+18%)	Minimum Expectation
Maximum energy potential without onsite renewable energy generation	102.7 - 146.7	44.8% - 48.1%	4.5 star (+7%) - 4.5 star (+14%)	Exceptional Performance
Maximum energy potential with onsite renewable energy generation	99.6 - 140.0	47.6% - 52.0%	4.0 star (+16%) - 4.5 star (+12%)	Exceptional Performance

Table 13: Hotel CBA results for financially viable measures

Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without onsite renewable energy generation	0% - 12%	16% - 24%	0.15% - 0.35%
Financially viable model with onsite renewable energy generation	16% - 24%	0% - 12%	0.29% - 1.49%
Maximum energy potential without onsite renewable energy generation	(-14%) - (-11%)	(-15%) - (-12%)	10.20% - 17.09%
Maximum energy potential with onsite renewable energy generation	(-15%) - (-12%)	(-14%) - (-10%)	10.34% - 18.23%

Multi-unit residential

The multi-unit residential asset class considers whole of building energy. It accounts for the energy consumption of the apartments as well as common area services.

The multi-unit residential analysis indicates similar results to the hotel asset class. Before consideration of financially viable measures, an improvement of approximately 30 per cent compared to a BASIX 25 compliant multi-unit residential development can be achieved. Onsite renewable energy generation increases the energy reduction to approximately 40 per cent compared to a BASIX 25 compliant development. However, when the CBA is applied not all the energy reduction measures are economically viable.

The results in Table 14 are relatively consistent between the energy reduction model and the CBA. However, the largest difference in energy reduction is achieved from onsite renewable energy generation associated with the ratio of roof area to floor area.

Further, many of the energy reduction measures produce a significantly greater financial return compared to the other asset class analysed. This is due to the latest version of the NCC increasing the stringency of compliance of non-residential building classes while the targets for BASIX have remained the same since 2017.

The detailed energy and CBA results for the multi-unit residential asset class are presented below.

Table 14: Multi-unit residential results

Energy reduction measure	NCC 2019 energy reduction	IRR (15 years)	IRR (25 years)	Capital cost increase
Façade optimisation	3.8% - 6.9%	(-21%) - (-17%)	(-10%) - (-7%)	2.86% - 4.84%
Improved building sealing	0.6% - 1.8%	CAPEX Decrease	CAPEX Decrease	(-0.22%) - (-0.02%)
Variable air fan system	4.3% - 5.7%	(-20%) - (-2%)	(-20%) - (-2%)	0.36% - 1.19%
Additional fan systems	1.8% - 2.5%	4% - 10%	8% - 13%	0.15% - 0.24%
Plant efficiency improvement	2.7% - 4.8%	(-1%) - 30%	0% - 31%	0.12% - 0.95%
Electrification of energy	16.7% - 21.4%	0% - 10%	1% - 10%	0.24% - 0.44%
Improved lighting power density	2.0% - 2.7%	3% - 11%	3% - 11%	0.07% - 0.12%
Additional lighting controls	0.9% - 1.5%	(-13%) - 1%	(-13%) - 1%	0.05% - 0.08%
Vertical transport efficiency improvement	0.7% - 0.8%	(-18%) - (-6%)	(-16%) - (-5%)	0.12% - 0.30%
Improved efficiency of appliances	11.1% - 12.1%	12% - 15%	12% - 15%	0.19% - 0.33%
Onsite renewable energy generation	4.2% - 12.2%	0% - 0%	5% - 6%	0.25% - 1.08%

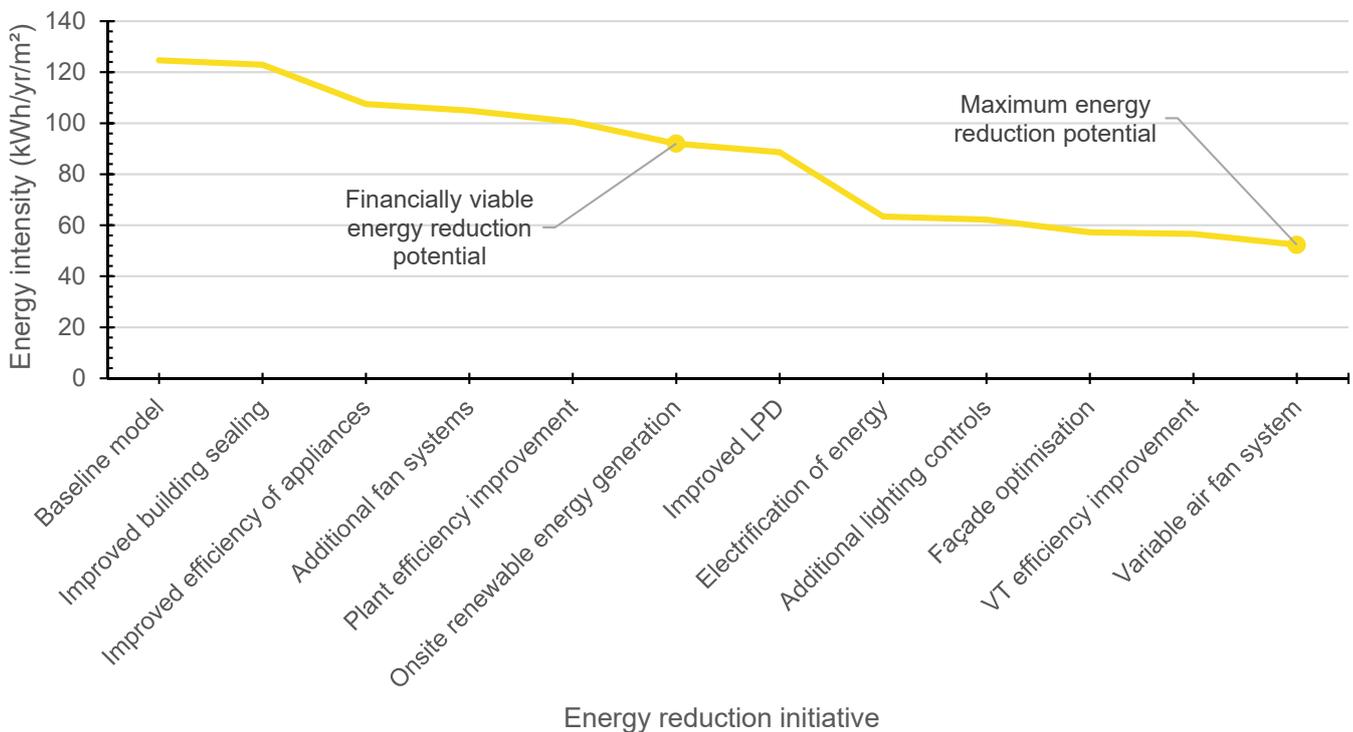


The cumulative reductions in order of financial viability have been plotted in Figure 7 below. These indicate the cumulative reduction in energy intensity when measures are aggregated. The limit of financial viability occurs at approximately 95 kWh/yr/m² and the maximum energy reduction potential occurs at approximately 55 kWh/yr/m².

The CBA demonstrates that only five of the analysed measures achieve a positive IRR and could be implemented on a cost neutral basis and return a 23 to 34 per cent improvement on energy performance over the BASIX baseline:

- improved building sealing
- improved efficiency of appliances
- additional fan systems
- plant efficiency improvement
- on-site renewable energy generation.

Figure 7: Multi-unit residential cumulative energy intensity reduction by energy efficiency reduction measure



The financially viable energy reduction measures were aggregated, and the results translated into the planning and design tools (Table 15-16). Percentage values in the NABERS Energy rating column refer to the percentage above the NABERS star band.

Table 15: Multi-unit residential energy results for financially viable measures

6-10 Storeys

Energy reduction model	Energy intensity kWh/yr/m ²	BASIX 25 energy reduction	BASIX score	Green Star Buildings certified rating and Credit 22 criteria
BASIX baseline model	123.1 - 123.9	0.0%	25	-
Financially viable model without onsite renewable energy generation	96.4 - 97.2	21.0% - 22.2%	40	Credit Achievement
Financially viable model with onsite renewable energy generation	81.6 - 82.2	33.2% - 34.2%	63	Exceptional Performance
Maximum energy potential without onsite renewable energy generation	66.9 - 67.4	45.6% - 45.7%	43	Exceptional Performance
Maximum energy potential with onsite renewable energy generation	51.9 - 52.5	57.6% - 57.9%	66	Exceptional Performance



11-20 Storeys

Energy reduction model	Energy intensity kWh/yr/m ²	BASIX 25 energy reduction	BASIX score	Green Star Buildings certified rating and Credit 22 criteria
BASIX baseline model	122.5 - 122.9	0.0%	25	-
Financially viable model without onsite renewable energy generation	98.9 - 100.0	18.4% - 19.5%	34	Minimum Expectation
Financially viable model with onsite renewable energy generation	90.0 - 90.9	25.7% - 26.7%	47	Credit Achievement
Maximum energy potential without onsite renewable energy generation	65.8 - 66.3	46.0% - 46.3%	40	Exceptional Performance
Maximum energy potential with onsite renewable energy generation	56.8 - 57.4	53.3% - 53.6%	54	Exceptional Performance

21-30 Storeys

Energy reduction model	Energy intensity kWh/yr/m ²	BASIX 25 energy reduction	BASIX score	Green Star Buildings certified rating and Credit 22 criteria
BASIX baseline model	127.4 - 128.2	0.0%	25	-
Financially viable model without onsite renewable energy generation	100.0 - 102.6	18.4% - 20.0%	31	Minimum Expectation - Credit Achievement
Financially viable model with onsite renewable energy generation	90.9 - 97.1	24.2% - 25.7%	40	Credit Achievement
Maximum energy potential without onsite renewable energy generation	63.3 - 65.8	46.3% - 50.6%	39	Exceptional Performance
Maximum energy potential with onsite renewable energy generation	56.8 - 57.9	53.6% - 54.9%	47	Exceptional Performance

Table 16: Multi-unit residential CBA results for financially viable measures

6-10 Storeys

Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without onsite renewable energy generation	17% - 18%	17% - 18%	0.76%
Financially viable model with onsite renewable energy generation	5% - 6%	5% - 6%	1.84%
Maximum energy potential without onsite renewable energy generation	(-6%) - (-6%)	(-3%) - (-3%)	8.52%
Maximum energy potential with onsite renewable energy generation	(-8%) - (-8%)	(-7%) - (-6%)	7.44%

11-20 Storeys

Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without onsite renewable energy generation	13% - 15%	13% - 15%	0.48%
Financially viable model with onsite renewable energy generation	5% - 6%	5% - 6%	0.90%
Maximum energy potential without onsite renewable energy generation	(-8%) - (-8%)	(-5%) - (-5%)	5.82%
Maximum energy potential with onsite renewable energy generation	(-9%) - (-9%)	(-7%) - (-7%)	5.40%

21-30 Storeys

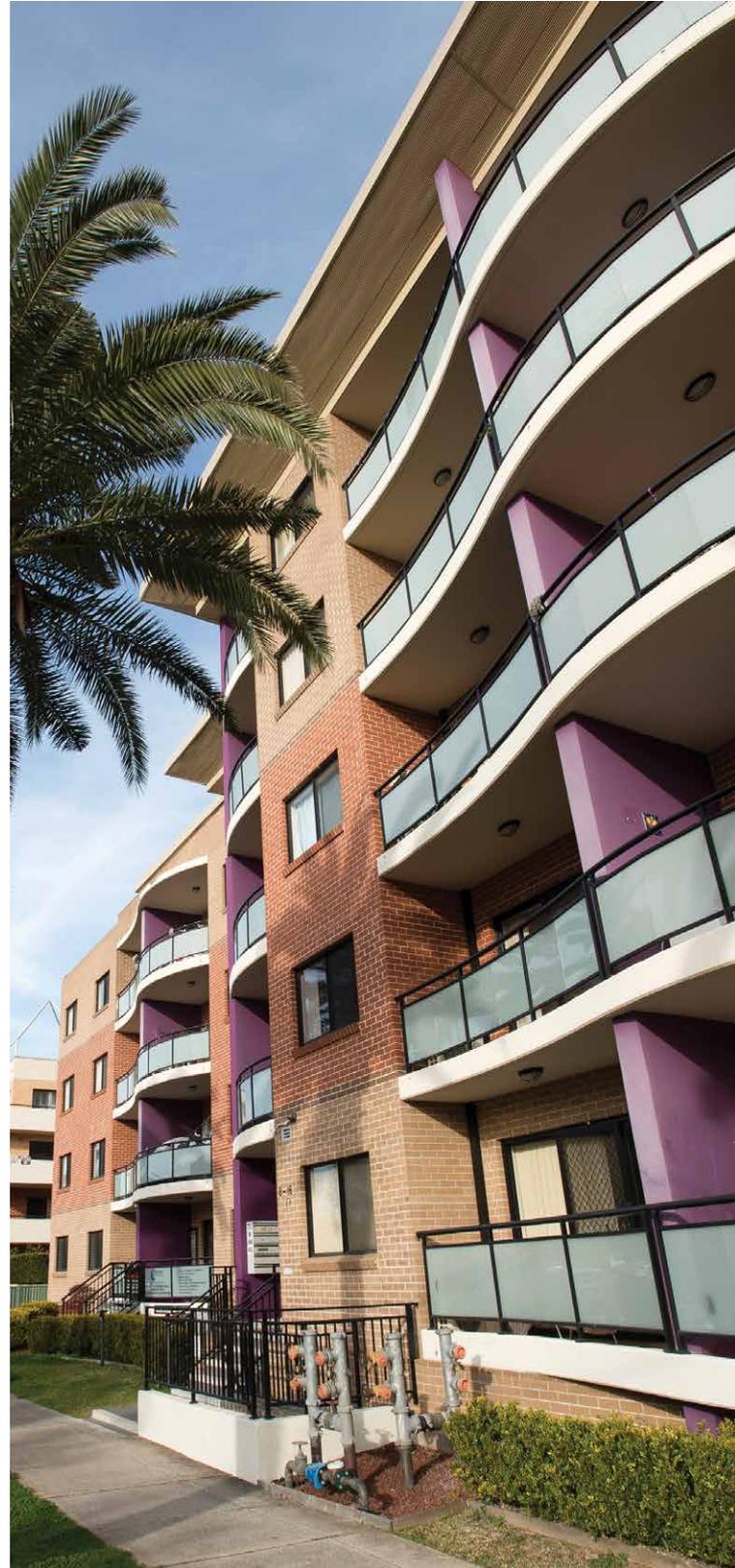
Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without onsite renewable energy generation	14% - 14%	14% - 14%	0.52%
Financially viable model with onsite renewable energy generation	9% - 9%	9% - 9%	0.77%
Maximum energy potential without onsite renewable energy generation	(-6%) - (-5%)	(-4%) - (-3%)	4.61%
Maximum energy potential with onsite renewable energy generation	(-7%) - (-5%)	(-6%) - (-3%)	4.36%



It is financially viable to achieve a 18 to 22 per cent reduction on BASIX NSW Government Energy targets for high rise apartments as defined by BASIX in Greater Sydney without renewable energy generation and a 24 to 34 per cent reduction with onsite renewable energy generation, depending on the ratio of roof area to floor area.

In BASIX Energy this translates to a score between 31 - 40 without renewable energy generation and 40 - 63 with onsite renewable energy generation. In Green Star buildings the financially viable model will achieve credit achievement in Credit 22.

The multi-unit residential asset class has similar energy results compared to the hotel asset class. However, as the compliance stringency for multi-unit residential developments was not increased in the latest update to NCC 2019 many of the energy reduction measures investigated had more positive financial outcomes.



Multi-unit residential development (South City District).
Image by Greater Sydney Commission.

Mixed use

To ensure the applicability of the analysis, combinations of the four asset classes were analysed as mixed-use developments and assessed similarly to each of the previous classes as per the typologies identified in Table 17.

Table 18 shows that due to the different combinations of asset classes, the results are more variable than for each individual asset class both in energy reduction and in CBA. The largest energy reduction is achieved through onsite renewable energy with a positive IRR and less than a one per cent increase in capital cost.

Table 17: Mixed use typologies

Typology	Description	Gross Floor Area	Scope
Office and shopping centre	Regional shopping centre with A Grade office - 12 storeys total	57,222m ² shopping centre 17,818m ² office 75,040m ² total	Base building only
Office and hotel	4 Star hotel with A Grade office - 12 storeys total	1,498m ² hotel 17,818m ² office 19,316m ² total	Base building for office and whole building for hotel
Office and multi-unit residential	High rise multi-unit residential with A Grade office - 22 storeys total	5,941m ² multi-unit residential 17,818m ² office 23,579m ² total	Base building for office and whole building for multi-unit residential



Table 18: Mixed use results

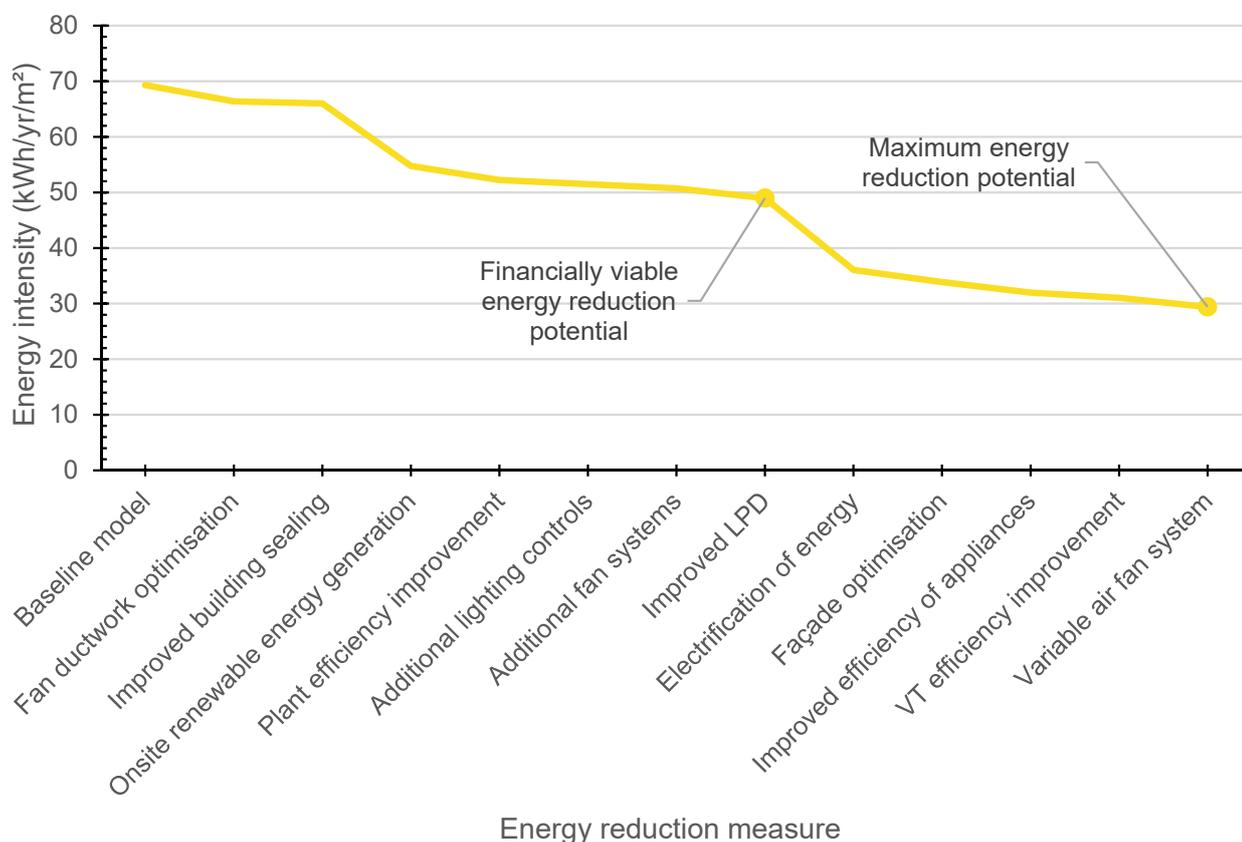
Energy reduction measure	NCC 2019 energy reduction	IRR (15 years)	IRR (25 years)	Capital cost increase
Façade optimisation	1.9% - 5.5%	(-16%) - (-15%)	(-6%) - (-5%)	0.66% - 0.66%
Improved building sealing	0.4% - 0.7%	2% - 32%	7% - 33%	0.01% - 0.01%
Fan ductwork optimisation	2.2% - 5.9%	19% - 24%	21% - 25%	0.05% - 0.06%
Variable air fan system	0.6% - 8.6%	(-31%) - (-21%)	(-31%) - (-21%)	0.14% - 0.16%
Additional fan systems	1.0% - 1.1%	0% - 1%	5% - 6%	0.00% - 0.04%
Plant efficiency improvement	4.3% - 4.8%	2% - 9%	3% - 9%	0.13% - 0.20%
Electrification of energy	14.8% - 23.4%	(-10%) - 1%	(-9%) - 2%	0.34% - 0.37%
Improved lighting power density	2.1% - 3.2%	(-13%) - 10%	(-13%) - 10%	0.03% - 0.26%
Additional lighting controls	1.0% - 1.7%	3% - 12%	0% - 12%	0.01% - 0.02%
Vertical transport efficiency improvement	1.9% - 2.2%	(-14%) - (-11%)	(-12%) - (-9%)	0.21% - 0.21%
Improved efficiency of appliances	3.0% - 4.9%	(-9%) - (-3%)	(-9%) - (-3%)	0.05% - 0.07%
Onsite renewable energy generation	9.8% - 29.6%	2% - 4%	7% - 9%	0.19% - 0.84%

The cumulative reductions in order of financial viability are plotted in Figure 8. The limit of financial viability occurs at approximately 50 kWh/yr/m², and the maximum energy intensity reduction potential is approximately 30 kWh/yr/m².

The CBA demonstrates that seven of the analysed measures are economically viable and could be implemented on a cost-effective basis and return a 22 to 40 per cent improvement on energy performance over the NCC 2019 / BASIX 25 baseline:

- fan ductwork optimisation
- improved building sealing
- onsite renewable energy generation
- plant efficiency improvement
- additional lighting controls
- additional fan systems
- improved lighting power density.

Figure 8: Mixed use cumulative energy intensity reduction by financial viability per energy efficiency reduction measure





The financially viable energy reduction measures were aggregated and the results translated into the planning and design tools (Tables 19 and 20). Percentage values in the NABERS Energy rating column refer to the percentage above the NABERS star band.

Table 19: Mixed use energy results for financially viable measures

Energy reduction model	Energy intensity kWh/yr/m ²	NCC 2019 BASIX 25 energy reduction	NABERS Energy rating	BASIX score	Green Star Buildings certified rating and Credit 22 criteria
NCC 2019 / BASIX compliant baseline model	64.4 - 72.9	0.0%	3.5 star (+10%) - 5.5 star (+28%)	25	-
Financially viable model without on-site renewable energy generation	58.0 - 64.0	10.0% - 13.0%	4.5 star (+8%) - 6.0 star (+9%)	30	Minimum Expectation
Financially viable model with on-site renewable energy generation	38.9 - 56.9	21.8% - 39.6%	5.0 star (+20%) - 6.0 star (+22%)	44	Credit Achievement - Exceptional Performance
Maximum energy potential without on-site renewable energy generation	34.8 - 44.5	37.1% - 46.4%	4.0 star (+1%) - 6.0 star (+22%)	40	Exceptional Performance
Maximum energy potential with on-site renewable energy generation	15.8 - 37.3	48.8% - 75.8%	4.5 star (+3%) - 6.0 star (+45%)	54	Exceptional Performance

Table 20: Mixed use CBA results for financially viable measures

Energy reduction model	IRR (15 years)	IRR (25 years)	Capital cost increase
Financially viable model without on-site renewable energy generation	0% - 9%	3% - 15%	0.24% - 1.50%
Financially viable model with on-site renewable energy generation	3% - 15%	0% - 9%	0.48% - 2.58%
Maximum energy potential without on-site renewable energy generation	(-8%) - (-5%)	(-8%) - (-3%)	3.95% - 8.47%
Maximum energy potential with on-site renewable energy generation	(-9%) - (-5%)	(-5%) - (-3%)	4.19% - 9.55%

Appendix 3

Proposed DCP and LEP clauses





DCP control - net zero energy buildings

Definitions

The following definitions are applicable to these controls only.

Net zero energy development means a development that consumes no more energy than is provided by a combination of:

- renewable energy generated onsite, or
- renewable energy procured from offsite sources for a period of 5 years.

In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.

Renewable energy means energy that comes from natural resources such as sunlight, wind and rain that are renewable (naturally replenished).

Shopping centre means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.

Refurbishment means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.

Controls:

- (1) Development identified in Table 1: Development thresholds and energy performance standards is to be capable of achieving the performance standards in that table and:
 - (a) Applications are to include an Energy Assessment Report prepared by a suitably qualified person, who is also a NABERS accredited assessor, demonstrating that the building is capable of achieving the performance standards identified in Table 1: Development size thresholds and energy performance standards.
 - (b) Where development proposes to achieve the energy intensity performance standard (kWh/yr/m²), an assessor from the NABERS Independent Design Review Panel is to formally verify energy modelling.
 - (c) Where it is a refurbishment of or addition to a heritage item, a reduction in the performance standards in Table 1: Development size thresholds and energy performance standards may be considered if it is clearly demonstrated that compliance with the standards cannot be reasonably achieved without unacceptable impact on the heritage item and that energy efficiency and use of renewables is reasonably maximised. The application for a reduction in the standards must be supported by:
 - i. a Heritage Impact Statement, prepared by an appropriately experienced heritage consultant
 - ii. energy modelling prepared by a suitably qualified person.

Table 1: Development thresholds and energy performance standards

Proposed land use	Development threshold for performance standards	Energy performance standards Applications submitted between 1 January 2023 – 31 December 2025	Energy performance standards Applications submitted from 1 January 2026 onwards
Office (base building)	<p>A new office building containing a net lettable area (NLA) of 1,000m² or more</p> <hr/> <p>A refurbishment to an existing office building that contains a NLA of 1,000m² or more</p> <hr/> <p>An existing office building of 1,000m² NLA or more with an addition of 50% or more NLA</p>	<p>Maximum 45 kWh/yr/m² of Gross Floor Area (GFA), or</p> <p>5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or</p> <p>Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</p>	<p>Maximum 45 kWh/yr/m² of GFA, or</p> <p>5.5 Star NABERS Energy CA + 25%, or</p> <p>Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</p> <p>and</p> <p>Renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m² of GFA</p>
Retail (applies to shopping centre base building only)	<p>A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m² or more</p> <hr/> <p>An existing shopping centre of 5,000m² GLAR or more with an addition of 50% or more GLAR</p>	<p>Maximum 55 kWh/yr/m² of GFA, or</p> <p>4 star NABERS Energy CA, or</p> <p>Certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent</p>	<p>Maximum 45 kWh/yr/m² of GFA, or</p> <p>5 star NABERS Energy CA, or</p> <p>Certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent</p> <p>and</p> <p>Renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m² of GFA</p>
Hotel (whole of building)	<p>A new hotel of 100 rooms or more</p> <hr/> <p>A refurbishment to an existing hotel that contains 100 rooms or more</p> <hr/> <p>An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms</p>	<p>Maximum 245 kWh/yr/m² of GFA, or</p> <p>4 star NABERS Energy CA, or</p> <p>Certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent</p>	<p>Maximum 240 kWh/yr/m² of GFA, or</p> <p>4 star NABERS Energy CA + 10%, or</p> <p>Certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</p> <p>and</p> <p>Renewable energy procurement equivalent to “net zero energy” or a maximum of 240 kWh/yr/m² of GFA</p>
Mixed use	Where one or more of the above thresholds for each proposed use apply	The above performance standards apply for each proposed use	The above performance standards apply for each proposed use



LEP Provision – Net zero energy buildings

- (1) The objective of this clause is to reduce the production of greenhouse gas emissions from development and contribute to the resilience of development to climate change.
- (2) This clause applies to the following development in Table 2.
- (3) Development consent must not be granted to development to which this clause applies unless the consent authority is satisfied that:
 - (a) for applications lodged on and between 1 January 2023 and 31 December 2025 the development is highly efficient and reduces energy use through energy efficiency and the use of on-site renewables, and
 - (b) for applications lodged on or after 1 January 2026 that the development is capable of achieving net zero energy.
- (4) The consent authority must have regard to the extent to which the development will achieve any relevant standards identified in a development control plan made by the Council in respect of the land when considering whether development:
 - (a) is highly efficient and reduces energy use through energy efficiency and the use of on-site renewables, and
 - (b) is capable of achieving net zero energy.

Table 2: Net zero energy emissions development

Development	Development thresholds for performance standards
Office	A new office building containing a net lettable area (NLA) of 1,000m ² or more
	A refurbishment to an existing office building that contains a NLA of 1,000m ² or more
	An existing office building of 1,000m ² NLA or more with an addition of 50% or more NLA
Retail (applies to shopping centre only)	A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m ² or more
	An existing shopping centre of 5,000m ² GLAR or more with an addition of 50% or more GLAR
Hotel	A new hotel of 100 rooms or more
	A refurbishment to an existing hotel that contains 100 rooms or more
	An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms
Mixed use	Where one or more of the above thresholds for each proposed use apply

(5) In this clause—

Net zero energy means the development consumes no more energy than is provided by a combination of:

- renewable energy generated on-site, or
- renewable energy procured from off-site sources for a period of five years.

In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.

Shopping centre means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.

Refurbishment means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.

Appendix 4

Planning and design tool appraisal



NABERS

NABERS Energy is a voluntary benchmarking tool that uses recorded energy usage data to rate building performance. NABERS Energy is part of a suite of NABERS tools including Water, Waste and Indoor Environment.

NABERS Energy can be agreed at the design stage of new buildings through a commitment agreement that binds a development to a level of performance that is verified post occupancy. A commitment agreement involves an independent review of the building and system design and energy system modelling to ensure it can achieve the targeted NABERS rating. This ensures the early consideration and implementation of design strategies.

NABERS ratings are benchmarked in half-star increments from 0 stars to 6.0 stars, where a zero-star rating indicates the building is performing well below average, while a six-star rating indicates the building is market-leading.

NABERS Energy can be used for the following asset classes:

- Office - base building, tenancy and whole building
- Shopping centre - base building only
- Apartment - common areas only
- Hotel - whole building only.

Strengths

NABERS has the following strengths in supporting the performance standards:

- third party verification of inputs and results, which supports improved performance outcomes and credibility associated with performance claims
- recognised and understood throughout the industry – this means that it is readily accepted by industry
- robust processes with clearly defined rules and well understood in the office sector and to a lesser extent in shopping centres and hotels
- drives ongoing improvement in energy consumption through annual reporting and measurement where a commitment agreement is in place
- assesses performance both in operation and during the design phase through a commitment agreement
- recognises contribution from onsite renewable energy and renewable energy procurement while still encouraging improved energy efficiency.



Considerations

The following needs to be considered in relation to NABERS in supporting the performance standards:

All asset classes (excluding residential)

- Benchmarks are notionally based on greenhouse gas emissions however the emission factors are not updated regularly and do not currently reflect shifts in emissions intensity of different energy sources.
- Submetering needs to be provided to enable proper accounting of the energy uses in buildings with complex systems or mixed-use buildings that share energy systems.
- NABERS for shopping centre and hotels is not as widely used as NABERS for offices and as a result not all participants will be comfortable with its application.
- While the incremental performance bands between star ratings is consistent between 0 and 5 Stars, the scale increases significantly between 5 and 6 Stars. So, to improve a Star rating beyond a 5 Star rating, the building's performance must be improved by an increasingly higher level than for ratings of 0 to 5 Stars. This can provide confusion to building owners and designers.
- In some cases, NABERS targets could potentially lead to less efficient building design overall, due to the metering requirements. This is particularly obvious in mixed use buildings or integrated fit-outs where central systems are less compatible with the standard metering arrangements employed to divide building occupiers. A central system may require much more detailed metering design and more expensive metering technology in order to adequately divide the energy uses in a building between base building and individual tenants. This may occasionally result in a non-centralised system being designed to avoid this outcome in spite of any potential savings.
- NABERS assesses efficiency through greenhouse gas emissions, not energy. Emissions do not directly align to energy efficiency improvements due to different emissions factors associated with different fuels. For instance, while electrification can increase energy efficiency, it is currently a more emissions intensive fuel and so negatively impacts the NABERS Energy Rating.

Hotels

- Achieving a higher NABERS Hotel rating is not directly related to lower operational costs, since factors influencing the final rating do not have a direct impact on operational energy (e.g. number of conference seats). This impacts on the NABERS Energy of Hotel ratings more so than office or shopping centre ratings.
- Significant consumption within the NABERS energy scope includes energy loads outside of a developer's control (e.g. appliances in rooms and restaurant consumption). As such, it is currently challenging to design a building to achieve a specific rating as many of these large energy contributions rely on fit-out specifications (which are determined typically after development consent).

Shopping centres

- The NABERS benchmark is currently only aligned to work with shopping centres with an area greater than 5,000m².

Opportunities for Improvement

There are opportunities to improve the NABERS Energy rating tool to further support the implementation of the performance standards. Key opportunities include:

- amending the performance bands by which stars are awarded so that equal recognition is given for achieving performance improvements above 5 Stars and towards net zero energy
- introducing mechanisms to increase the uptake of NABERS Energy ratings for Hotels. This could include incentives such as subsidies covering the cost of ratings or marketing support for NABERS rated.

Green star

Green Star Design and As Built is a voluntary rating tool and covers the design, construction and commissioning phase of a building. It is one of several Green Star rating tools developed by the GBCA. Green Star Design and As Built is the relevant tool for the performance standards It has been developed for any type of building and covers a vast range of sustainable design elements with energy consumption representing only a portion of the overall credits. It rewards projects for reducing greenhouse gas emissions and uses various pathways:

- prescriptive pathway: points awarded where operational greenhouse gas emissions are reduced through specific best-practice building attributes
- alternative pathways based on building use: points awarded where NatHERS, BASIX or a NABERS commitment agreement is used to demonstrate that predicted greenhouse gas emissions will be reduced compared to a typical building
- reference building pathway: points awarded from achieving the minimum conditional requirement of a 10 per cent improvement on a Green Star reference building to achieving maximum carbon neutral operations. The reference building is derived from the Section J minimum requirement for non-residential buildings or BASIX/NatHERS for residential buildings

Green Star also recognises projects for specific initiatives such as the provision of on-site renewable systems and off-site renewable energy through the ability to purchase LGCs, GreenPower and PPAs.

A new version of Green Star Design and As Built has recently been released called Green Star for New Buildings. There have been a range of updates and advancements made in the new tool, with one of the key changes being the development of the 'Energy use' credit in the Positive category. This credit more closely aligns with the performance standards and awards developments achieving 20% and 30% improvement with 'Credit achievement' and 'Exceptional performance' respectively and a 10% improvement in energy stipulated as the 'Minimum expectation'. Green Star for new Buildings must be used for new Green Star applications from 1 January 2022.

Strengths

Green Star has the following strengths in supporting the performance standards:

- third party verification of energy modelling and as built documentation, which supports improved performance outcomes and credibility associated with performance claims
- the industry is familiar with Green Star - this means that it is readily accepted by industry
- flexibility in its use for different building types and sizes
- provides recognition for improvements beyond NCC / BASIX compliance
- recognises contribution from onsite renewable energy with provision for commitment to purchasing offsite renewables or credits based on contract documentation
- a Green Star pathway to net zero carbon has been defined, with the requirement in the new tool that net zero performance is required for all projects seeking a 6 star certification. The industry is aware of upcoming changes and can prepare accordingly.



Considerations

The following needs to be considered in relation to Green Star in supporting the performance standards:

- Green Star is explicitly designed as a holistic tool to assess a variety of sustainability outcomes. As such, if Green Star is used for the performance standards, specific minimum points would need to be dictated for certain credits
- credits for specific energy efficiency initiatives do not provide full flexibility for achieving the lowest overall cost pathway to net zero energy buildings and needs to be reviewed on a project by project basis
- Green Star often has increased cost associated with reporting and certification when compared to other design and planning tools. This is due to many more elements than energy use
- Green Star assesses energy improvements in terms of emissions, this is not aligned with the net zero energy building performance standards scope.

Opportunities for improvement

There are several opportunities to improve the Green Star tools to further support the implementation of the performance standards. Key opportunities include:

- certification of the energy credit independently from the remainder of the credits in the tool, which could reduce the cost and time spent to get certification
- mandatory requirement for Green Star Performance associated with the Energy credit would allow for operational performance to be monitored and verified to ensure best practice construction and commissioning practices.

BASIX

The BASIX Energy tool sets minimum compliance requirements (targets), for residential development at all scales from single dwellings to high rise apartments under the NSW legislated Building Sustainability Index (BASIX). BASIX Energy covers the minimum acceptable energy efficiency performance.

BASIX Energy scores are a percentage expression of residential greenhouse gas emission savings per person (excluding transport emissions) compared to NSW benchmarks.

Thermal comfort, which is factored into the BASIX Energy score is modelled using tools approved under the federal government NatHERS scheme. It assesses the performance of passive design elements in minimising theoretical energy demand for space heating and cooling within apartment dwellings. Passive design elements include fabric and glazing, shading, orientation and natural ventilation.

The estimated energy demand related to thermal comfort (i.e. estimated annual mechanical space heating and cooling demands) is then combined with other building services for lighting, domestic water heating, ventilation, and other equipment within the Energy section of BASIX to calculate a percentage improvement against a specific benchmark. Different target scores must be achieved depending on the number of storeys and climate zone.

Strengths

BASIX has the following strengths in supporting the performance standards:

- accepted and well understood by the property industry in NSW
- providing BASIX certificates is an existing requirement for the planning assessment process
- BASIX promotes the installation of high efficiency appliances and equipment, improved building fabric and, to a degree, passive design elements
- the BASIX tool supports performance beyond minimum compliance when planning incentives are used
- there are governance checks in the BASIX scheme that is part of the planning assessment process - this occurs at development assessment, construction and occupation certification.



Considerations

The following needs to be considered in relation to BASIX in supporting the performance standards:

Overall

- Benchmarks are notionally based on greenhouse gas emissions, however the emission factors used do not adequately reflect ongoing shifts to emissions intensity of different energy sources, only being updated occasionally and, currently, not with great transparency.
- Assesses energy improvements in terms of greenhouse gas emissions. This is not aligned with the performance standards scope and can result in challenges achieving higher scores when electrification is pursued under current BASIX scoring methods (which is under review).
- Inability to model typical floors or dwellings. Using it as a tool to assess energy efficiency improvements and net zero energy options for individual initiatives would be an inefficient and time-consuming approach
- Total energy consumption or greenhouse gas emissions of each project assessed in BASIX is not provided to the modeller, therefore it would not be possible to estimate the quantity of offsite renewables or offsets required to meet the performance standards following the onsite initiatives.

Renewable energy

- Only onsite renewable energy sources can be considered in the tool's current form.

Mechanical services

- The option to have ceiling fans combined with central heating and cooling systems is not available for apartments.
- The option to have fan coil units with central systems is not available.
- It is not possible to account for reduced fan pressure drops.

Vertical transportation

- Recent improvements to the calculation of energy use by lifts has limited impact on the overall energy score.

Appliances

- The impact of the star rating for the fridges is higher than expected.

Opportunities for Improvement

There are several opportunities to improve BASIX to further support the implementation of the performance standards. Key opportunities include:

- development of a trajectory for updates to the BASIX tool and targets on a regular cycle with increased stringency in line with the ABCBs trajectory for the Section J provisions
- the BASIX tool applies a broad range of factors to its scoring algorithm. This algorithm is understandably hidden from the front-end interface of the tool, to reduce complexity for user input. However, because it runs in the background and the nature and values of the algorithm factors used are not obvious to the user, it can be difficult to understand the value that individual initiatives contribute toward the final score. Improved transparency of the BASIX calculations would allow the design team to quantify the benefit of each energy saving initiative
- the purpose of BASIX is a compliance tool, not a design tool, and therefore its suitability to provide advice to the design team on achieving a low energy consuming building should be reviewed
- current BASIX targets for some residential projects result in higher emissions than business as usual designs. BASIX targets should be updated to reflect current design standards
- refresh emission factors used for BASIX every 2-3 years based on the National Greenhouse Gas Accounts
- update the algorithms and expand the available selections for mechanical, electrical, vertical transportation and hydraulic service
- introduce a mechanism to allow the use of off-site renewables to be recognised in achieving targets.

Appendix 5

Green star energy credit comparison





The GBCA undertook a comprehensive review of all the Green Star tools during 2019-2020, including Green Star Design and As Built (used for new buildings and major refurbishments). This resulted in the Green Star Design and As Built tool undergoing a restructure at the same time as the development of the performance standards.

In late 2020, GBCA released Green Star Buildings to replace Green Star Design and As Built. Green Star registrations throughout 2021 can use either the old tool or the new tool. From January 2022, all applications will need to use Green Star Buildings.

Green Star Buildings has two key differences from Green Star Design and As Built when applied to the performance standards:

- Design and As Built used a credit points approach and Buildings uses three levels, *Minimum Expectation, Credit Achievement and Exceptional Performance*
- percentage improvement levels in Design and As Built were awarded on a continuous scale between 10% and 100%, however Buildings has increment bands of 10%, up to 30%.

Credit 22: Energy Use is the relevant section in Green Star Buildings for the performance standards. Tables 1 and 2 below show the required reductions for the first and second targets respectively.

Table 1: Energy reductions for the first target

Asset class	Approximate energy improvement required - existing Green Star Design & As Built	Certified Green Star Buildings v1 rating with the following achievement level in Credit 22: Energy Use	Equivalent energy improvement under Credit 22 - Green Star Buildings
Office	20%	Credit Achievement	20%
Shopping centre	10%	Minimum Expectation	10%
Hotel	10%	Minimum Expectation	10%

Table 2: Shows the required reductions for the second target

Asset class	Approximate energy improvement required - existing Green Star Design & As Built	Certified Green Star Buildings v1 rating with the following achievement level in Credit 22: Energy Use	Equivalent energy improvement under Credit 22 - Green Star Buildings
Office	20%	Credit Achievement	20%
Shopping centre	30%	Exceptional Performance	30%
Hotel	15%	Minimum Expectation	10%

Attachment B2

**Planning Proposal Attachment 3 – Planning
for Net Zero Energy Buildings Briefing –
Summary Report**



**Planning for net zero
energy buildings briefing
- summary report**

City of Sydney

13 April 2021



The City has led a quiet revolution in terms of the performance of our city's buildings, with emissions from our city's built environment plummeting over recent years. The work of the City is an amazing example for councils right across NSW and indeed internationally, to emulate"

- Minister for Planning & Public Spaces, Rob Stokes MP



Report title: Planning for net zero energy buildings briefing - summary report

Client: City of Sydney

Version: Final

Date: April 2021

This material is made available by Cred Consulting on the understanding that users exercise their own skill and care with respect to its use. Any representation, statement, opinion or advice expressed or implied in this publication is made in good faith. Cred Consulting is not liable to any person or entity taking or not taking action in respect of any representation, statement, opinion or advice referred to in this document.

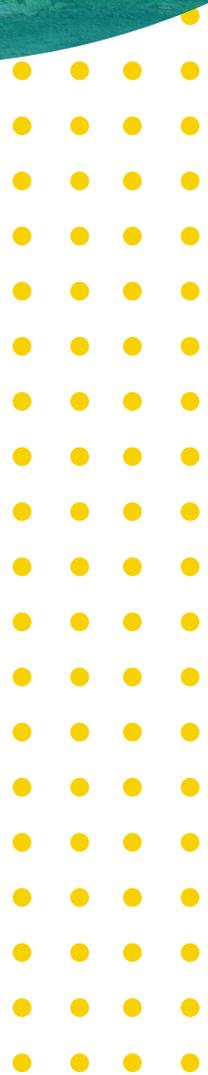




Table of contents

1. Introduction	4
1.1. Background	4
1.2. Briefing purpose	4
1.3. Attendees	4
2. Agenda	5
3. Presentations	6
4. Live Questions & Answers (Q & A)	9
4.1. About the Q&A panel	9
5. Survey findings	10
5.1. Snapshot of findings	10
5.2. Property sector findings	11
5.3. Government sector findings	13
Appendix 1	14
Appendix 2	20
Appendix 3	22



1. Introduction

This report provides a summary from the planning for net zero energy buildings briefing for industry and government (the briefing) held online via webinar on Thursday 11 March 2021 from 8am to 9.00am.

1.1. Background

Energy use in buildings continues to be a significant contributor to greenhouse gas emissions in Greater Sydney. Planning can support improving the energy performance of buildings to meet NSW and local government targets of net zero emissions. Through planning, local government can also respond to the objective in the Greater Sydney Region Plan to aim toward a low carbon city, the aim in the district plans' to reduce carbon emissions and actions within some local government local strategic planning statements toward a transition to net zero emissions.

The City of Sydney (the City) has collaborated with industry and government over a period of three years to develop performance standards for net zero energy buildings and methods to recognise offsite renewables in planning. A robust evidence base informs the proposed standards and timing of the step changes. To inform the performance standards, WSP undertook energy modelling, WT Partnership completed the construction costing, and Common Capital prepared the cost benefit and broader benefits analysis. This analysis used development typologies that were representative of development across Greater Sydney so that councils across the Greater Sydney Region can use the evidence base.

The briefing is the final in a series of workshops and forums and was held online on Thursday 11 March 2021 from 8am to 9.00am. The proposed performance standards were presented along with the perspectives of a number of presenters including the Minister for Planning and Public Spaces the Hon. Rob Stokes, MP, Environment Commissioner Emma Herd and development industry executives from Lendlease and Stockland.

1.2. Briefing purpose

The objective of the briefing was to present the proposed performance standards, answer key questions about the project and confirm support for the implementation of the performance standards by industry and government.

1.3. Attendees

A total of 185 people attended the briefing, including:

- 86 representatives from industry, including industry groups, developers and consultants.
- 18 representatives from NSW government:
 - 15 representatives from NSW Department of Planning, Industry and Environment, and
 - Three representatives from Greater Sydney Commission.
- One representative from Victorian Department of Environment, Land, Water and Planning.
- 75 representatives from 24 of the 32 Greater Sydney councils.
- Four representatives from councils outside of NSW:
 - City of Melbourne, Victoria
 - City of Yarra, Victoria
 - Moreland City Council, Victoria, and
 - Sunshine Coast, Queensland.

2. Agenda

Below lists the briefing agenda.

Time	Event schedule
8.00am	Welcome Jen Guice, Associate Director, Cred Consulting
8.05am	Presentation (pre-recorded video message) Lord Mayor Clover Moore, City of Sydney
8.10am	Presentation (pre-recorded video message) The Hon. Rob Stokes, Minister for Planning and Public Spaces
8.15am	Presentation Emma Herd, Environment Commissioner, Greater Sydney Commission
8.20am	Presentation Ben Pechey, Executive Manager Strategic Planning & Urban Design, City of Sydney
8.25am	Presentation Joshua McGlone, Project Consultant - Sustainability, WSP Australia
8.35am	Presentation Neil Arckless, Executive Development Director, Lendlease
8.40am	Presentation Maryam Litkouhi, Development Manager, Stockland
8.45am	Questions & Answers <i>In-studio panelists:</i> Ben Pechey, Executive Manager Strategic Planning & Urban Design, City of Sydney Clare Donovan, Planning Program Manager - Sustainability, City of Sydney Tim Parker, Director Sustainability Management, WSP Australia Matthew Clark, Director and Co-founder, Common Capital <i>Remote panelist:</i> Josh McGlone, Project Consultant - Sustainability, WSP Australia <i>Facilitated by:</i> Jen Guice, Associate Director, Cred Consulting
8.55am	Closing remarks Ben Pechey, Executive Manager Strategic Planning & Urban Design City of Sydney
Event concludes	

3. Presentations

This section summarises the key messages from each of the presentations at the briefing.

Clover Moore, Lord Mayor of Sydney (pre-recorded video presentation)

The Lord Mayor spoke about:

- The importance of a green led recovery post-Covid.
- Residential and commercial developments being a significant source of emissions.
- The performance standards responding to the NSW Government's net zero emissions objectives and the Greater Sydney Region Plan objective for a low carbon city.
- The performance standards covering office, multi-unit residential, hotels, shopping centres and mixed-use developments in Greater Sydney.
- The research is available for use by all Greater Sydney councils to work towards a consistent approach towards a sustainable future.
- The project supporting post-Covid recovery and job creation in regional areas.
- Working together to meet the climate challenge.

The Hon. Rob Stokes MP, Minister for Planning and Public Spaces (pre-recorded video presentation)

The Hon. Rob Stokes MP spoke about:

- The City of Sydney as leaders in building sustainability and improving the performance of buildings in the city. The City's work is an example for councils across NSW and internationally.
- The biggest lever in the planning system to respond to the NSW Government net zero emissions by 2050 is the Design and Place State Environmental Planning Policy (SEPP).
- Engaging with the explanation of intended effects for the SEPP is important to ensure the SEPP is developed to be effective and encourages innovative thinking and inventiveness in relation to the built environment.



Emma Herd, Environment Commissioner, Greater Sydney Commission

In Emma Herd's presentation she stated that:

- The performance standards are a crucial part of the tools, frameworks and standards that are needed to make progress to achieve a net zero economy by 2050 or sooner, and mitigate the effects of climate change.
- Despite some good efforts we are not on track to limit global warming to 1.5 degrees, so action must be accelerated to meet the climate commitments of the Paris Agreement, the NSW Government and the City of Sydney to move towards net zero emissions.
- The business case and environment imperative are aligned. Reduced energy use and promoting energy efficiency leads to both cost savings and emissions reduction; however the response must be scaled up to achieve the outcomes we need.
- The performance standards will help deliver progress against the Greater Sydney Region Plan low carbon city objective, as well as the net zero targets many companies have already set.
- Encouraged local councils to consider the planning for net zero energy buildings research and performance standards as a means to help them achieve environmental targets in their local strategic planning statements.
- The Greater Sydney Commission (GSC) wants Greater Sydney to become a leader in its' response to climate change.
- The GSC will update the Greater Sydney Region Plan in two stages; Stage 1 in 2021 to respond to new and emergent issues including Covid-19; Stage 2 in 2023 will be a full statutory review of the Greater Sydney Region Plan and District Plans.



BEN PECHEY

Executive Manager, Strategic Planning and Urban Design, City of Sydney

Ben Pechey, Executive Manager Strategic Planning & Urban Design, City of Sydney

Ben Pechey provided background and context about the planning for net zero energy buildings project and spoke about:

- The emissions from buildings contributing a significant amount to overall emissions across Greater Sydney.
- The change in climate is a shared problem.
- How the project aligns with the NSW Government Net Zero Plan and the action to provide a pathway to low emissions outcomes for buildings. It also helps to meet the vision of the Greater Sydney Region Plan and priorities and actions in district plans and local strategic planning statements.
- This project is a way to put the net zero principles of the of new Design and Place State Environmental Planning Policy into action.
- The planning system provides a framework to make step changes towards net zero buildings. The step changes will enable a planned transition to better performance that will sign-post future improvements to the standards to allow time for adaptation and innovation.
- This project developed a strong evidence base that can be used by all councils across the region.
- Step 1 - implemented in 2023 where the performance standard is met through energy efficiency and on-site renewables.
- Step 2 - implemented in 2026 where the performance standard is met through a combination of efficiency, on- site renewables and off-site renewables.
- Each step has alternatives to demonstrate compliance - energy intensity target, NABERS or green star.
- The performance standards were developed collaboratively with industry and government and this has helped shape the performance standards being presented today.



JOSHUA McGLONE

Project Consultant – Sustainability, WSP Australia

Joshua McGlone, Project Consultant - Sustainability, WSP Australia

Joshua McGlone presented the performance standards, cost benefit analysis that informed them and the offsite renewable energy methods. Josh described the project methodology as follows:

1. Selected three suitable typologies for each asset class, based on existing developments across Greater Sydney
2. Selected a base case - NCC 2019 Section J or BASIX Energy
3. Undertook energy modelling, cost estimates and economic analysis, and
4. Developed standards and timing of implementation.

Josh presented performance standards for office, shopping centre, hotel and multi-unit residential developments and major refurbishments of existing buildings.

Three methods for offsite methods were identified for use in planning over five years:

- Purchasing and retiring large scale generation certificates
- Purchasing GreenPower certificates, and
- Entering into a Power Purchase Agreement.

See Appendix 1 for the detail of Joshua’s presentation of the performance standards.



Neil Arckless, Executive Development Director, Lendlease

Neil Arckless stated that:

- Lendlease supports the City in setting these performance standards.
- Customers, investors and staff expect Lendlease to be minimising its impacts on the ecosystem, as well as actively restoring it.
- Lendlease have set their own pathway to net carbon zero by 2025 and absolute zero by 2040.
- The City of Sydney's performance standards are aligned with the ambitions of Lendlease.
- When setting targets, you don't need to have all the answers on day one.
- People should be encouraged to embrace the opportunity rather than fear impacts.
- The City of Sydney should be commended on the planning for net zero energy buildings project and in providing leadership.



Maryam Litkouhi, Development Manager, Stockland

Maryam Litkouhi stated that:

- It is important to reflect on current sustainability priorities and embed a fresh interpretation of our future focus sustainability goals into the planning framework.
- One of Stockland's 2030 Sustainability Strategy focus areas is regenerative and circular living. Meaningful carbon emission reduction and committing to a net zero carbon future is a key measurement of success.
- Stockland are bringing their net zero carbon target forward by two years to 2028, and expanding its' commitment to include remaining asset classes including retail, workplace and residential.
- Stockland believe that the planning pathways to net zero energy buildings will scale and amplify positive environmental, social and economic impacts creating meaningful shared value for all stakeholders.

4. Live Questions & Answers (Q & A)

4.1. About the Q&A panel

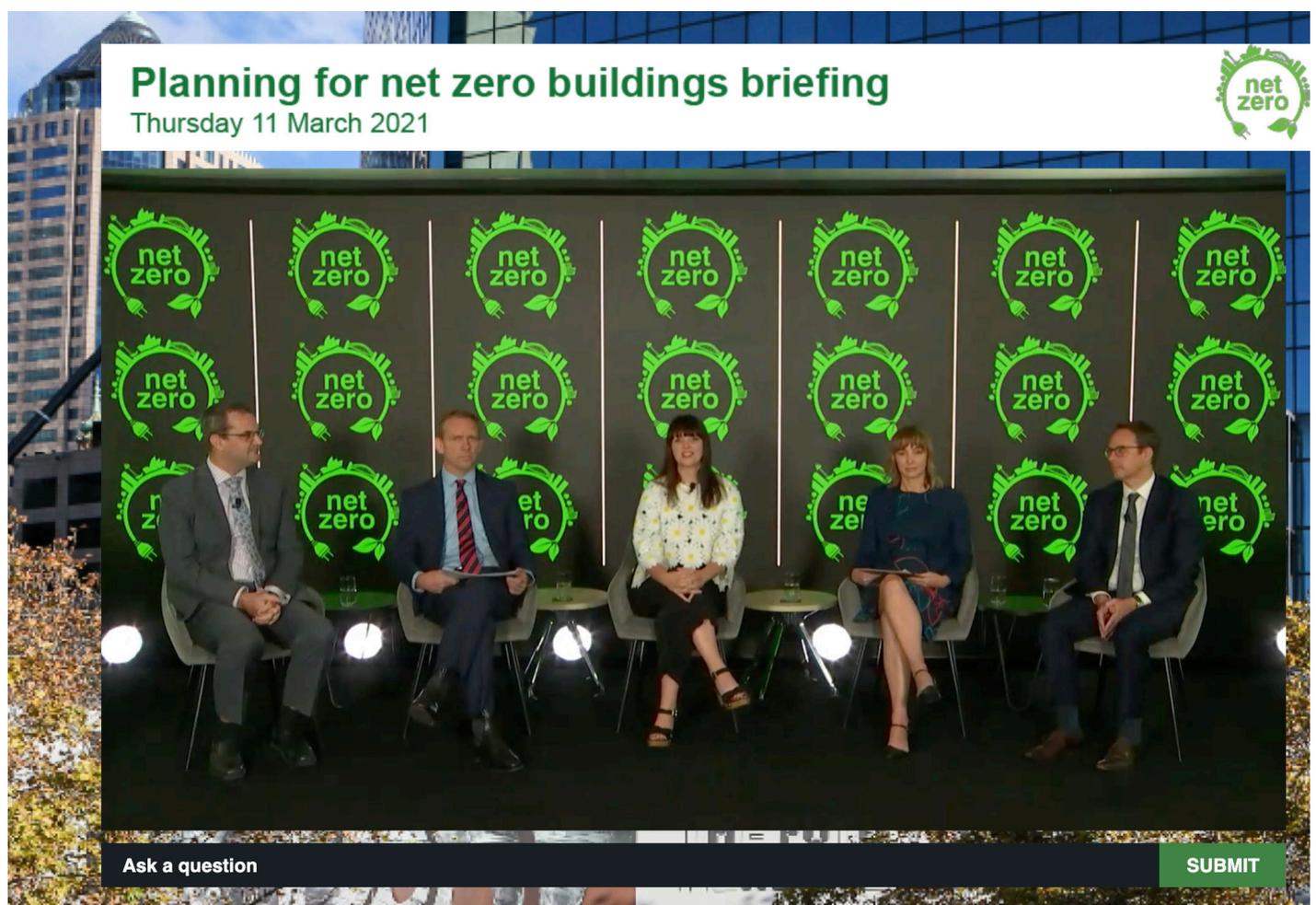
A Q&A panel was facilitated by Cred Consulting at the end of the briefing session, providing participants the opportunity to ask questions about the project, by typing questions into the online chat box. The panel represented some of the planning for net zero energy buildings project team.

Panelists included:

- Ben Pechey, Executive Manager Strategic Planning & Design, City of Sydney
- Clare Donovan, Planning Program Manager - Sustainability, City of Sydney
- Tim Parker, Director Sustainability Management, WSP Australia
- Matthew Clark, Director and Co-founder, Common Capital, and
- Josh McGlone, Project Consultant - sustainability, WSP Australia (online).

See Appendix 2 for the complete list of questions and comments submitted to the panel.

Note: not every question was able to be answered by the panel live at the event.



Q&A panelists

5. Survey findings

A survey link was provided to participants at the end of the briefing. The survey link only remained active for 45 minutes after the briefing concluded. A total of 55 people (30% of 185 attendees) responded to the survey. This section provides an overview and breakdown of the property and government sector findings.

5.1. Snapshot of findings

Representation of survey respondents

Respondents were asked who they represent:

- 34% or 18 respondents represented the property industry, and
- 55% or 29 respondents represented government.

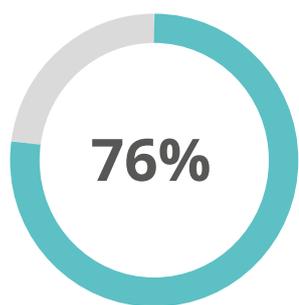
Respondents were able to select 'Other' as an option to this question. 11% or 6 respondents selected this option and specified that they represent a consultancy (planning, ESD and sustainability) and community housing.

Support for implementing the performance standards to achieve net zero energy buildings

When asked if respondents support implementing the performance standards to achieve net zero energy buildings, most respondents indicated 'yes' (76%; 41 respondents).

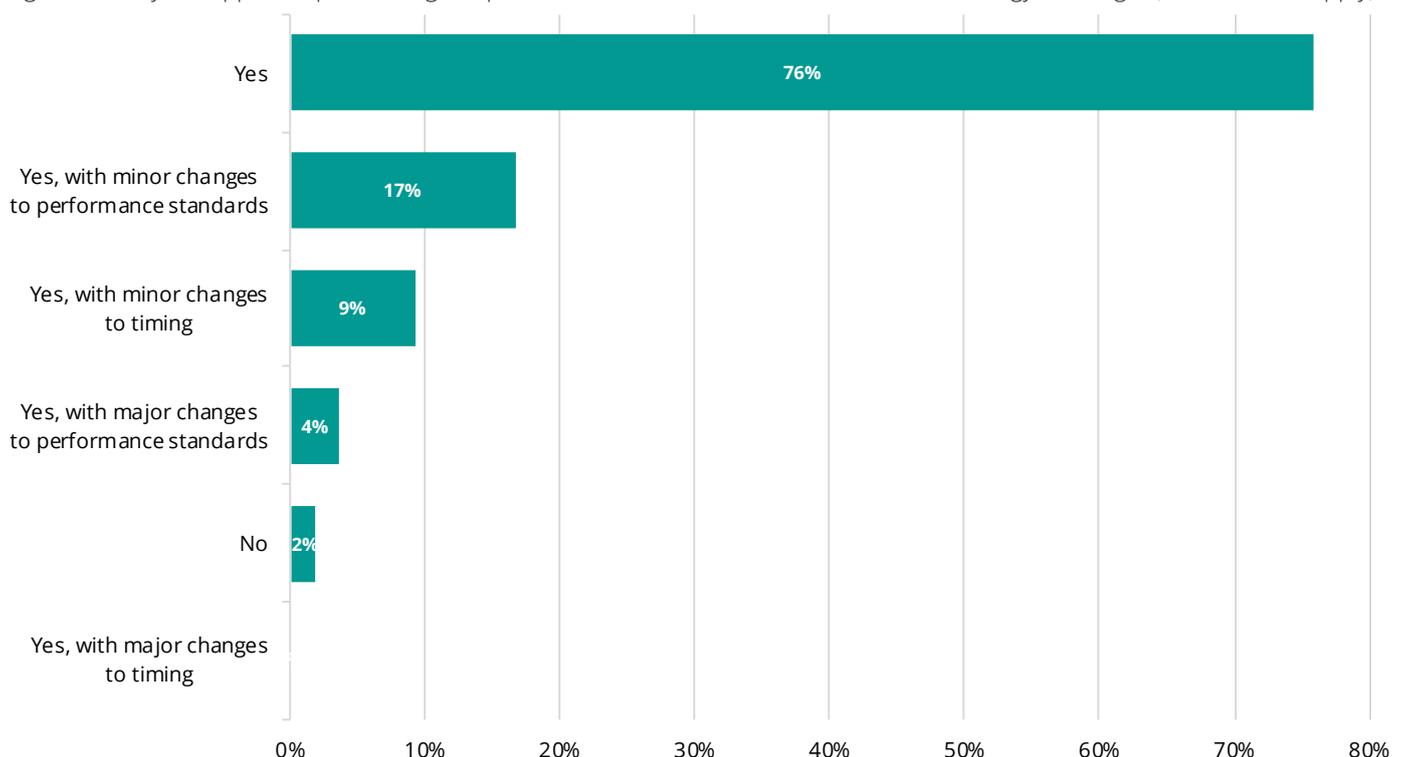
Other responses included:

- 'Yes, with minor changes to performance standards' (17%; 9 respondents)
- 'Yes, with minor changes to timing' (9%; 5 respondents)
- 'Yes, with major changes to performance standards' (4%; 2 respondents), and
- One respondent (2%) indicated 'no' for supporting the implementation of the performance standards to achieve net zero energy buildings.



76% of survey respondents support implementing the performance standards as presented.

Figure 1 - Do you support implementing the performance standards to achieve net zero energy buildings? (Select all that apply)*



*Please note survey respondents were able to select multiple options listed, therefore total number does not add up to 100%

5.2. Property sector findings

The following provides an overview of survey results from respondents who indicated they represent the property sector.

Property sector representation

18 of the 53 survey respondents (34%) indicated they represent the property sector:

- 33% or 6 respondents were developers
- 28% or 5 respondents were ESD consultants
- 17% or 3 respondents were planning consultants
- 11% or 2 respondents were in construction, and
- 6% or 1 respondent was an architect.

Respondents were able to select 'Other' as an option to this question. 5% or 1 respondent selected this option and specified that they are an asset owner and operator.

Developers and asset classes

Respondents who indicated they were a developer were asked an additional question 'What asset classes are you planning to develop?' Respondents were able to choose multiple options.

67% or 4 respondents plan to develop **multi-unit residential**. The same proportion of respondents plan to develop **offices**.

50% or 3 respondents plan to develop shopping centres; and 33% or 2 respondents plan to develop hotels.

Support for implementing the performance standards to achieve net zero energy buildings

Property sector survey participants were asked if they support implementing the performance standards to achieve net zero energy buildings.

All respondents who represent the property industry completed this question (N=18).

Development industry

- 50% or 3 of development industry respondents indicated '**Yes, they support implementing the performance standards to achieve net zero energy buildings with minor changes to performance standards**'
- 33% or 2 of development industry respondents indicated '**Yes**' (they support implementing the performance standards to achieve net zero energy buildings as presented), and
- 17% or 1 of development industry respondents indicated '**Yes, with major changes to performance standards**'.

ESD consultants

- 60% or 3 of ESD consultant respondents indicated '**Yes**' to supporting the implementation of the performance standards to achieve net zero energy buildings as presented, and
- 40% or 2 of respondents indicated '**Yes, with minor changes to performance standards**'.

Planning consultants

- 100% or 3 of planning consultant respondents indicated '**Yes**' in supporting the performance standards to achieve net zero energy buildings, as presented.

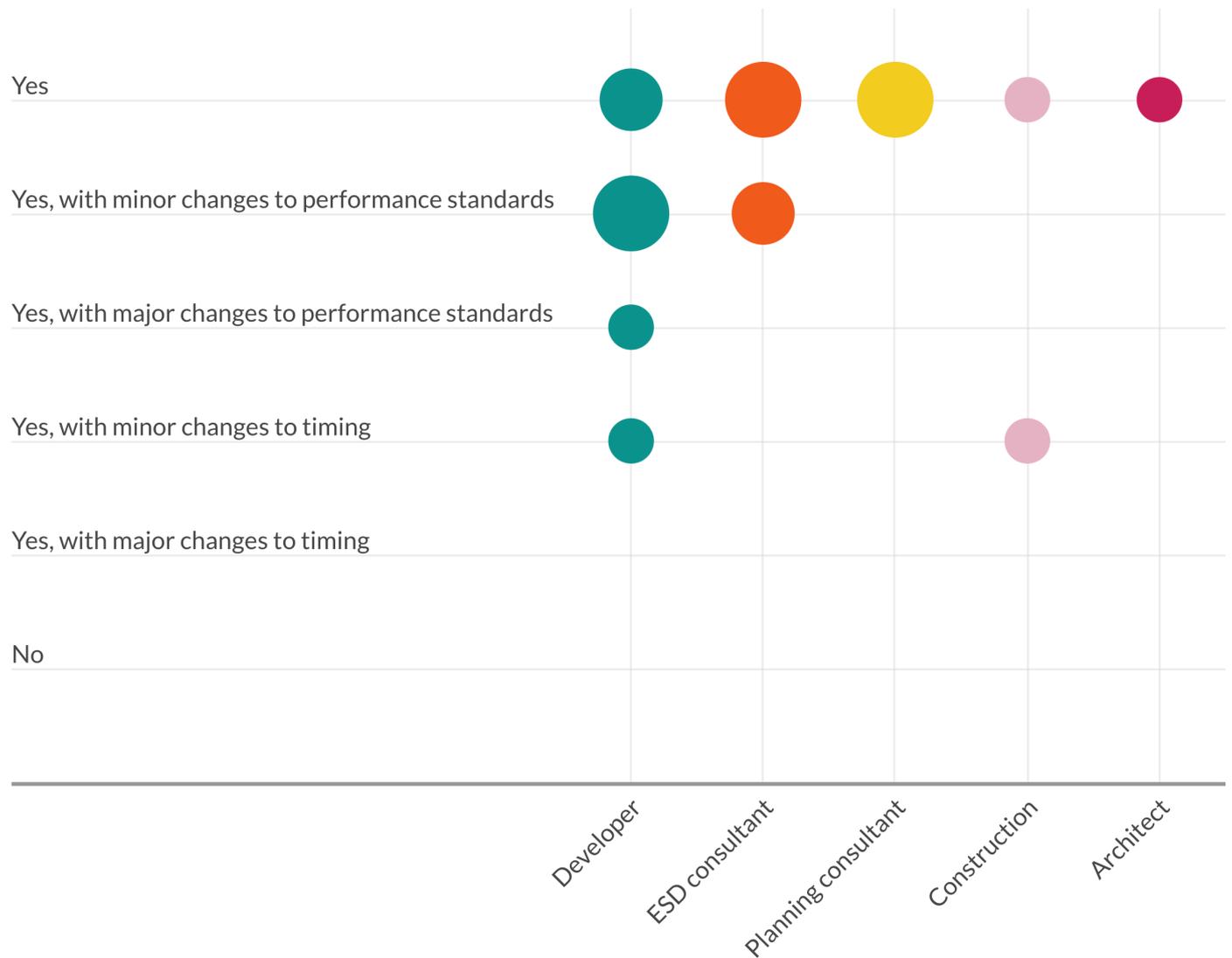
Construction industry

- 50% or 1 respondent of construction industry respondents indicated '**Yes**' in supporting the performance standards to achieve net zero energy buildings, as presented.
- 50% or 1 of construction industry respondents indicated '**Yes, with minor changes to timing**'.

Architects

- 100% or 1 of architect respondents indicated '**Yes**' in supporting the implementation of the performance standards to achieve net zero energy buildings, as presented.

Figure 2 - Support for implementing the performance standards to achieve net zero energy buildings by the property sector



Additional feedback

Property sector survey participants were asked if they had any additional feedback about the performance standards. See Appendix 3 for full list of verbatim additional feedback submitted by respondents.

5.3. Government sector findings

The following provides an overview of survey responses from respondents who indicated they represent government.

Government sector representation

29 of the 53 survey respondents (55%) indicated they represent government:

- 66% or 19 respondents from Greater Sydney councils, and
- 17% or 5 respondents from the NSW government.

17% or 5 respondents indicated they were from 'other' government including:

- Three respondents from Victorian government
- One respondent was from Sunshine Coast Council, Queensland, and
- One respondent indicated they were from local government but did not specify where.

Support for implementing the performance standards to achieve net zero energy buildings

Government sector survey respondents were asked if they support implementing the performance standards to achieve net zero energy buildings.

23 of the 29 respondents who represent government completed this question. 6 respondents didn't complete this question.

Greater Sydney councils

95% or 17 of Greater Sydney council respondents indicated 'yes' to supporting the implementation of the performance standards to achieve net zero energy buildings, as presented.

6% or 1 respondent indicated 'yes, with major changes to performance standards'.



95% of Greater Sydney council respondents support the implementation of the performance standards to achieve net zero energy buildings.

NSW Government

100% or 5 of NSW Government respondents indicated 'yes' in supporting the implementation of the performance standards to achieve net zero energy buildings, as presented.



100% of NSW Government respondents support the implementation of the performance standards to achieve net zero energy buildings.

Additional feedback

Government sector survey participants were asked if they had any additional feedback about the performance standards. See Appendix 3 for a full list of verbatim additional feedback submitted by respondents.

Appendix 1

Slides presented by Joshua McGlone during the briefing.

Josh McGlone

Project Consultant – Sustainability
(WSP Australia)

office typologies

B grade office

- floors above ground: 4
- GFA: 8,878m²
- floor plate: 2,757m²
- Window to Wall Ratio (WWR): 81%
- carparks: ~17 on grade (remainder on street parking)

A grade office

- floors above ground: 20
- GFA: 35,635m²
- floor plate: 1,790m²
- WWR: 76%
- carparks: ~65 underground

premium grade office

- floors above ground: 37
- GFA: 67,684m²
- floor plate: 1,870m²
- WWR: 76%
- carparks: ~200 underground

office performance standards

office	performance standards
current requirement	– NCC 2019 / 5.5 star NABERS Energy with Commitment Agreement (CA)
first step	– maximum 45.0 kWh/yr/m ² of Gross Floor Area (GFA), or – 5.5 Star NABERS Energy CA + 25%, or – certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or – equivalent
second step	– first step AND – renewable energy procurement equivalent to “net zero energy” or a maximum of 45.0 kWh/yr/m ² of GFA

office cost benefit

office	cost benefit
first step (energy efficiency + onsite renewables)	<ul style="list-style-type: none"> - 10-37% Internal Rate of Return (IRR) 25 years - 0.11%-0.58% CapEx increase
second step (energy efficiency + onsite renewables + offsite renewable procurement)	<ul style="list-style-type: none"> - 16-28% IRR 25 years - 0.16%-0.52% CapEx increase



existing office buildings

- 14 office buildings of 1,000m² or more NLA in NSW have achieved a 6 star NABERS Energy rating



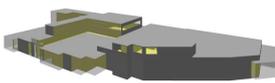
52 Goulburn St, Sydney

- 6 star NABERS Energy rating
- ten storeys
- 22,931m² NLA



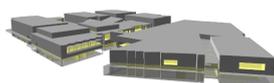
shopping centre typologies

small shopping centre



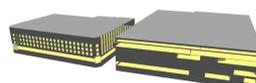
- floors above ground: 1
- GFA: 7,359m²
- NLA: 3,021m²
- floor plate: 7,359m²
- Window to Wall Ratio (WWR): 20%

medium shopping centre



- floors above ground: 2
- GFA: 26,560m²
- NLA: 23,414m²
- floor plate: 17,321m²
- WWR: 20%

large shopping centre



- floors above ground: 5
- GFA: 114,443m²
- NLA: 84,813m²
- floor plate: 19,413m²
- WWR: 28%



shopping centre performance standards

shopping centre	performance standards
current requirement	– NCC 2019 (equivalent 3.5 Star NABERS Energy)
first step	– maximum 55.0 kWh/yr/m ² of Gross Floor Area (GFA), or – 4 star NABERS Energy Commitment Agreement (CA), or – certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or – equivalent
second step	– maximum 45.0 kWh/yr/m ² of GFA, or – 5 star NABERS Energy CA, or – certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use AND – renewable energy procurement equivalent to “net zero energy” or a maximum of 45.0 kWh/yr/m ² of GFA



shopping centre cost benefit

shopping centre	cost benefit
first step (energy efficiency + onsite renewables)	– 2-23% Internal Rate of Return (IRR) 25 years – 0.16%-0.42% CapEx increase
second step (energy efficiency + onsite renewables + offsite renewable procurement)	– 9-11% IRR 25 years – 0.95%-1.28% CapEx increase



existing shopping centre development

- 19 shopping centres with 5,000m² or more GLAR in NSW have achieved a 5 star NABERS Energy rating



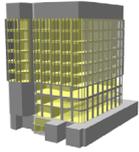
46 Wilsons Rd, Lake Macquarie

- 5 Star NABERS Energy rating
- 23,548m² GLAR



hotel typologies

4 star hotel (small)



- floors above ground: 10
- GFA: 4,420m²
- rooms: 92
- floor plate: 548m²
- Window to Wall Ratio (WWR): 58%

4 star hotel (large)



- floors above ground: 24
- GFA: 11,262m²
- rooms: 252
- floor plate: 564m²
- WWR: 57%

5 star hotel



- floors above ground: 50
- GFA: 38,975m²
- rooms: 514
- floor plate: 886m²
- WWR: 66%



hotel performance standards

hotel	performance standards
current requirement	– NCC 2019 (equivalent 3.5 Star NABERS Energy)
first step	– maximum 245.0 kWh/yr/m ² of Gross Floor Area (GFA), or – 4 star NABERS Energy Commitment Agreement (CA), or – certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or – equivalent
second step	– maximum 240.0 kWh/yr/m ² of GFA, or – 4 star NABERS Energy CA +10%, or – certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use AND – renewable energy procurement equivalent to “net zero energy” or a maximum of 240.0 kWh/yr/m ² of GFA



hotel cost benefit

shopping centre	cost benefit
first step (energy efficiency + onsite renewables)	– 17-20% Internal Rate of Return (IRR) 25 years – 0.15%-0.35% CapEx increase
second step (energy efficiency + onsite renewables + offsite renewable procurement)	– 9-10% IRR 25 years – 0.24%-0.86% CapEx increase



existing hotel development

- 11 hotels with 100 rooms or more in NSW have achieved a 4.5 star NABERS Energy rating



28 Albion St, Sydney

- 4.5 star NABERS Energy rating
- 309 rooms



multi-unit residential typologies

9 storey residence



- floors above ground: 9
- GFA: 7,847m²
- apartments: 90
- floor plate: 872m²
- Window to Wall Ratio: 33%
- carparks: 60 underground

15 storey residence



- floors above ground: 15
- GFA: 9,858m²
- apartments: 105
- floor plate: 657m²
- WWR: 34%
- carparks: 100 underground

25 storey residence



- floors above ground: 25
- GFA: 16,995m²
- apartments: 194
- floor plate: 691m²
- WWR: 35%
- carparks: 170 underground



multi-unit residential performance standards

multi-unit residential	score		
current requirement	– BASIX Energy 25		
height band (storeys)	6-10	11-20	21-30
first step	– BASIX Energy 40	– BASIX Energy 35	– BASIX Energy 30
second step	– BASIX Energy 45 AND – renewable energy procurement equivalent to “net zero energy” or a maximum of 85.0 kWh/yr/m ² of Gross Floor Area (GFA)	– BASIX Energy 40 AND – renewable energy procurement equivalent to “net zero energy” or a maximum of 90.0 kWh/yr/m ² of GFA	– BASIX Energy 35 AND – renewable energy procurement equivalent to “net zero energy” or a maximum of 95.0 kWh/yr/m ² of GFA



multi-unit residential cost benefit

multi-unit residential	cost benefit		
height band (storeys)	6-10	11-20	21-30
first step (energy efficiency + onsite renewables)	<ul style="list-style-type: none"> – 28% Internal Rate of Return (IRR) 25 years – 0.64% CapEx increase 	<ul style="list-style-type: none"> – 23% IRR 25 years – 0.41% CapEx increase 	<ul style="list-style-type: none"> – 22% IRR 25 years – 0.44% CapEx increase
second step (energy efficiency + onsite renewables + offsite renewable procurement)	<ul style="list-style-type: none"> – 20% IRR 25 years – 1.56% CapEx increase 	<ul style="list-style-type: none"> – 18% IRR 25 years – 0.79% CapEx increase 	<ul style="list-style-type: none"> – 20% IRR 25 years – 0.67% CapEx increase



existing multi-unit residential development

- 21 multi-unit residential developments that are 6 storeys or higher in NSW have achieved a BASIX Energy score of 35 or higher



138-152 Victoria Rd, Rozelle

- BASIX Energy 50
- 164 units



recognising offsite measures in planning

method 1

purchasing and retiring Large Scale Generation Certificates (LGCs)

method 2

purchasing renewable energy certificates through GreenPower scheme

method 3

entering into a Power Purchase Agreement (PPA)

how?

- purchase LGCs or GreenPower annually for 5 years as required by a contract, or
- enter into a new PPA or add development to an existing PPA



Appendix 2

Verbatim questions and comments submitted by participants during the online Q&A session.

Government sector	Verbatim questions and comments
Greater Sydney council	Any plans for residential buildings under 6 story in relation to BASIX?
Greater Sydney council	Thanks Josh. What is the contribution of tenants for new offices and shopping centres to the tco2 tonnes presented in the earlier slide? (noting that these pathways will help achieve net zero for base buildings only in those sectors)
Greater Sydney council	As a council how do we drive developers to meet these performance standards?
Greater Sydney council	Will City of Sydney Development Assessment Officers be assessing the new design standards or will Sustainability staff be doing this?
Greater Sydney council	What year's climate data does your energy model currently refer to?;How would higher BASIX targets operate, noting that the Design & Place SEPP may alter how this framework functions?
Greater Sydney council	Thanks so much for putting this fantastic body of work together!; How did the team arrive at the step one and two targets for residential buildings? The BASIX targets fall short of those in the Parramatta Road Corridor Urban Transformation Strategy. For multi-unit residential building typologies, what key opportunities for energy efficiency improvement did the modelling demonstrate?
Greater Sydney council	Has the modelling demonstrated improved resilience to global heating impacts, such as urban heat and higher extreme temperature events?
Greater Sydney council	Great work today, that was really helpful and informative! Clr Linda Scott
Greater Sydney council	How many buildings will be included in these standards? What's the press across geographies and typology?
Greater Sydney council	Has the divide between builder and tenant been addressed? How is building life cycle considered vs. low cost builder with short term interest?
Greater Sydney council	Could you confirm the geographic area the new building performance standards are proposed to apply? (i.e. Sydney City or NSW)
NSW Government	Will Passive House be considered as compliance pathway?; How could this net zero trajectory work with the Design and Places SEPP mentioned by Minister Stokes?
NSW Government	Does the panel have a view about the applicability of this work beyond Sydney metro urban context? Was this session recorded and can you share the recording after?
Industry sector	Verbatim questions and comments
Consultant	Do the new requirements include an evaluation of embodied carbon?
Consultant	What's the return when purchasing offsite offsets?
Construction industry	Interested to know whether the City of Sydney will create a buyer's alliance for renewables PPAs to make it very simple for any building owners to take advantage of renewable power at a cost saving.
Developer	Great webinar.

Industry sector	Verbatim questions and comments
Developer	When it is said that you consider base building for office and retail, would that also include HVAC energy attributed to maintaining comfort conditions in tenant spaces? They are not base building areas, but are typically serviced by base building services.; Was there a decision made not to include industrial or warehouse buildings in this assessment? There is a boom in warehouse development over recent years and is likely to continue into the near to medium term.
Developer	<p>For Retail, how will the NABERS Commitment Agreement or Green Star pathways work for major extensions where the agreement or rating only covers the extension and not the whole centre?; Why is the alternative pathway for Office buildings to achieve 'Credit Achievement' for Energy Use in Green Star but for Retail it is 'Exceptional Performance'?</p> <p>For Green Star we have agreed with GBCA a commitment to ongoing GreenPower procurement to satisfy Net Zero commitments, will this be permitted? State wide electricity supply agreements are typically less than 3 years so it will be hard to provide evidence of a 5 year supply agreement for Green Power for an asset. Is the office NABERS target a 5.5 Star Commitment Agreement + 25% or 5.5 Star + a 25% margin that may be assumed as required for a commitment agreement. It would be simpler to just require a 5.5 Star commitment agreement as per the NCC. Thanks</p>
Developer	What is a PPA?
Developer	Can the panel describe what off-site renewable energy is recognised by the planning system? What would be the process for the procurement of this off-site energy?
Developer	What is being proposed for residential buildings below 6 levels?
Developer	Did the project consider water positive concepts and the carbon consumption requirements to achieve water positive in an urban area?
Developer	Is it envisaged that residential developers will enter into a 5 year renewable energy supply agreement for the common property and the residential apartments prior to OC?
Developer	<p>The current BASIX tool is currently not fit to achieve the City's objectives, for example it penalises the removal of gas cooktops and inclusion of induction cooktops into residential building. How has the modelling taken into account such limitations, and what is the strategy to work with Government to update the BASIX tool?</p> <p>How is BASIX being updated to address transition to all electric?</p>
ESD Consultant	Is the renewable energy sector geared up for the marked increase in the purchase of offsite renewable credits bearing in mind renewable energy plants take time to be implemented?;So in an office building we wouldn't count the lighting within the office area because it connects to tenant distribution boards?
ESD Consultant	Can the team advise what is being proposed for Data Centres as these are energy intensive buildings?
Planning consultant	How will these targets interact with the current policy mechanism of Clause 8 of SEPP BASIX which states that any competing energy standards have no effect?
Property industry	Was there any thought given to better addressing resilience of multi-unit residential, in particular passive comfort and heat stress during heat waves? The individual heating and cooling targets in BASIX are progressive compared to other Australian jurisdictions, but they are still ultimately energy efficiency focused.

Appendix 3

Additional feedback received via the online survey.

Government sector	Verbatim comments
Greater Sydney council	<p>Thanks very much for sharing this fantastic research project with us! It's really exciting seeing the potential for improvements in large scale development with the right planning.</p> <p>I am keen to follow progress. Would love to be kept updated through email.</p>
Greater Sydney council	This is a great initiative .
Greater Sydney council	<p>I am CEO of Blacktown City Council. I would like to volunteer BCC to lead the development of controls in relation to industrial buildings. We have the largest zoned area of industrial land in NSW and significant redevelopment and greenfields opportunities and have a commitment to zero carbon and a community goal of reduction by 2040.</p> <p>As to residential development, I am unclear as to how the commitments referred to in the presentation relate to the individual strata tenancies each of whom will have their own retail electricity contracts?</p> <p>There was no chat box available during the discussion.</p>
Greater Sydney council	Three major concerns - a) reliance on offsets (easily changed by body corporates and owners); b) cost/benefit analysis for residential developments - savings to residents yes but significant upfront cost to developers (how to battle same old affordable housing arguments); c) planning controls - need DPIE and PC drafting ok - common cause of headaches
Greater Sydney council	This is a great initiative. Congratulations to whole the team.
Greater Sydney council	No. Look forward to release of technical reports etc by CoS.
Greater Sydney council	Great initiative
Greater Sydney council	See the need for other typologies to be modelled, particularly those in the Growth Areas in South Western Sydney. These areas are in great need for this modelling and to understand how this can help or work with the urban heat island effect.
Greater Sydney council	We would be interested in knowing more, performance targets are a great idea.
Greater Sydney council	Need to have a good education package for industry, councillors and the community.
Greater Sydney council	Great event and project thanks.
Greater Sydney council	Congratulations to your team.
Greater Sydney council	Thanks for your work on this.
NSW government	Engagement with DPIE and Parliamentary Counsel is critical.
NSW government	Amazing work. Thank you for your leadership.

Government sector	Verbatim comments
Other government	<p>Well done! This is a very important piece of work and move towards achieving close to the building stock that we need. Planning has and will continue to play a major part in achieving that.</p> <p>Clarity on off-site offsets through renewables will need careful thought and solid legal advice. Certainty that net zero will be met in the long term is key to the success of the work. Commitments that aren't enforceable are a risk of not achieving net zero.</p>
Other government	Ambitious targets and the lower scale and cost developments may struggle.
Other government	My Council DA team doesn't have the training or the resources to review NABERS reports and we don't have dedicated sustainability DA staff to do this.
Other government	Interested to learn from your experience, and how the City of Sydney planing measures would interact with SEPP/Basix (the issue of ensuring there are not competing regulatory requirements).(name and email address removed for privacy)
Other government	What would other councils have to do to adopt the same targets the City has set?

Industry sector	Verbatim comments
ESD consultant	<p>1) BASIX really needs to be updated to reflect today's technology and design practices. We spend too much time with alternative assessments and working with a broken black box. You can't increase stringency and expect consistency, transparency and innovation until BASIX Energy is modernised.</p> <p>2) The Commercial Office first step standards are a little unclear in intent. Perhaps the broader framework will clarify this. Are these intended to be modelled figures or measured? Only modelling can be done in development and design and thus there are questions of energy coverage on all the parasitic loads that can add up to 0.2 Stars if not more and on the level of contingency any estimate or reality carries. Does the city's net zero definition exclude natural gas or other fossil fuels in Step 1 or Step 2?</p> <p>3) When can we get greater definition on these standards? Do we have to wait until May and the public exhibition or is there a parallel industry engagement process we can plug into?</p>
Developer	<p>Would the City of Sydney make available the economic cost modelling between the various asset classes and typologies.</p> <p>Since asset values for buildings within the same asset classes varies depending on it's location in Sydney, the cost of implementing the pathway on projects located in lessor Prime locations and therefore with lower values would need to be a consideration for developers.</p>

Industry sector	Verbatim comments
-----------------	-------------------

Developer	<p>For a Green Star rating we have agreed with the GBCA that a written commitment to ongoing GreenPower procurement can satisfy Net Zero commitments, will this be permitted? State wide electricity supply agreements are typically less than 3 years so it will be hard to provide evidence of a 5 year agreement for GreenPower purchase for an asset.</p> <p>I suggest reviewing the office NABERS Commitment Agreement and changing to similar to below, possibly including quantitative values based on today's benchmarks noting these are subject to change:</p> <ol style="list-style-type: none"> 1. A 5.5 Star NABERS Energy Commitment Agreement 2. A 5.5 Star NABERS Energy Commitment Agreement with performance 25% above 5.5 Star. <p>The current wording is ambiguous as there is no fixed buffer above a rating that is required by the IDR in the commitment agreement process. Recent project discussions with two NABERS IDRs has confirmed that a 15% buffer is ok for a 5.5 Star CA given 5.5 Star is already onerous. The design experience on the same project is that a 15% buffer is achievable without major investments like building integrated PV or an anaerobic digester. This is with a 2019 Part J compliant facade and efficient mechanical system. Keen to discuss with the modelling team if possible. My concern is the risk of driving initiatives that may be holistically unsustainable like BIPV in lieu of higher performing off-site PV.</p> <p>Have you considered Step 1 including a commitment to net zero by 2026 at the latest and encouraging it from day 1 with consideration to project time frames. It would be good to get this commitment locked in for the buildings life even if not required for the first few years. A Dec 2025 DA application may not be built until 2028 or later when all new buildings should be net zero as a minimum. For CBD office buildings Step 2 should probably be sooner.</p> <p>Thanks for the presentations and congratulations on the project.</p>
Planning consultant	<p>There is a market value in energy efficient non-residential buildings and so the performance standards are likely to be readily accepted by that part of the industry. However, for residential developers (who do not retain product) the economic proposition is less clear, and so some thought might be required to combat the inevitable claim that these performance standards hurt housing affordability by increasing the cost of apartments. Notwithstanding, it is incredibly important that we move more quickly towards net zero and so this challenge must be overcome.</p>
Planning consultant	<p>Great for taking the initiative to move to a net zero outcome.</p>
Architect	<p>Implementation period is welcomed and is very reasonable.</p> <p>The targets seem very reasonable and still leaves room to go further if desired.</p> <p>These targets should apply for all buildings.</p>
Property industry	<p>Great starting position. For office and shopping centres, addressing tenancy output would be a better outcome.</p> <p>Also a provision of an additional 1-5% extra for new and alteration/addition developments providing credits for heritage buildings.</p>

Attachment B3

**Planning Proposal Attachment 4 – Letters
of Support for the Performance Standards**



14 April 2021

Ms Monica Barone
Chief Executive Officer
City of Sydney
Town Hall House
456 Kent Street
Sydney NSW 2000

Via email: ceo@cityofsydney.nsw.gov.au

Dear Ms Barone

Industry support for implementing the performance standards to achieve net zero energy buildings

I'm writing on behalf of Stockland to provide our support for the implementation of the City of Sydney's net zero energy buildings performance standards.

Stockland is one of the largest property owners and investors in the State with an \$8bn presence across masterplanned communities, retail town centres, logistics parks, office buildings and retirement living villages. We are also a long-term investor in the Sydney CBD, having owned, developed and managed a number of assets including our head office, the Piccadilly Centre at 133 Castlereagh St.

As a real estate owner, manager and developer, we believe that we have both the opportunity and the responsibility to create the right balance of social, environmental and economic conditions for our communities, customers and investors now and in the future.

We recently announced a commitment to achieving net zero carbon emissions across all business activities by 2028, two years earlier than previously committed. Our broader 2030 Sustainability Strategy will continue to explore ways our business can lead and accelerate change across the sector and will track and report on our progress each year as part of our annual corporate reporting.

We support the City's performance standards because it aligns with our own commitment to net zero carbon emissions across our business. The performance standards are critical improvements in energy performance to transition to net zero energy buildings. Setting step changes in performance standards for energy efficiency and integrating renewables provides industries the time they need to adapt and innovate to achieve net zero.

We are also very conscious of the expectations of financial regulators aligning on climate-related financial risk disclosures, the mobilisation of investors on climate-conscious and net-zero investing and the role of ESG risk ratings, sustainability benchmarks and corporate reporting frameworks in assessing companies on their ESG performance.

The role that Stockland plays in delivering highly energy efficient buildings that are powered by renewable energy and are net zero in operation is important to ensure the resilience and sustainability of our business.

We look forward to working with the City of Sydney to deliver our future developments under the net zero energy buildings performance standards.

Kind regards,

A handwritten signature in blue ink that reads "Louise Mason".

Louise Mason
Group Executive and CEO, Commercial Property
Stockland

15 April 2021

Clare Donovan
Planning Program Manager
City of Sydney
Town Hall House – 456 Kent Street
Sydney NSW 2000

Via email: cdonovan@cityofsydney.nsw.gov.au

Dear Clare

RESPONSE TO REQUEST FOR INDUSTRY SUPPORT: REF: 2021/048393-20

The journey towards net zero energy encompasses us all.

We were delighted to collaborate with City of Sydney and our industry peers on the development of new planning standards that will push forward the timeline to achieve net zero energy buildings in Sydney's CBD.

The consultation between the public and private sector on these new planning standards created an opportunity for us all to contribute our specialist expertise and experience from different perspectives.

Sharing this knowledge has resulted in a sensible, flexible, staged implementation of new planning standards ensuring the industry continues to be challenged to deliver meaningful, impactful outcomes, for buildings in Sydney's CBD to reach the shared goal of net zero energy in the quickest possible time.

The City of Sydney has given our industry strong and clear direction on what the City requires to deliver on its commitments around net zero energy and the role it requires industry to play in achieving these commitments.

There is no single solution and only through a collective, collaborative approach can our goal be achieved.

The new performance standards will meaningfully raise the bar for new commercial, retail and hospitality developments, through a mix of energy efficiency and renewable energy requirements, enabling the transition to net zero energy buildings in a staged and practical manner.

This collaboration will ensure the long-term legacy our industry leaves will meet these expectations. We encourage City of Sydney to continue this consultive and collaborative approach to ensure the performance standards meet the desired outcomes, without compromising industry's ability to deliver high quality, innovative buildings for customers and the public to enjoy for generations to come.

Regards,



Anthony Boyd
Chief Executive Officer
Frasers Property Australia Pty Limited



16 April 2021

Ms Monica Barone
Chief Executive Officer
City of Sydney
465 Kent Street,
Sydney NSW 2000
Via email: mbarone@cityofsydney.nsw.gov.au

Dear Monica,

Lendlease support for implementing the City of Sydney Performance Standards to achieve net zero energy buildings

Lendlease commends the City of Sydney for its leading position against climate change through implementation of the Performance Standards. Reducing carbon emissions from the built environment is essential to reduce the future impacts of climate change.

Sustainability is a strategic priority for Lendlease. It is core to our belief that great places deliver positive environmental and social outcomes and are a differentiator and driver of value creation.

We have recently announced a bold new environmental sustainability target. Our target is fully aligned with the goals of the Paris Agreement, and sets a global benchmark for the real estate industry by becoming a 1.5°C aligned company. In summary, we're committing to:

- 'Net Zero Carbon' for scope 1 and 2 emissions by 2025; and
- 'Absolute Zero Carbon' across all operations, including the supply chain, by 2040.

As a 1.5°C aligned company, we aim to tackle the climate crisis while delivering client and shareholder value, maintaining our employee value proposition and honouring our sustainability legacy.

Achieving zero emissions will be approached by setting short, medium and long-term goals, addressing our immediate emissions activity, and fostering industry participation and partnerships to help respond to wider, indirect emissions.

The City of Sydney Performance Standards align with Lendlease's targets of net zero carbon by 2025 (scope 1 and 2) and absolute zero carbon by 2040 (scope 1-3) and respond to the NSW Government's net zero emissions target and the Greater Sydney Region Plan's 'low carbon city' objective. The performance standards and the staged implementation provides industry with certainty to plan for net zero energy development.

We are encouraged by, and very supportive of, the City of Sydney's Performance Standards and the reductions in carbon emissions expected to result from their implementation.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Kylie Rampa", with a horizontal line extending to the right.

Kylie Rampa
Chief Executive Officer
Property, Australia



CrownGroup

20.04.21

Dear Mrs Barone,

Industry support for implementing the performance standards to achieve net zero energy buildings

We are writing to provide Crown Group's support to the City of Sydney for the implementation of step change improvements to transition buildings to net zero performance standards.

We support the public exhibition of the proposed standards and the NSW Governments net zero emissions target and the Greater Sydney Region Plan's "low carbon city" objective.

We congratulate the City of Sydney for engaging with both industry and the government to achieve a balanced and staged approach to the implementation of the proposed standards.

Yours sincerely,

Iwan Sunito

Chairman and Group CEO

Crown Group

Dexus Funds Management Limited
ABN: 24 060 920 783
AFSL: 238163

Level 25, Australia Square
264-278 George Street
Sydney NSW 2000

02 9017 1220
0417 262 890
darren.steinberg@dexus.com
dexus.com



16 April 2021

Ms Monica Barone
Chief Executive Officer, City of Sydney
Town Hall House
456 Kent Street
SYDNEY NSW 2000
E: ceo@cityofsydney.nsw.gov.au

Dear Ms Barone,

Implementation of performance standards to achieve net zero energy buildings

I am writing on behalf of Dexus to provide our support for the City of Sydney's proposal to implement of the performance standards to achieve net zero energy buildings.

We support this proposal because it aligns with our own commitment to achieve net zero emissions by 2030, an ambition that has been verified in line with the effort required to limit global temperature increases to below 1.5°C. We believe that our commitments and actions are crucial in addressing climate change and are proud that we have been recognised by the Global Real Estate Sustainability Benchmark and the Dow Jones Sustainability Index (S&P Global Corporate Sustainability Assessment).

As the largest owner and manager of commercial buildings in Sydney, we believe it is important to ensure these controls can be implemented in an effective and practical manner across multiple asset classes and development of different scales.

Buildings account for nearly one-quarter of Australia's greenhouse gas emissions, which provides an opportunity for energy efficiency initiatives to lower our carbon footprint and reduce operating costs.

The proposed method of introducing performance standards to govern development is a crucial policy tool for the City of Sydney to provide clear direction and certainty to the property industry in the transition to net zero. The proposed pathway allows sufficient time for industry to adapt and investigate new design innovations in this area that will be critical to future building design.

We value our partnership with the City of Sydney through our membership of City Switch and appreciate the opportunity to be involved in the consultation process for the implementation of performance standards to achieve net zero energy buildings.

We look forward to continuing to collaborate on implementing initiatives that contribute to our mutual goals.

Yours sincerely,

A handwritten signature in black ink, appearing to be "DS" with a stylized flourish.

Darren Steinberg
Chief Executive Officer

Monday, 3 May, 2021

Ms Monica Barone
Chief Executive Officer
City of Sydney

By email: mbarone@cityofsydney.nsw.gov.au

Cc: Clare Donovan, Planning Program Manager, Sustainability, cdonovan@cityofsydney.nsw.gov.au.

SUBJECT: City of Sydney building performance standards

Dear Ms Barone,

I am writing to provide Mirvac's support for implementing the City's proposed performance standards to achieve net zero energy in commercial buildings. We note there are ongoing discussions between our two teams about the residential elements of your proposals and we look forward to these continuing. Our comments below relate to the office and retail proposals.

We recognise and strongly support the need for good building performance standards to mitigate the threat of climate change. Our own sustainability strategy, This Changes Everything, seeks to use Mirvac's influence and capabilities to do just that.

Many of the proposed building performance standards align with our own efforts and commercial performance requirements, such as our pursuit of net positive carbon by 2030, and our minimum 5.5 Star NABERS Energy targets on all new developments. As part of that we are committed to electrification and designing out fossil fuels in new commercial properties.

Good planning and building design is critical in preparing for a carbon constrained economy and we acknowledge the City's strong commitment to take a leadership role in this.

To this end, we appreciate the work, research, and engagement undertaken by the City, and we were pleased to be able to contribute our initial feedback through this process. We also appreciated your collaboration with the Property Council of Australia, through which we can consider the opportunities and potential impacts of the proposed standards together with our peers.

We welcome the amendments made following those engagements, and we look forward to our continued discussions around some areas for further investigation, for example, the duration of renewable electricity contracts.

Sincerely,



Sarah Clarke
Group General Manager, Sustainability

Attachment C

**Draft Development Control Plan –
Performance Standards for Net Zero Energy
Buildings**

Draft Development Control Plan – Performance Standards for Net Zero Energy Buildings 2021

The purpose of the draft Development Control Plan

- 1) The purpose of this draft Development Control Plan (DCP) is to amend development control plans applying to the City of Sydney local government area by inserting provisions that:
 - a) set out the performance standards for net zero energy buildings and the dates for implementation
 - b) identify the development thresholds for new development, additions and refurbishments that the performance standards apply to
 - c) identify the options for demonstrating compliance with the performance standards through recognised planning and design tools, as well as an energy intensity target
 - d) provide guidance for the implementation of the performance standards for heritage items
 - e) set out submission requirements for development applications
 - f) ~~may be adopted by Council as a design guide where necessary to integrate with the relevant local environmental plan~~
-

Citation

- 2) This amendment may be referred to as Draft Development Control Plan – Performance Standards for Net Zero Energy Buildings 2021
-

Land covered by this Plan

- 3) This amendment applies to the City of Sydney Local Government area.
-

Relationship of this Plan to other Development Control Plans

- 4) This plan amends *Sydney Development Control Plan 2012* as shown in schedule 1 and as follows:
 - a) throughout section 3.6 Ecologically Sustainable Development make minor amendments for clarification, delete unnecessary background text and delete one set of objectives as they are a duplicate.
 - b) in section 3.6 Ecologically Sustainable Development include new definitions
 - c) replace exiting provisions at the end of 3.6.1 Energy efficiency in non residential developments to implement the performance standards for net zero energy buildings.

5) This plan amends the *Green Square Town Centre Development Control Plan 2012* as shown in schedule 2 and as follows:

- a) throughout section GSTC 8 Environmental Management make minor amendments for clarification
- b) in section GSTC 8 Environmental Management include new definitions
- c) replace exiting provisions in 8.2.1 Energy efficiency in non residential developments to implement the performance standards for net zero energy buildings.

6) ~~The content of this plan may also be adopted by Council as a Design Guide.~~

Exhibited amendments to the existing DCP sections are shown with deletions in ~~strikethrough~~ and replacement or new text in underline.

Post-exhibition amendments in response to submissions and recommended to Council and CSPC for approval are shown in with deletion in ~~red strikethrough~~ and replacement or new text in red underline

Schedule 1: Amendment to Sydney Development Control Plan 2012

Amend section 3.6 of Sydney Development Control Plan 2012 with text to be inserted shown as underlined and text to be deleted shown as strikethrough.

3.6 Ecologically Sustainable Development

This section sets out objectives and controls to provide a framework for the application of ecologically sustainable development principles in the design, construction and operation of buildings across the City of Sydney local government area.

Council encourages the application of ecologically sustainable development principles for all development. Implementing the principles means that the development will be designed and constructed so that it complies with the objectives of this section. ~~following objectives:~~

- ~~(a) Greenhouse gas emissions will be reduced.~~
- ~~(b) The use of cogeneration and tri-generation systems will be increased.~~
- ~~(c) Energy that is used will be renewable and low carbon.~~
- ~~(d) Potable water use will be reduced.~~
- ~~(e) Development can adapt to climate change.~~
- ~~(f) Waste will be reduced.~~
- ~~(g) Recycling of waste and use of products from recycled sources will be increased.~~
- ~~(h) Indoor environmental quality will be improved.~~
- ~~(i) The environmental impact from building materials will be reduced through reduction, re-use and recycling of materials, resources and building components.~~
- ~~(j) Biodiversity will be improved.~~

~~Section J of the Building Code of Australia contains mandatory requirements for the design of building envelopes and fixtures to minimise energy use.~~

~~The Commonwealth Commercial Building Disclosure Program requires energy efficiency information to be provided in most cases when commercial office space of 1,000 sqm or more is offered for sale or lease. The aim is to improve the energy efficiency of Australia's large office buildings and to ensure prospective buyers and tenants are informed. The Commercial Building Disclosure Program is an initiative of the Council of Australian Governments. It was established by the Building Energy Efficiency Disclosure Act 2010 and is managed by the Australian Government Department of the Environment and Energy.~~

~~In NSW, State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (BASIX SEPP) mandates provisions that aim to reduce consumption of mains-supplied potable water, reduce emissions of greenhouse gases and improve thermal comfort in all residential development. The BASIX SEPP sets the minimum standards that a development is to achieve. The BASIX SEPP also mandates that a DCP cannot include provisions which require a development to exceed its minimum standards. However, where voluntarily proposed, Council encourages development to exceed minimum BASIX scores. From time to time Council may provide guidelines or other relevant information that will assist applicants to implement the principles of ecologically sustainable development.~~

~~From time to time Council may provide guidelines or other relevant information that will assist applicants to implement the principles of ecologically sustainable development.~~

~~In the absence of comprehensive government standards and building rating tools which can be used to assess the environmental performance of buildings, Council encourages applicants to use an environmental building rating tool, such as Green Star or any similar rating tool, to demonstrate the environmental performance of a proposed development.~~

~~Applicants should contact the operator of the rating tool, such as the Green Building Council of Australia, if they wish to obtain a certified rating. Where an applicant voluntarily proposes achieving a Green Star or other building tool rating Council will apply a condition of development consent that requires the development to obtain the certified rating that was nominated by the applicant.~~

Objectives

- (a) Apply principles and processes that contribute to ecologically sustainable development (ESD).
- (b) Reduce the impacts from development on the environment.
- (c) Reduce the use of resources in development and by development over its effective life.
- (d) Reduce the cause and impacts of the urban heat island effect.
- (e) Increase the resilience of development to the effects of climate change.
- (f) Ensure that greenhouse gas emissions will be reduced.
- ~~(g) Increase the use of cogeneration and tri-generation systems.~~
- (h) Replace intensive carbon power sources with low carbon and renewable energy.
- (i) Reduce the use of potable water.
- (j) Ensure that development can adapt to climate change.
- (k) Ensure that demolition, construction and operational waste will be reduced.
- (l) Increase the use of products from recycled sources.
- (m) Improve indoor environmental quality.
- (n) Reduce the environmental impact from building materials through reduction, re-use and recycling of materials, resources and building components.
- (o) Improve the biodiversity.

3.6.1 Energy efficiency in non-residential developments

Definitions

The following definition are is applicable to 3.6.1 Energy efficiency in non-residential developments provision only.

~~**Net zero energy development** means a development that consumes no more energy than is provided by a combination of:~~

~~renewable energy generated onsite, or~~

~~renewable energy procured from offsite sources for a period of at least 5 years.~~

~~In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.~~

~~**Renewable energy** means energy that comes from natural resources such as sunlight, wind and rain that are renewable (naturally replenished).~~

~~**Shopping centre** means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.~~

Refurbishment means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.

- (1) Development is to be designed and constructed to reduce the need for active heating and cooling by incorporating passive design measures including design, location and thermal properties of glazing, natural ventilation, appropriate use of thermal mass and external shading, including vegetation.
- (2) Lighting for streets, parks and any other public domain spaces provided as part of a development should be energy efficient lighting such as LED lighting.
- (3) In multi-tenant or strata-subdivided developments, electricity sub-metering is to be provided for lighting, air-conditioning and power within each tenancy or strata unit. Locations are to be identified on the development plans.
- (4) Electricity sub-metering is to be provided for significant end uses that will consume more than 10,000 kWh/annum.
- (5) Car parking areas are to be designed and constructed so that electric vehicle charging points can be installed at a later time.
- (6) Where appropriate and possible, the development of the public domain should include electric vehicle charging points or the capacity for electric vehicle charging points to be installed at a later time.
- ~~(7) Applications for new developments containing office premises with a net lettable area of 1,000sqm or more are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5.5 stars with the NSW Office of Environment and Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development.~~
- ~~(8) Applications for developments involving alterations, additions and refurbishments to existing office premises where the estimated cost of works is over \$5 million, and contains a net lettable area of 1,000sqm or more, are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars with the NSW Office and Environment Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development. Notwithstanding, a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars is not required where the consent authority is satisfied that:
 - ~~(a) the upgrade works would negatively impact on significant heritage fabric or the heritage significance of a listed heritage item, or~~
 - ~~(b) the costs associated with the energy efficiency upgrade works are unreasonable when compared to the overall estimated cost of works for the alterations, additions and refurbishment.~~~~
- ~~(9) Any application which may impact on significant heritage fabric or the heritage significance of a listed item is to be supported by a Heritage Impact Statement prepared by an appropriately experienced heritage consultant.~~
- ~~(10) Where it is asserted that the costs are unreasonable under subclause (8) (b) the development application is to be supported by a registered Quantity Surveyor's detailed cost report itemising and verifying the cost of the required energy efficiency upgrade works.~~
- (7) For the purposes of clause 5.XX 'Energy use' in Sydney LEP 2012, development identified in Table 3.5: Development thresholds and performance standards is to be capable of achieving the performance standards in that table in order to be considered highly efficient and achieving reduced energy use through efficiency and/or on-site renewables, and:

DCP Amendment

(a) Applications are to include an Energy Assessment Report prepared by a suitably qualified person, who is also a NABERS accredited assessor, demonstrating that the building is capable of achieving the performance standards identified in Table 3.5: Development thresholds and energy performance standards.

(b) Where development proposes to achieve the energy intensity performance standard (kWh/yr/m²), an assessor from the NABERS Independent Design Review Panel is to formally verify energy modelling.

(c) Where it is a refurbishment of or addition to a heritage item, a reduction in the performance standards in Table 3.5: Development thresholds and energy performance standards may be considered if it is clearly demonstrated that compliance with the standards cannot be reasonably achieved without unacceptable impact on the heritage item and that energy efficiency and use of renewables is reasonably maximised. The application for a reduction in the standards must be supported by:

- i. a Heritage Impact Statement, prepared by an appropriately experienced heritage consultant
- ii. energy modelling prepared by a suitably qualified person.

Proposed land use	Development threshold for performance standards	Energy performance standards	
		Applications submitted between 1 January 2023 – 31 December 2025	Applications submitted from 1 January 2026 onwards
Office (base building)	A new office building containing a net lettable area (NLA) of 1,000m ² or more	<ul style="list-style-type: none"> - maximum 45 kWh/yr/m² of Gross Floor Area (GFA), or - 5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or - certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent 	<ul style="list-style-type: none"> - maximum 45 kWh/yr/m² of GFA, or - 5.5 Star NABERS Energy CA + 25%, or - certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent <p>and</p> <ul style="list-style-type: none"> - renewable energy procurement equivalent to “net zero emissions from energy use” or a maximum of 45 kWh/yr/m² of GFA
	A refurbishment* to an existing office building that contains a NLA of 1,000m ² or more		
	An existing office building of 1,000m ² NLA or more with an addition of 50% or more NLA		
Retail (applies to shopping centre base building only)	A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m ² or more	<ul style="list-style-type: none"> - maximum 55 kWh/yr/m² of GFA, or - 4 star NABERS Energy CA, or - certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent 	<ul style="list-style-type: none"> - maximum 45 kWh/yr/m² of GFA, or - 5 star NABERS Energy CA, or - certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent <p>and</p> <ul style="list-style-type: none"> - renewable energy procurement equivalent to “net zero emissions from energy use” or a maximum of 45 kWh/yr/m² of GFA
	An existing shopping centre of 5,000m ² GLAR or more with an addition of 50% or more GLAR		
Hotel (whole of building)	A new hotel of 100 rooms or more	<ul style="list-style-type: none"> - maximum 245 kWh/yr/m² of GFA, or - 4 star NABERS Energy CA, or - certified Green Star Buildings rating achieving the “minimum expectation” 	<ul style="list-style-type: none"> - maximum 240 kWh/yr/m² of GFA, or - 4 star NABERS Energy CA + 10%, or - certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent
	A refurbishment* to an existing hotel that contains 100 rooms or more		

DCP Amendment

	<u>An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms</u>	- <u>in Credit 22: Energy Use, or equivalent</u>	and - <u>renewable energy procurement equivalent to “net zero emissions from energy use” or a maximum of 240 kWh/yr/m² of GFA</u>
<u>Mixed use</u>	<u>Where one or more of the above thresholds for each proposed use apply</u>	- <u>The above performance standards apply for each proposed use</u>	- <u>The above performance standards apply for each proposed use</u>

Table 3.5: Development thresholds and performance standards

(8) For the purposes of clause 5.XX (3) (b) in Sydney LEP, alterations to existing office premises containing 1,000 sqm in NLA or more, where the application involves 50% or more of the existing NLA, are considered to result in the development being more efficient and less emissions intensive where:

(a) development meets the performance standards for new office buildings in table 3.5, or

(b) where (a) cannot be achieved, development demonstrates:

- i) a NABERS Energy Base Building Commitment Agreement of 5 Star or above, elimination of all base building natural gas appliances, service and supply, and net zero emissions from energy use; or
- ii) a NABERS Energy Base Building Commitment Agreement for a star rating that exceeds the existing NABERS Energy Base Building rating excluding GreenPower of the building for the past 12 months by at least 2 stars, and elimination of all base building natural gas appliances, service and supply.

(9) For the purposes of clause 5.XX (3) (c) in Sydney LEP, from 1 January 2026 development listed in table 3.5 is to demonstrate it will have net zero emissions from energy use. Development will have net zero emissions from energy use where:

(a) Development consumes no more total energy, including electricity, natural gas and thermal energy, other than is provided by:

- (i) renewable energy generated on-site, and
- (ii) renewable energy procured from off-site sources for a period of at least 5 years

Fuels used for emergency back-up generation are excluded.

Note: For office premises and retail premises, relevant energy use is the base building. For hotel or motel accommodation, energy use is for the whole building.

Note: Renewable energy procured from off-site sources may be demonstrated by GreenPower certified power plans, power purchase agreements with renewable energy generators or retiring large-scale generation certificates, with an appropriate provision to oversupply to offset total forecast non-electrical energy use (including natural gas).

Schedule 2: Amendment to Green Square Town Centre Development Control Plan 2012

Amend Green Square Town Centre Development Control Plan 2012 with text to be inserted shown as underlined and text to be deleted shown as strikethrough.

GSTC 8

Environmental Management

Definitions

The following definition~~s are is~~ applicable to this provision only.

~~**Net zero energy development** means a development that consumes no more energy than is provided by a combination of:~~

~~(a) renewable energy generated onsite, or~~

~~(b) renewable energy procured from offsite sources for a period of 5 years.~~

~~In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.~~

~~**Renewable energy** means energy that comes from natural resources such as sunlight, wind and rain that are renewable (naturally replenished).~~

~~**Shopping centre** means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.~~

~~**Refurbishment** means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.~~

Objectives

(a) Ensure that new development applies the principles of ecologically sustainable development ("ESD").

(b) Reduce the impacts from development on the environment.

(c) Reduce the use of resources in development and by development over its effective life.

(d) Reduce the cause and impacts of the urban heat island effect.

(f) Promote the use of renewable energy sources and materials to reduce the use of resources, and the generation pollution and waste resulting from development activity.

(g) Encourage improved environmental performance through the voluntary use of industry recognised building rating tools, such as NABERS and Green Star.

(h) Encourage energy and water efficiency and water recycling in non BASIX affected development.

- (i) Reduce the amount of waste disposed of at landfill from construction, ~~and demolition waste and operational waste. generated in the operation of a development going to landfill.~~
- (j) Ensure waste from within developments can be collected and disposed in a manner that is healthy, efficient, minimises disruption to amenity, and is conducive to the overall minimisation of waste generated.
- (k) Facilitate the delivery of the City's targets for sustainable urban renewal by encouraging development to connect to the City's Green Infrastructure.

Note: Residential development is addressed by BASIX. The provisions of this DCP in relation to reducing greenhouse gas emissions, reducing potable water use, or improving the thermal comfort in the use of a dwelling, do not apply to BASIX affected development.

Provisions

- (1) All development is encouraged to use an environmental rating tool, such as NABERS and Green Star, to demonstrate the degree to which it is ecologically sustainable development.
- (2) Development is to enable the incorporation of sustainable development initiatives, including green infrastructure.

GSTC 8.2 Energy

- (1) For building maintenance and to future proof the building to enable infrastructure upgrades, heating and cooling infrastructure is to be consolidated into a centralised basement location near the street frontage within residential developments.
- (2) In multi-floor or multi-tenant or strata-subdivided developments, electricity sub-metering is to be provided for light, air conditioning and power within each floor and/or tenancy and/or strata unit. Locations are to be identified on the development plans.

8.2.1 Energy efficiency in non-residential developments

- ~~(1) Applications for new developments containing office premises with a net lettable area of 1,000sqm or more are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5.5 stars with the NSW Office of Environment and Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development.~~
- ~~(2) Applications for developments involving alterations, additions and refurbishments to existing office premises where the estimated cost of works is over \$5 million, and contains a net lettable area of 1,000sqm or more, are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars with the NSW Office and Environment Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development. Notwithstanding this, a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars may be not required by the consent authority where it is satisfied that:
 - ~~(a) the costs associated with the energy efficiency upgrade works are unreasonable when compared to the overall estimated cost of works for the alterations, additions and refurbishment; and~~
 - ~~(b) where it is asserted that the costs are unreasonable under subclause (2)(a) the development application is to be supported by a registered Quantity Surveyor's detailed cost report itemising and verifying the additional cost of the required energy efficiency upgrade works.~~~~

(1) For the purposes of clause 5.XX 'Energy use' in Sydney LEP 2012, development identified in Table 3.5: Development thresholds and performance standards is to be capable of achieving the

performance standards in that table in order to be considered highly efficient and achieving reduced energy use through efficiency and/or on-site renewables, and:

(a) Applications are to include an Energy Assessment Report prepared by a suitably qualified person, who is also a NABERS accredited assessor, demonstrating that the building is capable of achieving the performance standards identified in Table 6.3: Development thresholds and energy performance standards.

(b) Where development proposes to achieve the energy intensity performance standard (kWh/yr/m²), an assessor from the NABERS Independent Design Review Panel is to formally verify energy modelling.

(c) Where it is a refurbishment of or addition to a heritage item, a reduction in the performance standards in Table 6.3: Development thresholds and energy performance standards may be considered if it is clearly demonstrated that compliance with the standards cannot be reasonably achieved without unacceptable impact on the heritage item and that energy efficiency and use of renewables is reasonably maximised. The application for a reduction in the standards must be supported by:

- i. a Heritage Impact Statement, prepared by an appropriately experienced heritage consultant
- ii. energy modelling prepared by a suitably qualified person.

Table 6.3: Development threshold and energy performance standards

<u>Proposed land use</u>	<u>Development threshold for performance standards</u>	<u>Energy performance standards</u>	
		<u>Applications submitted between 1 January 2023 – 31 December 2025</u>	<u>Applications submitted from 1 January 2026 onwards</u>
<u>Office (base building)</u>	<u>A new office building containing a net lettable area (NLA) of 1,000m² or more</u>	<ul style="list-style-type: none"> - <u>maximum 45 kWh/yr/m² of Gross Floor Area (GFA), or</u> - <u>5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or</u> - <u>certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</u> 	<ul style="list-style-type: none"> - <u>maximum 45 kWh/yr/m² of GFA, or</u> - <u>5.5 Star NABERS Energy CA + 25%, or</u> - <u>certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</u> <p>and</p> <ul style="list-style-type: none"> - <u>renewable energy procurement equivalent to “net zero emissions from energy use” or a maximum of 45 kWh/yr/m² of GFA</u>
	<u>A refurbishment* to an existing office building that contains a NLA of 1,000m² or more</u>		
	<u>An existing office building of 1,000m² NLA or more with an addition of 50% or more NLA</u>		
<u>Retail (applies to shopping centre base building only)</u>	<u>A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m² or more</u>	<ul style="list-style-type: none"> - <u>maximum 55 kWh/yr/m² of GFA, or</u> - <u>4 star NABERS Energy CA, or</u> - <u>certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent</u> 	<ul style="list-style-type: none"> - <u>maximum 45 kWh/yr/m² of GFA, or</u> - <u>5 star NABERS Energy CA, or</u> - <u>certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent</u> <p>and</p> <ul style="list-style-type: none"> - <u>renewable energy procurement equivalent to “net zero emissions from energy use” or a maximum of 45 kWh/yr/m² of GFA</u>
	<u>An existing shopping centre of 5,000m² GLAR or more with an addition of 50% or more GLAR</u>		
	<u>A new hotel of 100 rooms or more</u>	<ul style="list-style-type: none"> - <u>maximum 245 kWh/yr/m² of GFA, or</u> 	<ul style="list-style-type: none"> - <u>maximum 240 kWh/yr/m² of GFA, or</u> - <u>4 star NABERS Energy CA + 10%, or</u>

DCP Amendment

<p><u>Hotel (whole of building)</u></p>	<p><u>A refurbishment* to an existing hotel that contains 100 rooms or more</u></p>	<p>- <u>4 star NABERS Energy CA, or certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent</u></p>	<p>- <u>certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</u></p>
	<p><u>An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms</u></p>	<p>- <u>equivalent</u></p>	<p><u>and</u></p> <p>- <u>renewable energy procurement equivalent to “net zero emissions from energy use” or a maximum of 240 kWh/yr/m² of GFA</u></p>
<p><u>Mixed use</u></p>	<p><u>Where one or more of the above thresholds for each proposed use apply</u></p>	<p>- <u>The above performance standards apply for each proposed use</u></p>	<p>- <u>The above performance standards apply for each proposed use</u></p>

(2) For the purposes of clause XX in the LEP, alterations to existing office premises containing 1,000 sqm in NLA or more, where the application involves 50% or more of the existing NLA, are considered to result in the development being more efficient and less emissions intensive where:

(a) development meets the performance standards for new office buildings in table 3.5, or

(b) where (a) cannot be achieved, development demonstrates:

- i) a NABERS Energy Base Building Commitment Agreement of 5 Star or above, elimination of all base building natural gas appliances, service and supply, and net zero emissions from energy use; or
- ii) a NABERS Energy Base Building Commitment Agreement for a star rating that exceeds the existing NABERS Energy Base Building rating excluding GreenPower of the building for the past 12 months by at least 2 stars, and elimination of all base building natural gas appliances, service and supply.

(3) For the purposes of clause XX in the LEP, from 1 January 2026 development listed in table 3.5 is to demonstrate it will have net zero emissions from energy use. Development will have net zero emissions from energy use where:

(a) Development consumes no more total energy, including electricity, natural gas and thermal energy, other than is provided by:

- (i) renewable energy generated on-site, and
- (ii) renewable energy procured from off-site sources for a period of at least 5 years

Fuels used for emergency back-up generation are excluded.

Note: For office premises and retail premises, relevant energy use is the base building. For hotel or motel accommodation, energy use is for the whole building.

Note: Renewable energy procured from off-site sources may be demonstrated by GreenPower certified power plans, power purchase agreements with renewable energy generators or retiring large-scale generation certificates, with an appropriate provision to oversupply to offset total forecast non-electrical energy use (including natural gas).

Attachment D

**Resolutions of Council and Central Sydney
Planning Committee**

Resolution of Council

17 May 2021

Item 9.3

Public Exhibition - Planning Proposal - Performance Standards for Net Zero Energy Buildings - Local Environmental Plans and Development Control Plan Amendments

It is resolved that:

- (A) Council approve the Planning Proposal – Performance Standards for Net Zero Energy Buildings, as shown at Attachment A of the subject report, to be submitted to the Minister for Planning and Public Spaces with a request for a Gateway determination;
- (B) authority be delegated to the Chief Executive Officer to make any variations to the Planning Proposal – Performance Standards for Net Zero Energy Buildings, following receipt of the Gateway determination;
- (C) Council approve the Planning Proposal – Performance Standards for Net Zero Energy Buildings, as shown at Attachment A of the subject report, for public authority consultation and public exhibition in accordance with any conditions imposed under the Gateway determination;
- (D) Council seek authority from the Minister for Planning and Public Spaces to exercise the delegation of all the functions under section 3.36 of the *Environmental Planning and Assessment Act 1979* to make the local environmental plan and to put into effect the Planning Proposal – Performance Standards for Net Zero Energy Buildings;
- (E) Council approve the Draft *Development Control Plan 2012 – Performance Standards for Net Zero Energy Buildings 2021*, shown at Attachment B of the subject report, for public authority consultation and public exhibition as both a development control plan and design guide concurrent with the planning proposal; and

- (F) authority be delegated to the Chief Executive Officer to make any minor variations to the Draft *Development Control Plan – Performance Standards for Net Zero Energy Buildings 2021* to correct any drafting errors and ensure it is consistent with the planning proposal following the Gateway determination.

Carried unanimously.

X012106.011

Resolution of Central Sydney Planning Committee

13 May 2021

Item 5

Public Exhibition - Planning Proposal - Performance Standards for Net Zero Energy Buildings - Local Environmental Plans and Development Control Plan Amendments

Moved by the Chair (the Lord Mayor), seconded by Councillor Thalís -

It is resolved that:

- (A) the Central Sydney Planning Committee approve the Planning Proposal – Performance Standards for Net Zero Energy Buildings, as shown at Attachment A of the subject report, to be submitted to the Minister for Planning and Public Spaces with a request for a Gateway Determination;
- (B) authority be delegated to the Chief Executive Officer to make any variations to the Planning Proposal – Performance Standards for Net Zero Energy Buildings, following receipt of the Gateway Determination;
- (C) the Central Sydney Planning Committee approve the Planning Proposal – Performance Standards for Net Zero Energy Buildings, as shown at Attachment A of the subject report, for public authority consultation and public exhibition in accordance with any conditions imposed under the Gateway Determination;
- (D) the Central Sydney Planning Committee note the recommendation to Council’s Transport, Heritage and Planning Committee on 10 May 2021 that Council seek authority from the Minister for Planning and Public Spaces to exercise the delegation of all the functions under section 3.36 of the *Environmental Planning and Assessment Act 1979* to make the local environmental plan and to put into effect the Planning Proposal – Performance Standards for Net Zero Energy Buildings;
- (E) the Central Sydney Planning Committee note the recommendation to Council’s Transport, Heritage and Planning Committee on 10 May 2021 that Council approve the Draft *Development Control Plan 2012 – Performance Standards for Net Zero Energy Buildings 2021*, shown at Attachment B of the subject report, for public authority consultation and public exhibition as both a development control plan and design guide concurrent with the planning proposal; and

- (F) authority be delegated to the Chief Executive Officer to make any minor variations to the Draft *Development Control Plan* – Performance Standards for Net Zero Energy Buildings 2021 to correct any drafting errors and ensure it is consistent with the planning proposal following the Gateway Determination.

Carried unanimously.

X012106.011

Attachment E

Gateway Determination



Monica Barone
Chief Executive Officer
City of Sydney Council
GPO Box 1591
SYDNEY NSW 2001

Dear Ms Barone,

Planning proposal PP-2021-3645 to amend Sydney Local Environmental Plan 2012, Sydney Local Environmental Plan (Green Square Town Centre) 2013 and Sydney Local Environmental Plan (Green Square Town Centre – Stage 2) 2013

I am writing in response to Council's request for a Gateway determination under section 3.34(1) of the *Environmental Planning and Assessment Act 1979* (the Act) in respect of the planning proposal to amend the Sydney Local Environmental Plan 2012 to introduce Performance Standards for Net Zero Energy Buildings.

As delegate of the Minister for Planning and Public Spaces, I have now determined that the planning proposal should proceed subject to the conditions in the enclosed Gateway determination.

I have considered determined not to condition the Gateway determination for Council to be the local plan-making authority due to the complexity of the amendment and potential to affect State Government policy.

The Department acknowledges concerns raised by industry advocates, and advises Council should work collaboratively with industry to address any feedback or concerns that arise during the exhibition period.

The amending local environmental plan (LEP) is to be finalised within 12 months of the date of the Gateway determination. Council should aim to commence the exhibition of the planning proposal as soon as possible. Council's request for the Department of Planning, Industry and Environment to draft and finalise the LEP should be made eight weeks prior to the projected publication date.

The state government is committed to reducing the time taken to complete LEPs by tailoring the steps in the process to the complexity of the proposal, and by providing clear and publicly available justification for each plan at an early stage. In order to meet these commitments, the Minister may take action under section 3.32(2)(d) of the Act if the time frames outlined in this determination are not met.

Should you have any enquiries about this matter, I have arranged for Mr Luke Thorburn, Planning Officer, to assist you. Mr Thorburn can be contacted on 02 8275 1283.

Yours sincerely,



01.10.2021

David McNamara
Director, Eastern District (City of Sydney)
Greater Sydney, Place & Infrastructure

Encl: Gateway determination

Gateway Determination

Planning proposal (Department Ref: PP-2021-3645): to amend the Sydney Local Environmental Plan 2012, Sydney Local Environmental Plan (Green Square Town Centre) 2013 and Sydney Local Environmental Plan (Green Square Town Centre – Stage 2) 2013 to introduce Performance Standards for Net Zero Energy Buildings.

I, the Director for Eastern District (City of Sydney) at the Department of Planning, Industry and Environment, as delegate of the Minister for Planning and Public Spaces, have determined under section 3.34(2) of the *Environmental Planning and Assessment Act 1979* (the Act) that an amendment to the Sydney Local Environmental Plan (LEP) 2012, Sydney Local Environmental Plan (Green Square Town Centre) 2013 and Sydney Local Environmental Plan (Green Square Town Centre – Stage 2) 2013 to introduce Performance Standards for Net Zero Energy Buildings, should proceed subject to the following conditions:

1. Prior to public exhibition the Planning Proposal is to be updated to:
 - (a) Remove any draft clauses from the planning proposal and place into an appendix as example clauses. Refine the planning proposal to include a clear plain English explanation of the principles of the proposed provisions and intended policy outcomes they need to secure.
2. Prior to community consultation, Council is to refine the Planning Proposal to clearly identify the proposed hierarchy of controls and whether a Design Guide or DCP will come into effect, including the supporting proposed performance standards.
3. Council is to exhibit the associated draft amendment to Sydney Development Control Plan 2012/Design Guide and Planning for net zero energy buildings concurrently with the Planning Proposal.
4. Consultation is required with the following public authorities:
 - NSW Environment, Energy and Science; and
 - Relevant utility and service providers.
5. The planning proposal should be made available for community consultation for a minimum of 28 days.
6. The planning proposal must be exhibited 6 months from the date of the Gateway determination.
7. The planning proposal must be reported to council for a final recommendation 10 months from the date of the Gateway determination.

8. The timeframe for completing the LEP is to be **12 months** from the date of the Gateway determination.
9. The Department does not grant local plan-making authority.

Dated Friday the 1st of October 2021



David McNamara
Director, Eastern District (City of Sydney)
Department of Planning, Industry and
Environment

Delegate of the Minister for Planning and
Public Spaces

Item 5.

Post Exhibition - Planning Proposal - 2 Chifley Square, Sydney - Sydney Local Environmental Plan 2012 and Sydney Development Control Plan 2012 Amendment

File No: X038910

Summary

The Central Sydney Planning Strategy was adopted by Council in December 2020. It ensures Central Sydney continues to be Australia's leading economic centre by attracting new business investment and being a preferred location for workers, residents and visitors. The Strategy supports opportunities for additional building height and floor area in the right locations, and contribute to environmental sustainability, design excellence and infrastructure.

A planning proposal has been prepared for 2 Chifley Square, following a request by the applicant to amend the planning controls for the site. The proposed changes to the controls are to facilitate redevelopment of the site for a new commercial tower consistent with the Central Sydney Planning Strategy. The proposed controls were approved by the Central Sydney Planning Committee and Council in November 2021, to be submitted for a Gateway Determination and for public consultation.

This report details the outcomes of the public consultation of the planning proposal, draft development control plan (DCP) and voluntary planning agreement (VPA) for the site. The documents were exhibited from 22 April to 27 May 2022. Ten submissions were received including submissions from the land owner of the subject site, landowners adjoining and in the vicinity of the site, and public authorities.

Matters raised in submissions included the eastern setback of the planning envelope, end of journey floor space, ecological sustainable development controls, impacts from the future Martin Place Metro Station, and reflectivity impacts on The Domain. A summary of submissions and the City's response is at Attachment A, and key issues are discussed in this report.

Recommended amendments to the planning proposal clarify the maximum floor space ratio for the site, and is consistent with the changes made to the Sydney Local Environmental Plan 2012 (LEP) in November 2021 following the adoption of the Central Sydney Planning Framework. Amendments to the draft DCP are recommended for ecologically sustainable development provisions, to address the changes to the design excellence provisions following the adoption of the Central Sydney Planning Framework in November 2021, and remove the provision to allow alternative massing on the site.

In keeping with standard practice, amendments have been identified in the attachments to this report with additions shown in bold italics, and deletions in strikethrough.

This report recommends Council and the Central Sydney Planning Committee approve the planning proposal, draft DCP and notes the City will enter into the planning agreement.

Recommendation

It is resolved that:

- (A) the Central Sydney Planning Committee note the matters raised in response to the public exhibition of Planning Proposal - 2 Chifley Square, Sydney, the draft Sydney Development Control Plan 2012 - 2 Chifley Square, Sydney amendment, and draft Voluntary Planning Agreement, as shown in Attachments A and A1 to the subject report;
- (B) the Central Sydney Planning Committee approve Planning Proposal - 2 Chifley Square, Sydney, as amended in response to submissions following public exhibition and shown at Attachment B to the subject report, and request the relevant local plan making authority make as a Local Environmental Plan under section 3.36 of the Environmental Planning and Assessment Act 1979;
- (C) the Central Sydney Planning Committee note the recommendation to Council's Transport, Heritage, Environment and Planning Committee on 15 August 2022 that Council approve the draft Sydney Development Control Plan 2012 - 2 Chifley Square, Sydney amendment, as amended in response to submissions following public exhibition and shown at Attachment C to the subject report, noting the approved Development Control Plan will come into effect on the date of publication of the subject Local Environmental Plan;
- (D) authority be delegated to the Chief Executive Officer to make any minor amendments to the Planning Proposal - 2 Chifley Square, Sydney and draft Sydney Development Control Plan - 2 Chifley Square, Sydney amendment to correct any minor errors, omissions or inconsistencies prior to finalisation; and
- (E) the Central Sydney Planning Committee note the draft Voluntary Planning Agreement, as shown at Attachment D to the subject report will be executed under delegation of Council in accordance with the Environmental Planning and Assessment Act 1979.

Attachments

- Attachment A.** Summary of Submissions – 2 Chifley Square, Sydney
- Attachment B.** Planning Proposal - 2 Chifley Square, Sydney
- Attachment C.** Draft Sydney Development Control Plan 2012 - 2 Chifley Square, Sydney
- Attachment D.** Voluntary Planning Agreement – 2 Chifley Square, Sydney
- Attachment E.** Gateway Determination – 2 Chifley Square, Sydney
- Attachment F.** Resolutions of Council and the Central Sydney Planning Committee - November 2021 – 2 Chifley Square, Sydney

Background

1. To maintain and strengthen Central Sydney's status as a globally competitive city, it must continue to attract business investment and be a preferred location for knowledge workers, residents and visitors. The planning vision to grow Central Sydney's competitive economic position and further strengthen its attractive qualities is set out in the Central Sydney Planning Strategy (the Strategy), adopted by Council in December 2020.
2. Increasing the capacity for commercial growth in Central Sydney is crucial for supporting a robust, resilient and competitive economy for Central Sydney, New South Wales, and the nation. Capacity for business growth will support opportunities for investment and development projects with a global focus and highly skilled jobs.
3. The Strategy seeks to incentivise floor space for business and economic generating activities by providing opportunities for additional building height and density in the right locations. It requires new development to contribute to Central Sydney's attractiveness by delivering high quality urban design and public domain outcomes, including pedestrian amenity and protection of public spaces, and achieving environmental sustainability goals.
4. The planning proposal request for 2 Chifley Square was prepared by the applicant, Ethos Urban on behalf of Charter Hall, the owner of the site, and formally lodged in September 2021. The planning proposal request was to facilitate the redevelopment of southern part of the site consistent with the Strategy by increasing floor space for business, office and retail uses in a second commercial tower with a redesigned podium.
5. The site is located in the City Core precinct of Central Sydney. The Strategy describes this precinct as the largest office sub-market in Australia, favoured by financial, legal, property and technology sectors. It contains the largest number of premium office buildings in Central Sydney and the most commercial floor space. Premium floor space has been traditionally sought throughout this precinct, and continued industry growth is expected to result in increased demand for large floor plates and premium grade developments. As Sydney's most prestigious office sub-market, the quality of tenant amenity and the public domain, and minimisation of land use conflicts, is critical to maintain Central Sydney's competitive advantage.

The site

6. The legal description of the land affected by this planning proposal is Lot 10 DP 777545. The site is referred to in this report as 'the site' or '2 Chifley Square'. A diagram and aerial image of the subject site and surrounds are shown in Figure 1 and Figure 2 below.



Figure 1: Site Location



Figure 2: Aerial Photo of site

7. The site is irregular in shape and has a total area of 6,438 square metres. It has three street frontages, to Hunter Street on the southern boundary, Phillip Street along the western boundary, and Bent Street along part of the northern boundary. The south-western portion of the site adjoins Chifley Square.

Existing development on the site

8. The site contains a five-storey podium and a 42 storey commercial tower. The building was designed by New York architects Kohn Pedersen Fox in association with Sydney architectural firm Travis Partners (which later became Architectus).



Figure 3: Existing Chifley Tower and podium (source: Chifley website)

9. The lower three storeys of the podium contain the office tower lobby, and a range of retail and food and beverage services, as well as a gym and child-care centre. The two upper storeys of the podium contain office floor space, with a terrace on the podium roof. The main entrances to the podium are from Chifley Square and Phillip Street, with secondary entrances from Hunter and Bent Street.
10. Vehicular access to the basement is via a driveway crossover from Bent Street, with separated entry and exit ramps. The existing basement contains four levels, with 13 loading dock spaces and 361 car parking spaces including 103 spaces operated as a public car park. There are also 200 bicycle spaces on the first basement level with end-of-trip facilities.

Chifley Square

11. The south-western corner of the site adjoins Chifley Square, a heritage listed public place.
12. The semi-circular form of Chifley Square was originally proposed in 1908 by John Sulman in response to the Royal Commission into the Improvement of Sydney, and realised in 1947 when it was officially named Chifley Square in 1961 in honour of the late Hon J.B. Chifley, former Prime Minister of Australia.
13. The curved form of buildings constructed to the new street alignments for Chifley Square, including Qantas House in 1957, Wentworth Hotel in 1966, then Chifley Tower in 1993, reinforce the amphitheatre effect of the space. Further works to the public square were constructed in the 1990s to reclaim and improve the public square.
14. Two artworks are located in the square, a large statue, "Ben Chifley", and a glass wall structure along the Hunter Street boundary of the square titled "Crucimatrillux". A café adjacent to the Crucimatrillux artwork is located on a property within the square known as 1 Chifley Square and which is owned by the City. Several Cabbage Tree Palms are located within the square.



Figure 4: Chifley Square

Adjoining Development

15. Development adjoining the site is as follows:

- West: on the western side of Phillip Street is Qantas House, containing retail and office uses, the Sofitel Wentworth Hotel, and 25 Bent Street known as the Union, University and Schools Club on the corner of Phillip and Bent Streets.
- North: on the northern side of Bent Street is “Aurora Place” containing a 41-storey commercial tower, and an 18-storey residential building known as the “Macquarie Apartments”.
- South: on the opposite side of Hunter Street is 126 Phillip Street, known as Deutsche Bank Place, a 37-storey commercial tower, and 183 Macquarie Street, a 15-storey commercial building. To the south west is 8-12 Chifley Square, a commercial office building of approximately 24 storeys, which includes an extension of the public domain at street level.
- East: Located to the east of the site are two heritage listed properties in Macquarie Street known as “Wyoming”, an 8-storey commercial building, and “Horbury House”, a three-storey commercial building. Further north, at 165-169 Macquarie Street (also known as 167 Macquarie Street) is a 20-storey mixed use building known as Macquarie House, which also adjoins part of a northern boundary with the site.



Figure 5: Qantas House (left) and 8-12 Chifley (right)



Figure 6: Wyoming (left) and Horbury House (right)

Development intent for the site

16. The proposal is to facilitate the construction of a second tower on the site, south of the existing Chifley Tower. The two towers would share the one podium, which would be redesigned to accommodate the operation of the second tower.
17. The existing vehicle access to the basement carpark from Bent Street will be retained, with the basement reconfigured to accommodate the new tower, including new plant and core, and the reduction in car parking and removal of the commercial public car park. The overall depth and extent of the basement is not proposed to change.
18. The proposed scheme envisages a new commercial tower up to the height of The Domain Sun Access Plane, approximately 37 storeys at its maximum point.
19. The indicative development proposes approximately 131,891 square metres of floor space across the existing and proposed towers which would provide for commercial uses including office, retail, and food and beverage uses at lower levels.

Planning Proposal - amendments to the LEP

20. In November 2021, the Central Sydney Planning Committee and Council approved the planning proposal to deliver a second commercial tower on the site to be submitted for a Gateway Determination, and for public exhibition. The Gateway Determination was issued by the Department of Planning and Environment on 8 February 2022.
21. The planning envelope approved by the Central Sydney Planning Committee and Council was informed by design advice from the Design Advisory Panel (DAP) and review by City staff, to ensure future development will be consistent with the Central Sydney Planning Strategy and contribute to the vision and aims of the Strategy.
22. The planning proposal at Attachment B proposes to amend the LEP to insert new site-specific provisions for 2 Chifley Square. The objectives of the provisions are:
 - (a) to permit new development that demonstrates the appropriate distribution of built form and floor space that is consistent with the surrounding context;
 - (b) allowing a net addition of 44,108 square metres of above ground floor space on the site, inclusive of design excellence bonus.

- (c) allowing for an additional 1,931 square metres of below ground floor space, to accommodate the application end of journey facility floor space. The proposed wording of the controls will allow for the end of journey facility floor space to be located below ground, or if these facilities are to be located above ground floor, an equivalent amount of other floor space permitted by the planning proposal below ground;
- (d) allow a total FSR of 20.63:1 on the site, with a maximum above ground FSR of 20:33:1 and providing for an additional below ground FSR of 0.3:1;
- (e) specifying that the maximum floor space for the site includes any additional floor space available as a result of the design competition, if the building demonstrates design excellence, noting the total above ground floor space to be the subject of the competitive design process is 64,654 square metres covering approximately 44 per cent of the site;
- (f) excluding the application of shared loading dock floor space provisions in the LEP from this site;
- (g) include provisions to require the purchase and allocation of heritage floor space, through the application of accommodation floor space; and
- (h) development consent can only be granted if the proposal delivers employment generating uses and includes the removal of the public car park.

Draft Development Control Plan

23. A site-specific draft development control plan (draft DCP) is at Attachment C to this report and provides further guidance for development of the site consistent with the LEP amendments. The draft DCP provisions include:

- maximum building envelope;
- street wall heights;
- setbacks;
- design interface to Chifley Square;
- active frontages;
- wind;
- parking and vehicular access;
- design excellence strategy;
- pedestrian connection through the podium;
- environmentally sustainable development targets; and
- public art.

24. It is recommended that Council approve the draft DCP, shown at Attachment C to this report, to come into effect on the making of the local environment plan.

Voluntary Planning Agreement

25. The VPA at Attachment D to this report was prepared and exhibited concurrently with the planning proposal and draft DCP. The public benefits secured through this VPA include:
- monetary contribution towards community infrastructure which aligns with and offsets the 3 per cent required under the Central Sydney Contributions Plan and payable at construction certificate stage;
 - provision of on-site public art;
 - driveway break-through panel adjoining 167 Macquarie Street to be available for shared driveway access if that site redevelops;
 - \$900,000 for public domain upgrades to Chifley Square or public domain in the vicinity of the site; and
 - leading environmental sustainability commitments including delivery of a minimum 6 star Green Star Building rating, and that a future building is capable of meeting the City's net zero energy requirements.

Key Implications

Outcomes of public exhibition and public authority consultation

26. The planning proposal, draft DCP and planning agreement were exhibited from 22 April to 27 May 2022.
27. The City sent approximately 630 letters to nearby landowners and occupants to notify them of the public exhibition and provided information on how to view the supporting documentation, which was featured on the City's Sydney Your Say website.
28. A total of 10 submissions were received in response to the exhibition.
29. The City's response to the issues raised in submissions are discussed below and in the submissions table at Attachment A.

Public agency submissions

30. Public agency consultation was carried out in accordance with the Gateway Determination. Transport for NSW, Sydney Metro, Heritage NSW, Sydney Airport Corporation, Air Services Australia, Sydney Water, and Ausgrid and were all consulted.
31. Transport for NSW raised no objections to the planning proposal, and supported the reduction in car parking on the site due to the site's proximity to public and active transport.

32. Sydney Metro advised that concurrent approval for a future DA on the site would be required under the Transport and Infrastructure SEPP, if new development may impact the rail corridor. This could include any subsurface structures needed for a new tower. It was recommended that minimal or no on-site tenant commercial parking is preferred, noting that the proposal includes a commitment to reduce the number of existing car parking spaces on the site. Sydney Metro also recommended that pedestrian modelling be undertaken to consider movements to and from nearby Metro stations, and the need for infrastructure improvements. This issue is discussed in detail below.
33. Heritage NSW advised that the planning proposal is unlikely to have any direct physical impact on any State heritage items, although may have visual impacts on the former Qantas House building. It was recommended that Council ensures the DCP provisions regarding the presentation of a new building to Chifley Square are taken into consideration as part of the design competition required for the site. It is noted that existing heritage controls in the Sydney LEP 2012 and Sydney DCP 2012 address this issue. The submission added that the retention of The Domain Sun Access Plane control was appropriate to protect the state heritage registered Royal Botanic Gardens and Domain. Impacts on local heritage items, including the buildings known as Horbury House and Wyoming east of the site in Macquarie Street, and Chifley Square are to be assessed by Council, as the consent authority.
34. Sydney Airport and the CASA raised no objection to the proposal but noted that due to the height of the planning envelope, any future detailed development application would require controlled activity approval from Sydney Airport.
35. Sydney Water advised that asset upgrades complying with the Water Services Association of Australia (WSAA) Code - Sydney Water edition may be necessary to service the additional uplift in development yield of approximately 43,608sqm of additional gross floor area resulting from the planning proposal. The development should consider recycled water options in line with Council strategies, and this issue will be addressed as part of the detailed design for a DA for future development on the site. It was also recommended that the proponent holds an inception meeting with Sydney Water as soon as possible after they have prepared a detailed concept servicing proposal.
36. Ausgrid did not provide the City with a submission on this planning proposal.

Landowner submission

37. The submission by Ethos Urban, on behalf of the Charter Hall, the owner of 2 Chifley Square, raised three issues in relation to the exhibited planning proposal. These were:
 - a request to reduce the eastern setback, and as a result, increase the maximum available GFA and resultant FSR on the site;
 - clarifying the proposed maximum GFA and FSR for the site with the inclusion of end of journey facility floor space; and
 - ecological sustainable development controls in the draft DCP.
38. These issues raised by the proponent are discussed in detail below.

Submissions from land owners in the vicinity

- 39. The Royal Botanic Gardens and Domain Trust supported the retention of The Domain Sun Access Plane as the maximum height control, in order to limit the impact of sun loss on the health and appearance of the Gardens. The submission also requested that the proposal ensures that any glazing on the tower must not result in reflectivity of sunlight into the Domain and Garden. This issue is discussed in detail below.
- 40. A letter of support was received from the owner of 175-181 Macquarie Street, the locally heritage listed building known as Wyoming on the corner of Macquarie Street and Hunter Street. The submission included support for the reduced eastern setback requested by the proponent, with an easement for maintenance, light and air. This issue is discussed in detail below.
- 41. The owner of 60 Martin Place, on the corner of Martin Place and Macquarie Street, raised concerns about the eastern setback of the exhibited planning envelope and resultant impacts on views from 60 Martin Place. This issue is discussed in detail below.

Discussion of issues raised in submissions

Eastern setback of planning envelope

- 42. The proponent, Charter Hall, requested a reduction of the eastern setback of the planning envelope, from 2m - 4.7m to 0m - 3.3m, as shown in the plan at figure 7 below. The change is not supported for the reasons discussed below.
- 43. The additional area of the envelope resulting from the requested reduced setback is depicted in green:

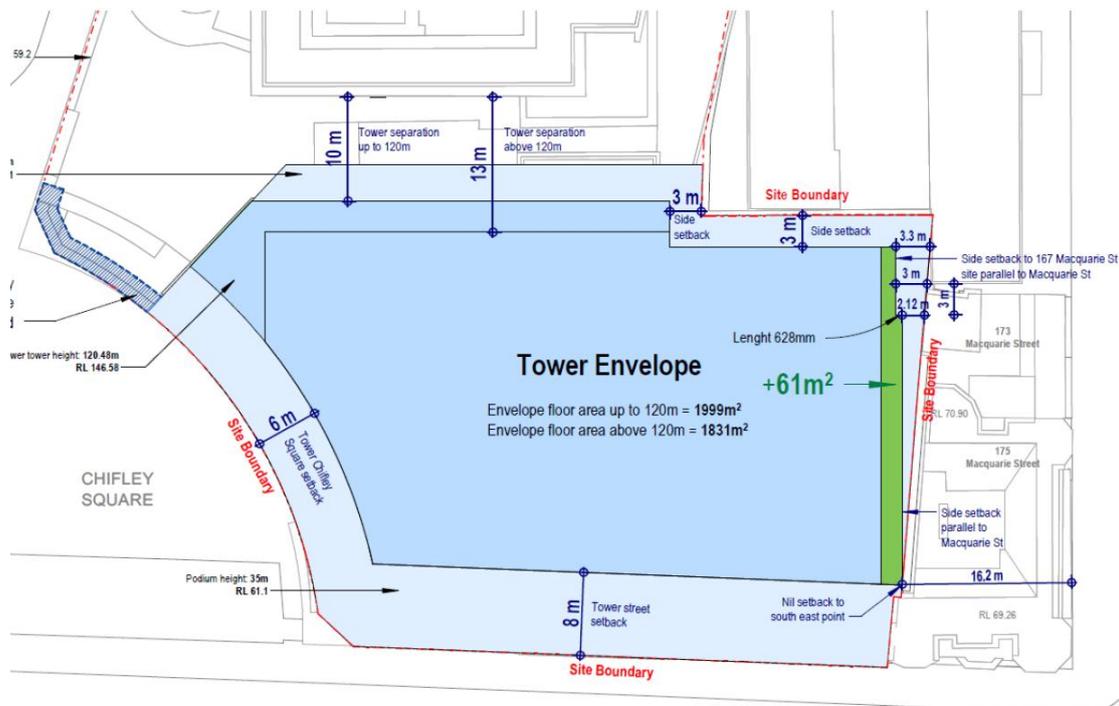


Figure 7: Requested change to eastern setback of planning envelope

44. The plan shows this reduction in setback would result in an additional 61sqm of floor area, or a total increase 1,026sqm for the whole planning envelope, although this does not factor in building efficiency and articulation allowances.
45. The Central Sydney planning controls allow for setbacks to be reduced subject to there being no overall reduction in amenity (wind and sky view) in public places, and that urban design outcomes are still achieved. The request to reduce the eastern setback was accompanied by sky view factor and wind reports, to demonstrate that the proposed envelope would result in a better outcome in the public domain compared to the base case envelope.
46. Urban design and heritage impacts were a key consideration in the assessment of a suitable planning envelope on this part of the site. In response to concerns raised by the Design Advisory Panel (DAP) about the original proposed envelope, a DAP subcommittee was formed. One of the key issues considered were setbacks, including tower envelope setbacks to the eastern boundary to provide for appropriate building separation, and separation of massing to the two local heritage items at 171-173 and 175-181 Macquarie Street known as 'Horbury House' and 'Wyoming'. The eastern setback of the planning envelope was also established to be sympathetic to the building alignment in Macquarie Street, and provide for a built form to support attractive streetscapes with high amenity. The 2 metre setback was seen as a minimum, as the DAP subcommittee had given consideration to an even greater setback to Macquarie Street for urban design and amenity outcomes.
47. Macquarie Street has important heritage significance, as it includes local, state, and world heritage items, and is included in the Macquarie Street Special Character Area. In addition, the Federal Government has proposed to include the Governors' Domain and Civic Precinct as part of the National Heritage List. This listing is proposed to include Macquarie Street, and Horbury House in particular. Part of the significance of this precinct is the development of Macquarie Street with its early colonial architecture as important milestones in the creation this distinctive civic precinct, with later buildings within the precinct continuing to respect the inherited civic intentions for this area. It is therefore considered that the setback of the planning envelope as exhibited should be retained in order to respect these important heritage considerations.
48. Although the owner of the property at 175-181 Macquarie Street, known as 'Wyoming' provided a submission supporting the reduced setback and advising they would support an easement for maintenance, it is not considered to outweigh the urban design and heritage impacts that would result from a reduced or nil setback from a heritage item.
49. A submission was received from the owner of 60 Martin Place raising concerns that the eastern setback of the planning envelope approved by the Central Sydney Planning Committee and Council, of 2m - 4.7m should be increased to comply with the DCP requirement of 6.5m, and have chamfered corners, due to impacts on view loss from 60 Martin Place. The submission included a photo from level 21 of 60 Martin Place, at Figure 8, with the approximate extent of the proposed envelope shown, and potential view loss extent in red hatched area.



Figure 8: Photo from the Investa submission with estimated view loss from 60 Martin Place

50. The Central Sydney Planning Strategy allows for setbacks to be reduced subject to there being no overall reduction in amenity (wind and sky view) in public places, and that urban design outcomes are still achieved. The proposed envelope did not require chamfered corners due to the sky view and wind testing of the envelope resulting in an improvement on the base case envelope, satisfying the requirements of the DCP.
51. The Central Sydney Planning Strategy prioritises views from public places but does not protect views from private places. Protecting private views in Central Sydney would constrain reasonable development that would help achieve the economic objectives for Central Sydney due to the density and heights of buildings.
52. The City's analysis of the existing and potential views from 60 Martin Place is at Figure 9. The existing views in a northerly and westerly direction from the location indicated in the submission are restricted by existing buildings including Chifley Tower, Deutsche Bank Place at 126-144 Phillip Street, and the building at 167 Macquarie Street. Although it is acknowledged that a small portion of existing views would be impacted by the proposed planning envelope, extensive scenic views of the Sydney Opera House, The Domain, the Harbour and distant views eastwards would be retained. The loss of views from 60 Martin Place are not considered to warrant an even greater setback to the eastern boundary than that endorsed by CSPC and Council.
53. It is also noted that the planning proposal and draft DCP provide an envelope that a future building will be contained within. The final tower form will be established through the architectural design competition.

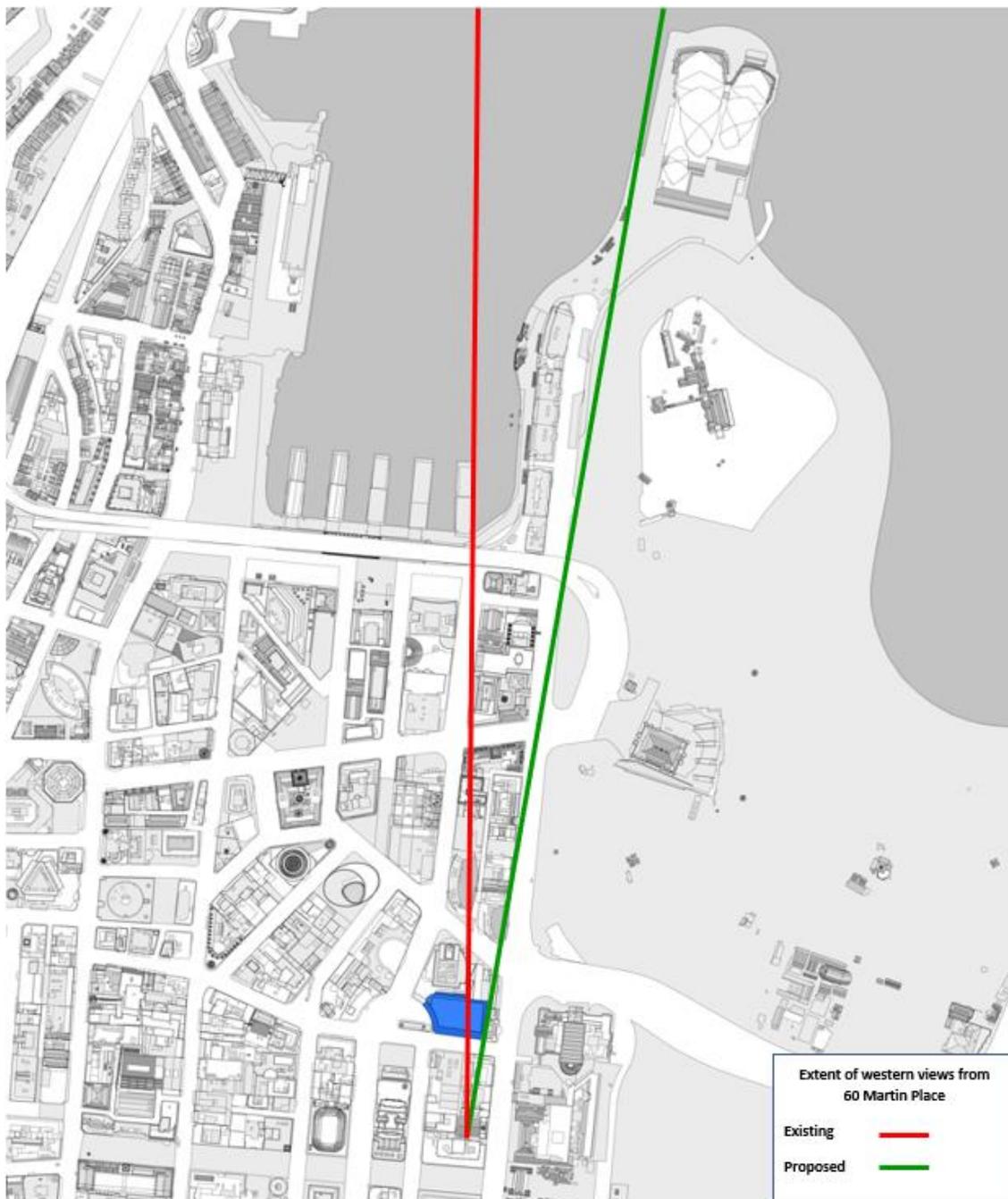


Figure 9: Comparison of existing and potential view extents westwards from 60 Martin Place, Sydney

End of Journey Floor Space

54. In their submission, Ethos Urban/Charter Hall sought to clarify whether the maximum FSR proposed for the site included the ability to utilise Clause 6.6 - End of Journey Floor Space for a future development application.
55. Clause 6.6 - End of Journey Floor Space in the LEP allows for a building in Central Sydney that is used only for commercial premises to be eligible for up to an additional 0.3:1 of floor space, that is used solely for the provision of end of journey facilities. These types of facilities are identified as showers, change rooms, lockers and bicycle storage areas.

56. The City undertook detailed testing of the refined planning envelope to determine the maximum GFA and FSR for the site. The City's testing included the assumption that 0.3:1 of additional floor space for end of journey facilities would be provided in the basement, as detailed in the proponent's reference plans and documentation, utilising the provisions of Clause 6.6 of the LEP.
57. To clarify the maximum FSR for the site, the example clauses contained in Appendix 1 of the Planning Proposal have been amended to state that the maximum floor space ratio for the site is 20.63:1, but limits the above ground floor space to a maximum FSR of 20:33:1. The example clauses provide flexibility for a future development application to utilise clause 6.6 of the LEP to locate up to 0.3:1 of end of journey facility floor space below ground level, or locate the end of journey facilities partially or wholly above ground level, with an equivalent amount of floor space, which is permitted under the planning proposal, for other uses located below ground.

Ecologically sustainable development

58. Amendments to the ecologically sustainable development provisions for this site were requested by Charter Hall. Most of these changes accepted relate to differentiating between the existing development and new development as proposed. The changes clarify when the controls apply, refine the refrigeration requirements, and amend the net zero controls to be consistent with the City's draft net zero provisions for the whole council area.
59. These changes have been included in the draft Development Control Plan at Attachment C of this report.

Sydney Metro Martin Place station impacts

60. One of the recommendations from Sydney Metro was for pedestrian movements to and from nearby Metro stations to the proposed building location be considered, including the need for any new or improved infrastructure.
61. Infrastructure upgrades to address projected increased pedestrian traffic resulting from the operation of the future Hunter Street Metro Station were addressed in the EIS for Sydney Metro City and South West (Chatswood to Sydenham). The EIS states that based on site observation and pedestrian modelling of the station and streetscape around Martin Place, three locations in the vicinity of 2 Chifley Square were identified that could result in potential for safety risks or impacts to pedestrian flow and / or traffic as a result of the metro station. These locations include:
 - intersection of Hunter Street, Castlereagh Street and Bligh Street;
 - Hunter Street (west of Castlereagh Street) which would operate at a level of service C in the AM and PM peak hours; and
 - Martin Place mid-block crossing of Castlereagh Street.
62. At the intersection of Hunter and Castlereagh Streets, potential upgrades could include increasing crossing capacity to reduce queue lengths, particularly in the morning peak, and deterring informal crossings. This could include the provision of an underground pedestrian connection from the station platforms to O'Connell Street and / or Bligh Street. In addition, other treatments could include:
 - widening of the pedestrian crossing at Castlereagh Street, which would increase the pedestrian throughput without affecting cycle-times;

- increase the pedestrian green-time, which would increase the pedestrian throughput by extending the proportion of green-time per cycle at the intersection; and
 - decrease overall cycle-time, which would increase the frequency of green-time for pedestrians over a given period of time.
63. Other options could include removing or reducing street furniture and other obstructions to increase the effective width of the footpath.
64. The EIS stated that these mitigation options would be investigated further in consultation with Transport for NSW's CBD Co-ordination Office, the City of Sydney Council and Roads and Maritime Services.
65. It is also noted the Conditions of Approval issued by the Minister for Planning for the Sydney Metro City and South West (Chatswood to Sydenham) project included conditions requiring:
- the establishment of a Traffic and Transport Liaison Group(s) to inform traffic and transport management measures during construction and operation of the metro; and
 - supplementary analysis and modelling to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations, public including changes to and the management of pedestrian, bicycle and public transport networks transport services, pedestrian and cyclist movements.
66. The City supports the approach identified in the EIS, and the requirements under the Conditions of Approval for the Sydney Metro City and South West (Chatswood to Sydenham). These are considered to be the most appropriate and effective ways to address traffic and pedestrian impacts from the Metro stations, especially given Transport for NSW and the City's role in managing the street network and public domain.

Reflectivity

67. The submission by The Royal Botanic Gardens and Domain Trust requested that design controls ensure that any glazing on the tower must not result in reflectivity into the Domain and Garden. The current Sydney DCP 2012 includes provisions for reflectivity which will apply to a future development application. This will address the concern raised in the submission.

Other changes

68. Other changes made to the Planning Proposal are:

- (a) amendment the maximum floor space ratio for the site from 20.3:1 to 20.63:1, with a maximum above ground floor space ratio of 20.33:1. The floor space ratio of 20.3:1 approved for exhibition by the Central Sydney Planning Committee and Council was based on an estimated gross floor area on the site. The Gateway Determination required confirmation of the existing gross floor area of the site, which was confirmed by a survey submitted by the proponent. Further testing was also undertaken by the City during the public consultation period to confirm that the maximum gross floor area of the site. The total above ground gross floor area for the planning proposal was confirmed at 130,891 square metres, which is equal to a floor space ratio of 20.33:1. The testing assumed end of journey floor space in the basement of 0.3:1, as indicated in the proponent's reference scheme. The amended controls allow for flexibility in the location of the end of journey floor space either above or below ground, without compromising the tested and exhibited planning envelope.
- (b) amendments to the references to design excellence controls in the LEP, following changes to these resulting from the finalisation of the Central Sydney Planning Proposal in November 2021.
- (c) a provision added to exclude the application of Clause 6.5A - Shared loading dock facility floor space to the planning proposal. This clause was added to the LEP after the planning proposal was considered and approved for public consultation by the Central Sydney Planning Committee and Council in November 2021. This clause, which could allow for additional floor space greater than that able to be accommodated within the planning envelope, will therefore not apply to this planning proposal. A potential shared loading dock is being secured through the planning agreement.
- (d) amendments to Appendix 1 - Example clauses in the Planning Proposal have been made to reflect the above changes.

69. Other changes to the draft DCP are:

- (a) amendments to clarify the application of building energy requirements on the site, and for consistency with the City's net zero proposal as exhibited;
- (b) amended design excellence provisions to reflect the changes resulting from the adoption and implementation of the Central Sydney Planning Framework in November 2021; and
- (c) removal of the provision to allow alternative massing on the site, due to the detailed consideration and testing that was undertaken of the planning envelope that was approved for public consultation.

Strategic Alignment - Sustainable Sydney 2030-2050 Continuing the Vision

70. As the economic heart of Australia's most global city, Central Sydney plays a critical role in the continued growth and economic success of Greater Sydney, the state and national economy. The Central Sydney Planning Strategy sets a planning approach to grow employment and productivity, create high quality places and deliver on Sustainable Sydney 2030-2050 Continuing the Vision.

71. The Strategy includes opportunities for additional height and density in the right locations, balanced with environmental sustainability initiatives, and sets criteria for excellence in urban design.
72. This planning proposal is aligned with the following relevant key moves of the Central Sydney Planning Strategy:
 - (a) Key Move 1: Prioritise employment growth and increase capacity - this planning proposal will facilitate additional commercial and business floor space in the City Core precinct, increasing the capacity and contributing to growth and competitiveness of Central Sydney.
 - (b) Key Move 2: Ensure development responds to context - by ensuring compliance with wind and daylight requirements, this planning proposal ensures future development is responsive to its context and will not result in adverse impacts in the public domain.
 - (c) Key Move 5: Ensure infrastructure keeps pace with growth - in accordance with the Guidelines, this proposal facilitates a contribution towards community infrastructure in Central Sydney.
 - (d) Key Move 6: Move towards a more sustainable city - the draft DCP for the subject site includes sustainability targets in accordance with the Strategy and Guidelines.
 - (e) Key Move 7: Protect, enhance expand Central Sydney's heritage, public places and spaces - the proposed built form responds to nearby heritage, public spaces such as Chifley Square, and surrounding streets.
 - (f) Key Move 8: Move people more easily - the subject site is well located to capitalise on existing and planned public and active transport investment including the light rail, metro and upgrades to the pedestrian network, making it easier for people to move in Central Sydney.
 - (g) Key Move 9: Commitment to design excellence - future development will be subject to an architectural design competition.

Strategic Alignment – Regional and Local Planning

73. The Greater Sydney Commission's Greater Sydney Region Plan and Eastern City District Plan are used to shape strategic planning and infrastructure in metropolitan Sydney and align planning from the broadest regional area to the local area. The City's Local Strategic Planning Statement sets the overall land use planning strategy for the city which is required to align with the Region and District Plans. The City's planning controls are then required to give effect to the strategic plans.
74. The Region Plan, District Plan and Local Strategic Planning Statement adopt planning priorities of similar themes, being productivity, liveability, infrastructure, sustainability and governance. How this proposal gives effect to these priorities is discussed in detail in the planning proposal and summarised below:

- (a) **Productivity** - the proposal will deliver additional business, office and retail generating floor space close to existing and planned transport connections, including the Martin Place Metro station. It will also provide additional premium office space within the City Core precinct of Central Sydney. In addition to meeting this objective of the Greater Sydney Region Plan, the proposal gives effect to productivity strategic planning priorities, particularly:
- (i) Eastern City District Plan Priorities
 - a. E7 - Growing a stronger and more competitive Harbour CBD
 - b. E10 - Delivering integrated land use and transport planning for a 30 minute city
 - c. E11 - Growing investment, business opportunities and jobs in strategic centres
 - d. E13 - Supporting growth of targeted industry sectors
 - (ii) Local Strategic Planning Statement Priorities
 - a. P1 - Growing a stronger, more competitive Central Sydney
- (b) **Liveability** - the planning proposal includes the maximisation of retail activation and provision of a pedestrian connection through the site to improve the amenity of workers and visitors in the surrounding area. In addition to meeting this objective of the Greater Sydney Region Plan, the proposal gives effect to liveability strategic planning priorities, particularly
- (i) Eastern City District Plan Priorities
 - a. E6 – Creating and renewing great places and local centres, and respecting the District’s heritage
 - (ii) Local Strategic Planning Statement Priorities
 - a. L2 - Creating great places
- (c) **Infrastructure** - redevelopment of the site will benefit from the planned additional transport infrastructure capacity and will contribute towards new community infrastructure to be delivered in Central Sydney. In addition to meeting this objective of the Greater Sydney Region Plan, the proposal gives effect to the infrastructure strategic planning priorities particularly:
- (i) Eastern City District Plan Priorities
 - a. E1 - Planning for a city supported by infrastructure
 - (ii) Local Strategic Planning Statement Priorities
 - a. I1 - Movement for walkable neighbourhoods and a connected city
 - b. I2 - Align development and growth with supporting infrastructure
- (d) **Sustainability** - the planning proposal will facilitate the redevelopment of the subject site with improved sustainability outcomes. In addition to meeting this objective of the Greater Sydney Region Plan, the proposal gives effect to the sustainability strategic planning priorities particularly:

- (i) Eastern City District Plan Priorities
 - a. E19 - Reducing carbon emissions and managing energy, water and waste efficiently
- (ii) Local Strategic Planning Statement Priorities
 - a. S2 - Creating better buildings and places to reduce emissions and water and use water more efficiently

Strategic Alignment- Sustainable Sydney 2030-2050 Continuing the Vision

75. Sustainable Sydney 2030-2050 Continuing the Vision renews the communities' vision for the sustainable development of the city to 2050. It includes 10 strategic directions to guide the future of the city, as well as 10 targets against which to measure progress. This plan is aligned with the following strategic directions and objectives:
- (a) Direction 2 - A leading environmental performer - the draft DCP that accompanies this planning proposal delivers ambitious sustainability targets for future development on the site.
 - (b) Direction 3 - Public places for all - the draft DCP will have controls to support activation in this part of the city, contributing to a livelier, engaging city, including active frontages at key locations, pedestrian connections through the site, and delivery of public art.
 - (c) Direction 4 - Design excellence and sustainable development - the proposal is consistent with the Central Sydney Planning Strategy and future development will go through a design competition and be required to achieve sustainability benchmarks.
 - (d) Direction 5 - A city for walking, cycling and public transport - the existing development provides a through site link connecting Bent Street with Chifley Square and Hunter Street. The DCP will include a control for pedestrian connections through the podium to be retained, linking Bent Street with Hunter Street. The subject site is well located to capitalise on existing and future public transport infrastructure at Circular Quay, Wynyard, and Martin Place train stations, bus stops, light rail stops and the future Martin Place Metro station, and new future Metro station in Hunter Street.
 - (e) Direction 7 - Resilient and diverse communities - this planning proposal will enhance the City Core precinct with increased business opportunities for investment, employment and opportunities for upgrading the quality of the public domain for workers and visitors.
 - (f) Direction 8 - A thriving cultural and creative life - the draft DCP includes provisions to ensure public art is delivered on site, supporting creative and cultural experiences.
 - (g) Direction 9 - A transformed and innovative economy - the proposal will support and foster new employment and investment opportunities through the provision of employment generating floor space.

Relevant Legislation

76. Environmental Planning and Assessment Act 1979.
77. Environmental Planning and Assessment Regulation 2000.

Critical Dates / Time Frames

78. The Gateway Determination requires that the amendment to the Sydney LEP 2012 is completed by 22 November 2022.
79. The Gateway Determination authorises Council to exercise this delegation and liaise directly with Parliamentary Counsel to draft and make the local environmental plan. If the planning proposal is approved by Council and CSPC, the City will commence this process. Once this process is complete and the plan is made, the amendment to the Sydney LEP 2012 will come into effect when published on the NSW Legislation website.
80. If approved by Council, the revised DCP will come into effect on the same day as the amendment to the LEP.
81. The planning agreement is to be executed prior to the finalisation of the amendments to the LEP and DCP.

GRAHAM JAHN AM

Director City Planning, Development and Transport

Michelle Cramsie, Specialist Planner

Attachment A

**Summary of Submissions
2 Chifley Square, Sydney**

No.	Submitter	Submission	Response
1.	Transport for NSW	No objection raised to the proposal given the location of the proposal within Central Sydney and proximity to excellent public and active transport. Noted the intended reduction of future car parking by 50% despite increased development yield is consistent with the City's objectives of minimising vehicular traffic associated with development. This approach provides further incentives for future office workers to utilise existing and future public transport services around the site.	Noted.
2	Sydney Metro	<p>Sydney Metro West tunnels and caverns are proposed to be located directly beneath the location of the proposed additional tower on the site. Sydney Metro considers it appropriate to engage in ongoing discussions with the proponent to gain a better understanding of the potential location and nature of substratum structure required for the development. Notes the Transport and Infrastructure SEPP gives Sydney Metro a concurrence role in respect to development within rail corridors</p> <p>Due to close proximity of the site to two future Sydney Metro stations and other public transport, Sydney Metro encourages minimum, or ideally no on-site parking be available for tenants or employees.</p> <p>The submissions stated that pedestrian modelling should consider pedestrian movements to/from nearby Metro Stations to the proposed building location. The pedestrian modelling report should consider the need for new infrastructure or if improvements to the existing infrastructure are required, which may include improvements to any zebra-crossing/refuge-island, any modification required to the pram-ramps, crossing width, signal phasing, signal cycle timing, signal coordination etc.</p>	<p>A development application using the proposed controls for the site will require concurrence from Sydney Metro under the Transport and Infrastructure SEPP</p> <p>The proposal includes a commitment to reduce the number of existing car parking spaces on the site.</p> <p>The City considered whether pedestrian modelling as suggested would be of benefit in this case. It was considered that the commitments in the Environmental Impact Statement prepared for Sydney Metro South West (Chatswood to Sydenham), and the Conditions of Approval to address traffic and pedestrian impacts from the Metro station would be more appropriate for addressing traffic impacts and required improvements resulting from the Metro station. These commitments and conditions require the relevant public authorities responsible for the road network, including the City, to coordinate the planning and implementation of any roadwork upgrades required to address safety and amenity in the vicinity of the stations.</p>
	Heritage	<p>State heritage items</p> <p>The proposal is unlikely to have a direct physical impact on any state heritage items, although there are potential visual impacts on the state heritage listed 'former Qantas</p>	Noted. The competition brief for the design competition is to consider the DCP controls, including provisions relating to heritage.

Summary of Submissions - 2 Chifley Square, Sydney – Planning Proposal

No.	Submitter	Submission	Response
		<p>House'. Noting the Heritage Impact Assessment submitted with the proposal and the draft Development Control Plan, Heritage NSW recommends that the City ensures the DCP provisions are taken into consideration in the architectural competition</p> <p>Support the proposed envelope not exceeding The Domain Sun Access Plane to protect sun access to the State Heritage Register listed 'The Royal Botanic Gardens and Domain'</p> <p>Local heritage items</p> <p>These are the responsibility of Council as the consent authority, no issues raised.</p>	<p>Noted. See comments below in relation to the submission from the Royal Botanic Gardens re protection of greenspace amenity</p> <p>Noted. Impacts on heritage items, including adjoining items fronting Macquarie Street, have been considered as part of the proposal.</p>
4	Sydney Airport	<p>Concurrence/consultation – At a proposed maximum height of 213.54 AHD, the proposed development would penetrate Sydney Airport's Obstacle Limit Surface (OLS) is 156m AHD, anything penetrating the protected airspace would be subject to assessment and approval under Federal legislation. Notes construction cranes required to operate at a height significantly higher than the proposed development may not be approved, and therefore approval to operate construction equipment should be obtained prior to any commitment to constructed.</p> <p>The current ANEF for which Council may use as the land use planning tool for Sydney Airport was endorsed by Airservices in December 2012 (Sydney Airport 2033 ANEF). If affected, land uses which have high population densities should be avoided</p>	<p>Noted. A development application will require concurrence from Sydney Airport as the proposed works penetrating the OLS. This is consistent with clause 7.16 of the LEP and under the Airports Act 1996.</p> <p>Noted. The site is not affected by the Sydney Airport 2033 ANEF</p>
5	Civil Aviation and Safety Authority (CASA)	<p>Sydney Airport controlled activity – CASA did not raise any objections to the proposed envelope, with CASA to assess a future development application for a new building on the site.</p>	<p>Noted. A development application will require concurrence from CASA.</p>
6	Sydney Water	<p>Note asset upgrades may be necessary to service the additional uplift. Recommends meeting with Sydney Water after a detailed concept servicing proposal for the site has been prepared</p> <p>The development should consider recycled water options in line with Council strategies</p>	<p>Noted, these issues will be addressed at the detailed design DA stage.</p>

No.	Submitter	Submission	Response
7	Royal Botanic Gardens	<p>Support retention of The Domain Sun Access Plane as the maximum height control for the site.</p> <p>Glazing on the tower must not result in reflectivity into the Domain and Garden due to risk of reflected heat from eastern façade directed into the greenspace and creating heat stress on the trees and vegetation which forms part of the general greenspace amenity and the Living Scientific Collection of the Trust</p>	<p>Noted</p> <p>Section 3 of the Sydney DCP 2012 contains a control regarding reflectivity, and this would apply to future development on the site.</p>
8	Owner 175 Macquarie Street	<p>State they have reached agreement with the owners of 2 Chifley Square for a nil setback to the eastern boundary of their site which adjoins 2 Chifley Square, up to a height of 55m, including an easement for light and air in perpetuity</p>	<p>Noted, urban design and heritage considerations have informed the setback.</p>
9	Investa – 60 Martin Place	<p>Supports the principles of the CSPS to facilitate additional floor space to support economic growth, but needs to be carefully designed to not have unreasonable impacts on buildings or the public domain.</p> <p>The proposed eastern boundary setback will adversely impact on the Macquarie Street Special Character Area and exacerbate amenity loss to adjacent buildings due to a reduction in outlook to the north-east, due to minimum 2m setback to eastern boundary.</p> <p>Does not assess the visual impact of the envelope when looking north along Macquarie Street from outside Parliament House, the most sensitive view.</p> <p>The proposal adversely impacts views and outlook from the existing 60 Martin Place tower. It should have a better balance in terms of the built form on the site and impacts on 60 Martin Place and other assets including 126 Philip Street. The tower form should be further chamfered at a height around 55, equivalent to 167 Macquarie Street to reduce scale and bulk seen from Macquarie Street.</p>	<p>Noted. The CSPS allows for setbacks of planning envelopes to be reduced subject to no overall reduction in amenity, for wind and sky view, in public places, and that urban design considerations support the reduced setback. As the proposed envelope was able to demonstrate a better outcome for wind and sky view impacts, chamfering of corners was not required.</p> <p>The planning proposal relates to an envelope for a future building and not the final tower form which will be established through the architectural design competition</p> <p>Although a small portion of views from 60 Martin Place would be lost, views to the Sydney Opera House, Sydney Harbour, The Domain and distant views east are retained.</p>
	Charter Hall (proponent)	<p>Request an amendment to the planning envelope by reducing the eastern tower setback</p> <p>This request was supported by agreements from the landowner of 175-181 Macquarie Street to secure agreements for a nil setback and easement for light, air and maintenance. Reducing this setback would add a GFA of 1,206sqm to the planning envelope.</p>	<p>The eastern setback in the planning proposal was a result by consideration of a Design Advisory Panel subcommittee and endorsed by CSPC and Council, and considered urban design and heritage impacts, especially the significant heritage status and character of Macquarie Street.</p>

No.	Submitter	Submission	Response
		<p>Request the planning proposal include a clarification for the end of journey floor space</p> <p>Clarification was sought as to whether the maximum FSR for the site included the ability to utilise the additional floor space provisions of Clause 6.6 – End of Journey Floor Space as part of a future DA for the site.</p> <p>Ecologically Sustainable Development controls</p> <p>It was requested that amendments be made to the ecologically sustainable development provisions in the draft DCP. These include clarification of the building energy ratings to apply to the new development on the site, and that the controls are achievable while still meeting the ESD commitments.</p>	<p>Clause 6.6 allows for an equivalent of 0.3:1 of end of trip facilities to be provided as additional floor space. The City's testing of the GFA for the site assumed the inclusion of end of trip facilities in the basement, as detailed in the reference scheme design. The example clauses for the site in Appendix 1 of the Planning Proposal has been updated to provide clarification on the provision of end of trip facilities in the basement of the site.</p> <p>Most of the changes accepted relate to differentiating between the existing development and new development as proposed. The amendments to the controls clarify when the controls apply, refine the refrigeration requirements, and amend the net zero controls to be consistent with the City's draft net zero provisions for the whole council area.</p>

Attachment B

**Planning Proposal
2 Chifley Square, Sydney**

Planning Proposal: 2 Chifley Square, Sydney



Contents

Executive Summary	4
1. Site identification	6
2. Existing planning controls	11
3. Objectives and intended outcomes	16
4. Explanation of provisions	18
5. Justification	23
6. Mapping	39
7. Community consultation	40
8. Project timeline	41
Appendix 1	42

Table of figures

Figure 1. Land affected by this Planning Proposal	6
Figure 2. Aerial photo of the site	7
Figure 3. Looking east along Hunter Street	8
Figure 4. Looking north along Phillip Street	8
Figure 5. Looking east from The Domain	9
Figure 6. Chifley Square	9
Figure 7. Extract from Zoning Map in the Sydney Local Environmental Plan 2012	11
Figure 8. Extract from Height of Building Map in the Sydney Local Environmental Plan 2012	12
Figure 9. Extract of the draft The Domain Sun Access Plane in the Central Sydney Planning Strategy	12
Figure 10. Extract from Floor Space Ratio Map in the Sydney Local Environmental Plan 2012	13
Figure 11. Extract from Heritage Map in the Sydney Local Environmental Plan 2012	14
Figure 12. Photomontage of the proponent's reference scheme	15

Table 1: Indicative framework for the various floor space provisions applicable for 2 Chifley Square	19
Figure 13. Proposed planning envelope and The Domain Sun Access Plane	20
Figure 14. Location of proposed break-through panel to 167 Macquarie Street	21
Figure 15. Elevations of the indicative building envelope	25
Figure 16. Setbacks of the indicative building envelope	25
Table 3: Consistency with SEPPS and REPs	33
Table 4: Consistency with Ministerial Directions	34

Executive Summary

The City of Sydney (the City) has prepared this planning proposal for 2 Chifley Square, Sydney (the site), in response to a request from the applicant, Ethos Urban (on behalf of Charter Hall), for the City to prepare a planning proposal for the site.

This planning proposal explains the intent and justification for the proposed amendments to the Sydney Local Environmental Plan 2012 (LEP) as it applies to the site. This planning proposal has been prepared by the City in accordance with Clause 3.33 of the Environmental Planning and Assessment Act 1979 and the Department of Planning, Industry and Environment's 'A guide to preparing planning proposals' and 'A guide to preparing local environmental plans'.

The planning proposal will enable development on the site that will be consistent with the Central Sydney Planning Strategy and contribute to the vision and aims of the Strategy through new employment space, design excellence, and funding for improvements to local infrastructure and the public domain.

The site and existing development controls

The site is 6,438 square metres in area, and irregular in shape. The existing building comprises a podium covering most of the site, with a commercial tower, known as 'Chifley Tower' in the northern part of the site. The site has three street frontages, to Hunter Street along the southern boundary, Phillip Street along part of the western boundary, and Bent Street along part of the northern boundary. The south-western part of the site adjoins Chifley Square, a public place.

The site adjoins three properties, 167 Macquarie Street to the north-east, and two heritage properties known as "Wyoming" and "Horbury House" on Macquarie Street to the east.

Under the existing LEP controls, the site is zoned B8 Metropolitan Centre, permitting a broad range of uses including office, retail, commercial and residential uses. The site has a mapped floor space ratio of 8:1, with additional floor space available, including where the development exhibits design excellence. The maximum building height is determined by The Domain Sun Access Plane.

The planning proposal

The City has prepared this planning proposal following a detailed review of the proponent's planning proposal request and accompanying documentation.

This planning proposal seeks to insert a new site-specific clause in Division 6 of the LEP to:

- deliver an additional 43,608 square metres of **above ground** floor space to the site (inclusive of design excellence bonus)
- **deliver up to 1,931 square metres of below ground floor space to the site**
- restrict development to non-residential uses only
- allow development consent to only be granted if the removal of the operation of the commercial car park, is included in future development on the site.

The City has prepared a draft site-specific amendment to the Sydney Development Control Plan 2012 (draft DCP) to help ensure the objectives and intended outcomes of this planning proposal are achieved. The draft DCP includes controls relating to the built form of the proposed development, active frontages, public domain, public art, design excellence and sustainability. The City intends to publicly exhibit the draft DCP with this planning proposal.

Planning Proposal:
2 Chifley Square, Sydney

This proposal seeks to provide for additional floor space on the site to support future redevelopment delivering the following key benefits:

- provision of business, office and retail space with flexible contemporary floor plates – the future commercial office tower will expand the non-residential floor space on the site and increase Central Sydney’s capacity for business growth.
- improved built form outcome – the planning proposal will facilitate the delivery of a new commercial office tower to contain a net increase of up to approximately 44,108 square metres of commercial floor space. The proposed controls provide for a high-quality building to respond to surrounding development and public domain.
- public domain improvements – the draft DCP associated with the planning proposal includes controls for to the interface to Chifley Square, and activation of ground floor levels.
- car parking – the planning proposal will remove the commercial car parking from the site.
- ecologically sustainable development – the draft DCP associated with the planning proposal includes ambitious ecologically sustainable development benchmarks to ensure a net zero energy building is delivered.

This planning proposal has been amended since it was approved for exhibition by the Central Sydney Planning Committee and Council in November 2021, to reflect the changes resulting from the adoption of the Central Sydney Planning Framework in November 2021. Additional changes following the Gateway Determination and public exhibition include:

- ***amendment of the floor space ratio of the site from 20.3:1 to 20.63:1, with a maximum of 20.33:1 at or above ground level.***
- ***clarification that the overshadowing provisions for Chifley Square, removed as part of the Central Sydney Planning Framework, no longer apply.***
- ***clarification that shared loading dock facility floor space does not apply to the planning proposal.***
- ***Numbering changes following the Central Sydney Planning Framework amendments.***

1. Site identification

1.1 Site identification

This planning proposal relates to Lot 10 DP 777545, known as 2 Chifley Square, Sydney. This site is referred to in this report as 'the site' or '2 Chifley Square'. The site is shown at Figure 1.

Figure 1. Land affected by this Planning Proposal



**Planning Proposal:
2 Chifley Square, Sydney**

1.2 Site location

The site is located in Central Sydney, within the City of Sydney local government area.

The site is within 500 metres of several transport connections including Circular Quay and Wynyard railway stations and light rail stops and within 400 metres of St James Station. The Martin Place North Metro station, currently under construction will feature an entrance on Hunter Street between Elizabeth and Castlereagh Streets, around 100 metres of the site.

An aerial photo of the site and surrounding area is shown at Figure 2.

Figure 2. Aerial photo of the site



1.3 Site characteristics and context

The site is irregular in shape, and has total area of 6,438m². The site's southern boundary fronts Hunter Street for a length of approximately 51 metres, and the western boundary fronts Phillip Street for a length of approximately 75 metres. Part of the northern boundary fronts Bent Street for a length of 47 metres.

The existing development was approved by Council in 1988 and consists of a 5-storey podium and a 42-storey tower known as Chifley Tower in the northern part of the site. This tower breaches The Domain Park Sun Access Plane.

The lower three storeys of the podium contain the office tower lobby, and a range of retail, food and beverage facilities, as well as a gym and child-care centre. The two upper storeys of the podium contain office floor space. The main entrances to the podium are from Chifley Square and Phillip Street, with secondary entrances from Hunter and Bent Street.

**Planning Proposal:
2 Chifley Square, Sydney**

An internal pedestrian connection within the podium connects Bent Street and Hunter Street, over two levels.

Vehicular access to the basement is via a driveway from Bent Street, with separate entry and exit ramps. The existing basement contains 4 levels, with 13 loading dock spaces, and 361 car parking spaces, including 103 spaces operated as a public commercial car park. There also 200 bicycle spaces on the first basement level with end-of-trip facilities.

Figures 3 to 5 show the existing development on the site and adjoining land.

Figure 3. Looking east along Hunter Street



Figure 4. Looking north along Phillip Street



**Planning Proposal:
2 Chifley Square, Sydney**

Figure 5. Looking east from The Domain



The south-western corner of the site adjoins Chifley Square, which is owned by the City and zoned RE1 Public Recreation. It is also a heritage item of local significance. The square includes two artworks, the “Ben Chifley” structure, and a glass wall structure alongside Hunter Street known as “Crucimatrilux”. A café adjacent to the Crucimatrilux artwork is located on a property within the square known as 1 Chifley Square, owned by the City. Several Cabbage Tree Palms are located within the square.

Figure 6. Chifley Square



Planning Proposal:
2 Chifley Square, Sydney

Surrounding development comprises a mixture of commercial, retail, residential, and tourist accommodation uses. These are, in detail:

- West: On the western side of Phillip Street, Qantas House containing retail and office uses, the Sofitel Wentworth Hotel and 25 Bent Street, known as the Union, University and Schools Club on the corner of Phillip and Bent Streets.
- North: on the northern side of Bent Street is “Aurora Place” containing a 41-storey commercial tower and an 18-storey residential building, known as the “Macquarie Apartments”.
- South: on the opposite side of Hunter Street is 126 Phillip Street, known as Deutsche Bank Place, a 37-storey commercial tower, and 183 Macquarie Street, a 15-storey commercial building. To the south west is 8-12 Chifley Square, a commercial office building of approximately 24 storeys, which includes an extension of the public domain at street level.
- East: Located to the east of the site are two heritage listed properties in Macquarie Street: “Wyoming”, an 8-storey commercial building; and “Horbury House”, a three-storey commercial building. Further north, at 165-169 Macquarie Street (also known as 167 Macquarie Street) is a 20-storey mixed use building known as Macquarie House.

The subject site does not contain a heritage item, however it is located within the Chifley Square Special Character area which contains, and adjoins a number of heritage items, including:

- Chifley Square - I1708
- former “Qantas House”, 68-96 Hunter Street - I1811
- Wentworth Hotel, 61-101 Phillip Street - I1674
- Commercial Chamber “Wyoming”, 175-181 Macquarie Street - I1878
- Horbury House, 171-173 Macquarie Street – I1877

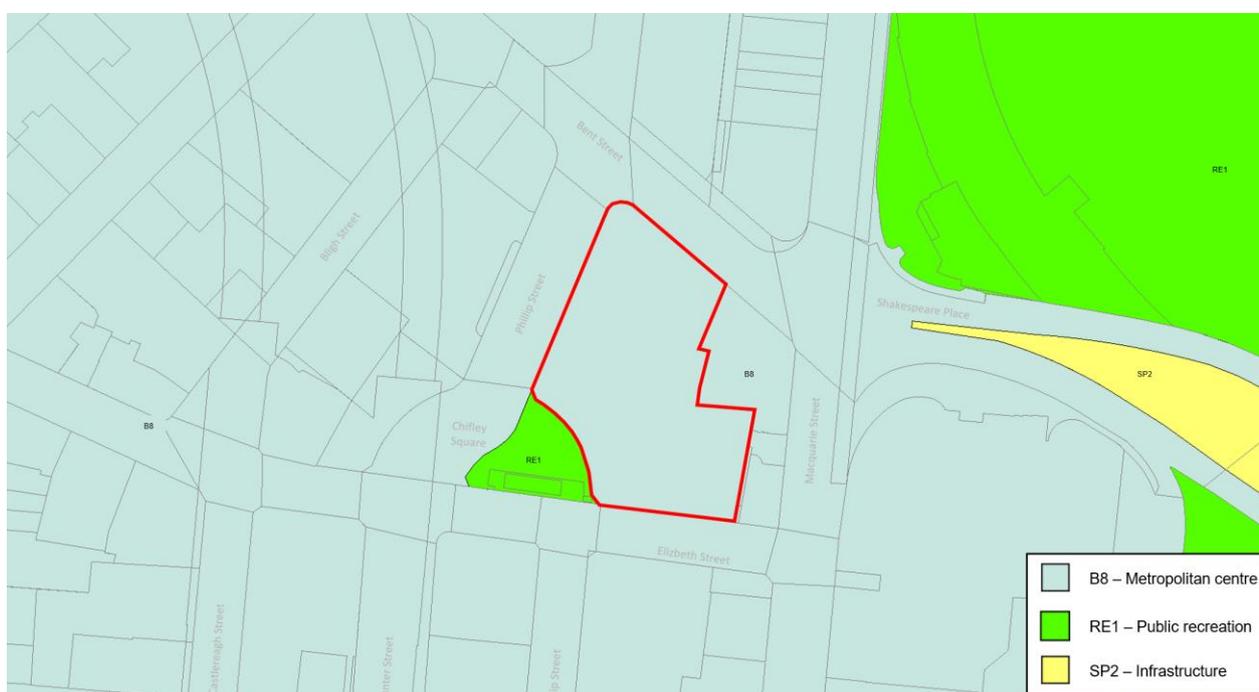
2. Existing planning controls

The LEP contains zoning and principal development standards for the site. These are discussed below.

2.1 Zoning

The site is zoned B8 Metropolitan Centre, as shown in Figure 7. The zone permits a broad range of uses, including commercial premises, community facilities, food and drink premises, as well as residential accommodation and tourist and visitor accommodation.

Figure 7. Extract from Zoning Map in the Sydney Local Environmental Plan 2012



2.2 Building height

The site is located within Area 3 on the Height of Building Map in the LEP as shown in Figure 8. No maximum height is identified on the map for land in Area 3, with the maximum height determined by the sun access plane extending over this land, as detailed in Clause 6.17 - Sun Access Planes of the LEP.

Clause 6.17 of the LEP aims to ensure that buildings maximise sunlight access to the public places set out in this clause, including The Domain, by not permitting buildings to project higher than the sun access plane. The sun access plane for The Domain is mapped in the Central Sydney Planning Strategy. This is shown in Figure 9.

Planning Proposal: 2 Chifley Square, Sydney

Figure 8. Extract from Height of Building Map in the Sydney Local Environmental Plan 2012



Figure 9. Extract of the draft The Domain Sun Access Plane in the Central Sydney Planning Strategy



2.3 Floor space ratio

The maximum floor space ratio for the site is 8:1, as shown in Figure 10. Clause 6.4 of the LEP provides additional FSR of up to 4.5:1 for office, business or retail premises, and up to 6:1 for residential accommodation, serviced apartments, hotel or motel accommodation, community facilities or childcare facilities, subject to purchase of heritage floor space. Up to 10 per cent additional floor space may be granted under clause 6.21 **D(3)** of the LEP subject to a competitive design process and demonstration of design excellence.

In total, an FSR of 13.75:1 is potentially achievable for a mixed retail and commercial development on this site.

Figure 10. Extract from Floor Space Ratio Map in the Sydney Local Environmental Plan 2012

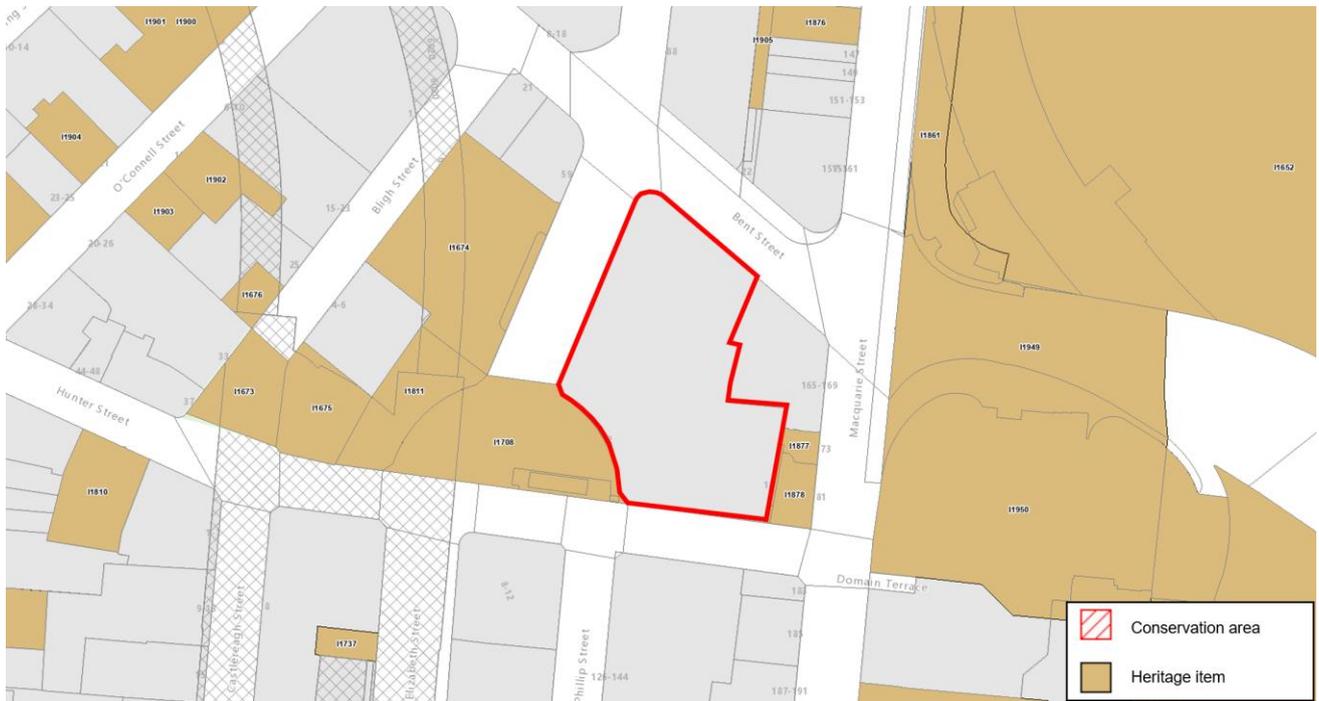


2.4 Heritage

The subject site does not contain any heritage items but adjoins a number of heritage items. These include Chifley Square, the former Qantas House and Wentworth Hotel to the west, and Wyoming and Horbury House to the east in Macquarie Street. Heritage items in the vicinity are shown in Figure 11.

Planning Proposal: 2 Chifley Square, Sydney

Figure 11. Extract from Heritage Map in the Sydney Local Environmental Plan 2012



2.5 Planning Proposal request

The planning proposal request was formally lodged in September 2021, and was accompanied by a number of specialist reports including a Planning Justification Report, Urban Design Study, Design Excellence Strategy, Ecologically Sustainable Development Strategy, and Wind Impact Assessment. The City has prepared this planning proposal following the consideration and assessment of the request.

The request seeks to insert new site-specific controls in the LEP to permit redevelopment of the site for a new commercial tower above a podium. The request is to provide 44,108 sqm of net additional floor space including design excellence for a tower on the southern portion of the site.

The changes to planning controls subject to this proposal are to enable the delivery of approximately 64,654 square metres of floor space in a new commercial podium and tower up to The Domain Sun Access Plane.

No changes are proposed to the height controls for the site, which are determined by The Domain Sun Access Plane.

**Planning Proposal:
2 Chifley Square, Sydney**

Figure 12. Photomontage of the proponent's reference scheme



Based on the proponent's reference scheme, retail, food and beverage facilities and other services, as well as lobby spaces are proposed to be located on the ground and first floors, with office space on the upper podium levels and tower.

The City's Planning Proposal

The City has prepared this planning proposal following detailed review and assessment of the proponent's proposed planning envelope and reference scheme, and consideration of comments from City staff and advice from the Design Review Panel (DAP). Working with DAP, City staff further refined the building envelope to ensure the location and form of the envelope sits appropriately within its urban context and it has a respectful relationship to adjoining development. As a result, the proposed envelope and supporting controls have been refined to allow for a future development that is considered to respond to its context, achieve acceptable wind and daylight conditions in the public domain adjacent to the subject site, and is capable of achieving development that will be consistent with the Central Sydney Planning Framework.

An amendment to the Sydney Development Control Plan 2012 (DCP), to be exhibited with this planning proposal, contains more detailed site-specific planning provisions for the site.

3. Objectives and intended outcomes

This planning proposal will enable the redevelopment of 2 Chifley Square to deliver:

- a second commercial office tower on the site, of variable height up to The Domain Sun Access Plane, up to a maximum height of approximately RL 213 metres
- a podium up to RL61.1m in height to provide for a strongly defined podium which relates to the existing podium in the north of the site, and be sympathetic to the Chifley Square Special Character Area
- a built form consistent with the future character of Central Sydney and with acceptable environmental outcomes, including high quality design relationship to Chifley Square
- improved pedestrian access and amenity through the maximisation of active frontages and pedestrian connection through the podium
- ecologically sustainable development benchmarks to ensure an energy efficient building is delivered
- removal of the onsite commercial car park.

To achieve this outcome, the LEP is to be amended by:

- enabling the net addition of 43,608 square metres of **above ground** floor space on the site, inclusive of design excellence
- **confirming that** the total floor space **above ground** to be the subject of the competitive design process is approximately 64,154 square metres, covering approximately 44% of the site
- **provide for up to 1,931 square metres of below ground floor space**
- **excluding the application of controls providing for additional floor space for shared loading dock facility floor space**
- including provisions to ensure the application of heritage floor space, through the application of accommodation floor space
- removal of the commercial car park.

The draft DCP accompanying the planning proposal will facilitate the following:

- a building envelope with setbacks to respect the local context and capable of achieving acceptable levels of solar access, wind comfort and daylight in the adjoining public domain
- a podium and tower design to result in a unified presentation to Chifley Square and complement the existing Phillip Street podium, as well as the façade of the heritage listed former Qantas House opposite the site
- maximisation of active frontages along Phillip, Bent and Hunter Street
- continued through-site access through the podium for pedestrians, linking Bent Street to Hunter Street

Planning Proposal:
2 Chifley Square, Sydney

- provisions and strategy for an architectural design competition
- achieving a high standard of ecological sustainable development, including delivery of a minimum 6 star Green Star Building rating, and that a future building is capable of meeting the City's net zero energy requirements
- provisions for public art.

4. Explanation of provisions

4.1 Sydney Local Environmental Plan 2012

To achieve the objectives and intended outcomes, this planning proposal seeks to amend the Sydney Local Environmental Plan 2012 by inserting a new site-specific clause under Division 5 Site Specific Provisions, to:

- enable the maximum GFA of the site to increase from the existing 87,283 square metres to 43,608 square metres of **above ground** floor space on the site, inclusive of design excellence;
- total **above ground** floor space on site not to exceed 20.33:1 or GFA 130,891 square metres;
- the total **above ground** floor space able to be developed on the southern portion of the site, being not more than approximately 44% of the site, and that is to be the subject of the architectural competitive design process is approximately 64,154 square metres, inclusive of the requirement for purchase of heritage floor space through the application of accommodation floor space and any floor space awarded for design excellence;
- **remove the application of additional shared loading dock facility floor space provisions in the LEP;**
- include planning controls to remove the existing commercial car park on site;
- include planning controls to incentivise employment uses by not allowing residential uses including serviced apartments;
- include planning controls to ensure development demonstrates design excellence, through an architectural design competition under the City's Competitive Design Policy.

The planning proposal also seeks to insert a provision in Clause 4.6 Exceptions to development standards, so that future development applications lodged under these proposed site-specific provisions do not further vary the controls for this site.

The proposed amendments are to ensure development will meet the strategies for Central Sydney including opportunities for additional building height and density in the right locations supported by environmental sustainability, design excellence and improved public space, transport and access.

An example of how this provision may be drafted, subject to agreement with Parliamentary Counsel is included in Appendix 1.

Floor space ratio

Commercial development can currently achieve floor space ratio of 13.75:1, which comprises mapped FSR of 8:1, accommodation floor space bonus of 4.5:1, and 10 per cent design excellence floor space. The existing GFA on the site is 87,283, which is an FSR of 13.56:1.

The concept proposal includes the demolition of the southern portion of the podium and construction of a new commercial podium and tower to the southern portion along with remodelling of the north podium to integrate with the new tower as well as the retention of the existing tower, on the site.

The planning proposal will facilitate the development by allowing the net addition of 43,608 square metres of **above ground** floor space, inclusive of design excellence. An indicative **This is equivalent to an FSR of 20.33:1 above ground** across the site.

Planning Proposal:
2 Chifley Square, Sydney

The proposal provides for a maximum FSR of 20.63:1, with a maximum of 20.33 above ground in line with testing. A further floor space ratio of 0.3:1 can be provided on site below ground, providing flexibility for a future development application to locate the end of journey facilities above or below ground level, without compromising the maximum above ground FSR of 20.33:1.

This proposal seeks to deliver additional floor space to the site while utilising the existing planning control framework. The framework for the indicative floor space provisions applicable to the site is shown at Table 1 below, having a breakdown of FSR for both the north and south of the site ensures the distribution of floor space as proposed in the request is maintained. In addition incentives embedded in the controls can be delivered for heritage floor space and design excellence.

The site-specific provisions ensure heritage floor space is applicable to future development on the subject site, in accordance with the existing provisions of clause 6.11 of the LEP. There is no change to the application of heritage floor space for accommodation floor space or design excellence.

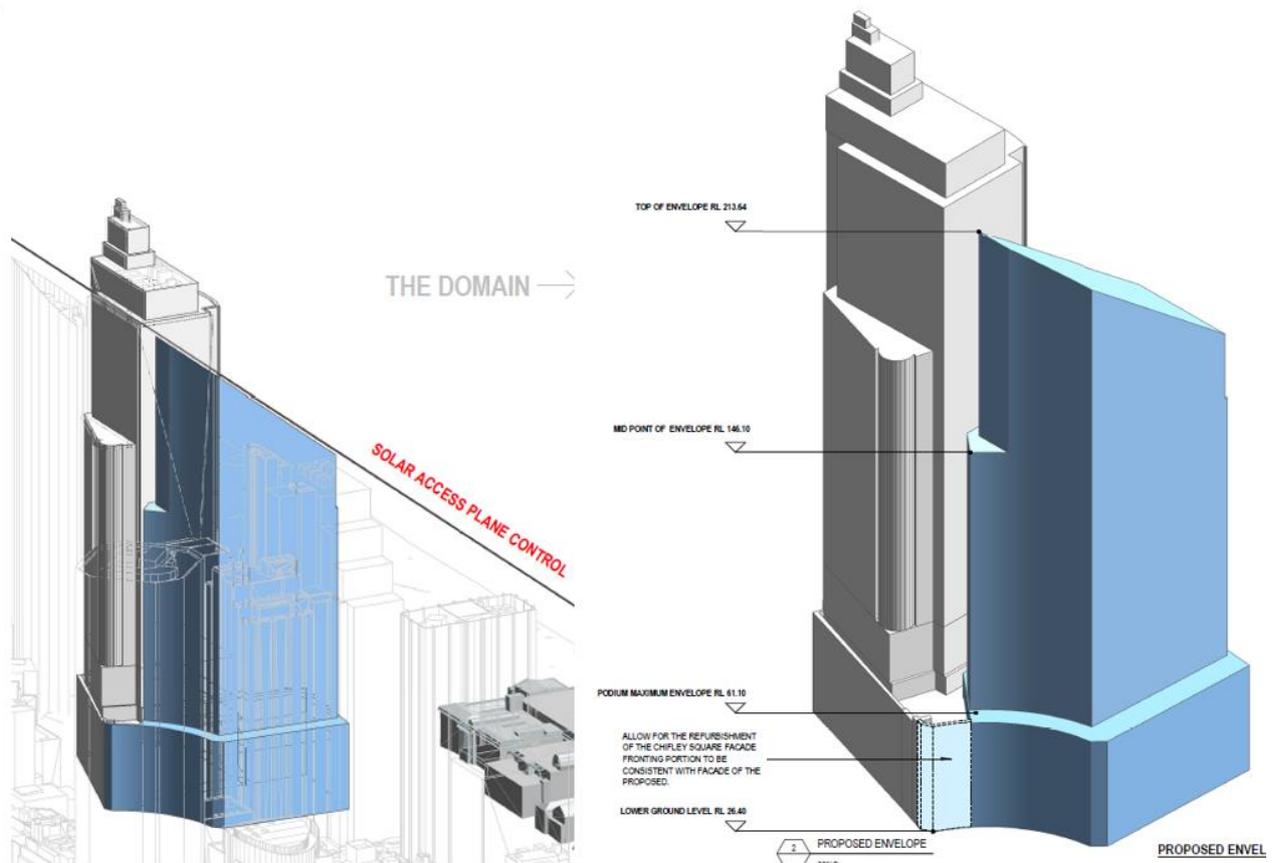
Table 1: Indicative framework for the various floor space provisions applicable for 2 Chifley Square

	LEP clause	Applicable floor space	Southern portion (44%)	Northern portion (56%) (existing tower)
Existing		Total Site FSR	13.56:1 (GFA 87,283 sqm)	
	cl. 4.4	Mapped floor space ratio	8:1	
	cl. 4.6	Accommodation floor space	4.5:1	
	cl. 6.21D(3)(b)	Design Excellence	1.25 (10%)	
Proposed development (additional)	New clause	Indicative Site Specific floor space	8.09:1	NA
	cl. 6.21D(3)(b)	Additional floor space – design excellence Up to a 10% floor space can be provided	Up to 10% (apportioned)	NA
		Indicative apportionment of FSR	22.65:1	18.51:1
Total Site above ground FSR			20.33:1 (GFA 130,891sqm)	
Total below ground FSR			0.3:1 (GFA (1,931sqm))	

It is noted that the planning proposal will not amend the height control for this site, with the proposed envelope and maximum additional GFA to be within The Domain Sun Access Plan as required by Clause 6.17 of the Sydney LEP 2012, as demonstrated in Figure 13.

**Planning Proposal:
2 Chifley Square, Sydney**

Figure 13. Proposed planning envelope and The Domain Sun Access Plane



Non-residential uses

To facilitate the delivery of additional employment generating floor space in Central Sydney through site-specific planning proposals, only employment uses will be permitted on the subject site under the new site-specific provisions in the LEP, and as a result, residential or serviced apartment uses are excluded.

This planning proposal does not propose to change the current zoning for the subject site, which is B8 Metropolitan Centre and permits a wide range of uses including retail, commercial and residential uses. Any future redevelopment of the site to include residential or serviced apartment uses will however be limited to the existing building height and floor space ratio controls under clauses 4.3 and 4.4 of the LEP respectively.

Design excellence

Future development on site will be subject to an architectural design competition consistent with clause 6.21D of the LEP.

Clause 6.21~~(7)~~**D(3)** of the LEP provides up to 10 per cent additional floor space subject to an architectural design competition and demonstration of design excellence. In this proposal the design excellence is limited to the southern portion of the site, as this will be included in the design competition extent. The additional floor space is capable of being accommodated within the maximum building envelope the subject of this planning proposal and as such a new provision is to be included to ensure additional floor space is taken up rather than additional building height.

Car parking

**Planning Proposal:
2 Chifley Square, Sydney**

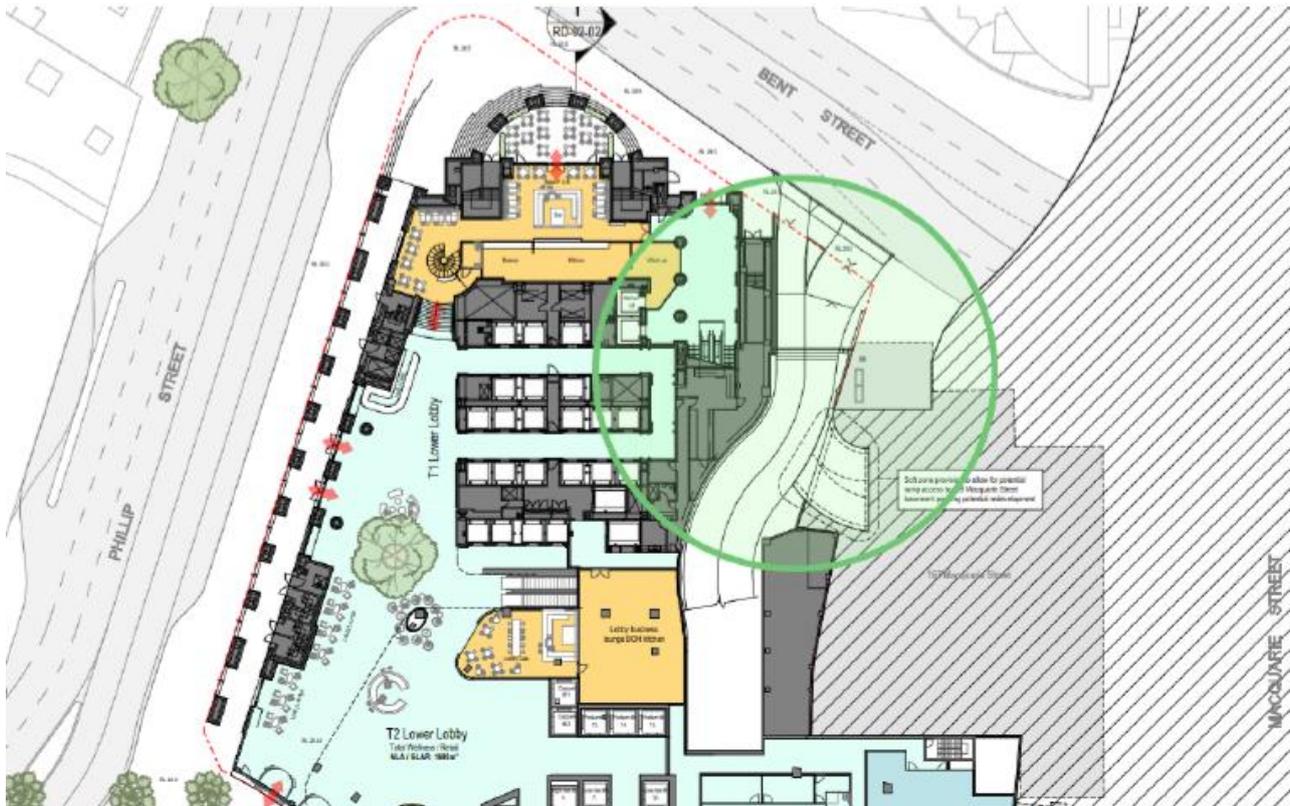
Chifley Square will be serviced by the Sydney Metro City and South-West line upon completion in 2024, with the northern entry to the Martin Place Metro station around 100 metres from the site. The metro line will operate 15 services an hour during peak periods connecting the CBD to Tallawong and Bankstown. The recently announced Hunter Street metro station is planned to be located further west near the site, towards the intersection of Hunter and George Streets.

The existing basement parking levels contain 361 car parking spaces, including 103 used as a commercial car park. The maximum number of car parking spaces for the site will also be determined as part of the development application process, to be consistent with the City's parking policies in place at the time, and subject to a detailed assessment of traffic and access impacts.

To ensure the commitment to reduce car parking and resultant traffic generation is reduced, and to reflect the proponent's sustainability commitments and new Metro stations being constructed and planned, the planning proposal will include the removal of the commercial car park from the site. DCP control to be included to ensure that these spaces are not converted to additional tenant car parking spaces on the site.

The proponent has also identified potential shared access for 167 Macquarie St if that site redevelops in the future, and has committed to providing break-through panel and future shared driveway through the public benefit offer.

Figure 14. Location of proposed break-through panel to 167 Macquarie Street



Shared loading dock facility floor space

Clause 6.5A of the LEP provides for additional floor space where development on land in Central Sydney results in part of the basement being used for a community loading dock facility or shared loading dock facility. This clause was added to the LEP after the planning

Planning Proposal:
2 Chifley Square, Sydney

proposal was considered and approved for public exhibition by the Central Sydney Planning Committee and Council in November 2021. Therefore this clause, which could allow for additional floor space greater than can be accommodated within the planning envelope, will not apply to this planning proposal. A potential shared loading dock is also secured through the planning agreement.

Drafting instructions

To deliver the objectives and intended outcomes of this planning proposal, a new site-specific clause for 2 Chifley Square will be inserted to Division 5 Site specific provision of the LEP.

An example of how this provision may be drafted subject to agreement with Parliamentary Counsel is included in Appendix 1.

4.2 Sydney DCP 2012 amendments

To ensure future development is consistent with the objectives of the planning proposal, site specific provisions for the DCP will accompany the proposal to ensure a high-quality built form and public domain outcome is achieved.

The DCP provisions describe and outline the desired future development and include the following key design considerations:

- maximum building envelope, including podium height
- street wall heights
- setbacks
- design interface to Chifley Square
- active frontages
- wind
- parking and vehicular access
- design excellence strategy
- pedestrian connection through the podium
- environmentally sustainable development targets
- public art

5. Justification

This section is structured as follows:

- 5.1 – Proposed changes to, benefits of and managing impacts of increasing floor space ratio controls
- 5.2 – Draft development control plan
- 5.3 – Need for the planning proposal
- 5.4 – Relationship to strategic planning framework
- 5.5 – Environmental, social and economic impact
- 5.6 – State and Commonwealth interests

5.1 Proposed changes to, benefits of and managing impacts of increasing floor space ratio

The planning proposal seeks to amend the floor space controls for employment generating use, to facilitate the redevelopment of the subject site with a built form that has acceptable impacts on the surrounding area.

FSR changes

The planning proposal will insert controls in the LEP for the subject site at 2 Chifley Square to:

- enable the net addition of 43,608 square metres of **above ground** floor space on the site, inclusive of design excellence
- the total floorspace to be the subject of the architectural competitive design process is approximately 64,154 square metres, covering approximately 44% of the site
- **enable a maximum 1,931 square metres of below ground floor space on the site**
- include provisions to ensure the application of heritage floor space, through the application of accommodation floor space
- **exclude the application of clause 6.54A – Shared loading dock facility floor space**

This additional floor space is specific to the building envelope outlined in this planning proposal. To be eligible for the proposed development controls, future development on the site is to meet the site-specific requirements in the LEP, such as restricting future development on site to non-residential uses only and ceasing the operation of the commercial car park.

This net additional floor space has been based on the consideration of the maximum size of a future development within the planning envelope, and the sky view factor testing undertaken by the City and wind testing undertaken by the application. The site specific provisions to be inserted into the LEP can accommodate the indicative concept design and additional floor space within a tested building envelope.

The planning proposal provides for a net addition of 43,608 square metres of **above ground** floor space, with an ~~indicative~~ maximum floor space ratio of ~~approximately~~ **20.33:1 above ground** across the site inclusive of design excellence. This is an FSR of approximately 22.65:1 for the

Planning Proposal:
2 Chifley Square, Sydney

southern portion, inclusive of design excellence (subject to confirmation by survey). A framework for the FSR in line with the Sydney LEP 2012 is provided in Table 1 above.

The planning proposal provides for a maximum below ground FSR of 0.3:1. This allows for end of journey facilities to be provided below ground, as detailed in the proponent's reference scheme, or to be provided either partially or fully above ground, with an equivalent amount of other floor space to be provided below ground. This provides flexibility for the location of end of journey floor space on the site, without affecting the maximum above ground FSR of 20.33:1, which was subject to detailed site testing.

The exclusion of clause 6.5A of the LEP is due to the shared loading dock facility floor space clause coming into effect after the planning proposal was considered by the Central Sydney Planning Committee and Council in November 2021.

Employment uses

This planning proposal will facilitate the redevelopment of the subject site for a new tower, and podium at lower levels, to deliver about 43,608 sqm additional employment floor space compared to the existing site, increasing Central Sydney's employment generating floor space capacity.

Additional floor space delivered by this planning proposal is only available to employment generating uses. This will be achieved through the insertion of a restriction into the new site-specific provisions for 2 Chifley Square in the LEP.

This outcome is consistent with the objectives of the City of Sydney's Local Strategic Planning Statement and the Central Sydney Planning Strategy in that the planning proposal will deliver new growth and additional employment generating floor space in a key location that is well placed to take advantage of infrastructure and planned additional capacity.

Built form

The proposed indicative scheme has been developed to respond to the conditions on the subject site while delivering acceptable daylight, and is capable of delivering acceptable wind conditions within the public domain.

The proposed maximum planning envelope includes a podium up to RL 61.1 metres in height, and a commercial tower above, potentially comprising approximately 37 storeys, to a height to not exceed The Domain Sun Access Plane. The tower envelope includes an 8m minimum setback to Hunter Street, a minimum 6m setback to Chifley Square, and varying northern and eastern setbacks as shown in Figure 15.

Planning Proposal:
2 Chifley Square, Sydney

Figure 15. Elevations of the indicative building envelope

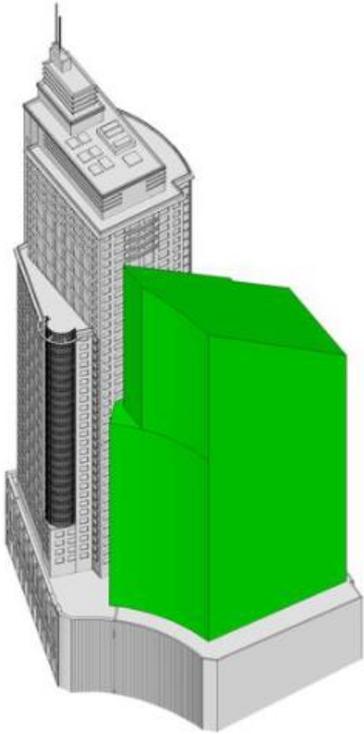
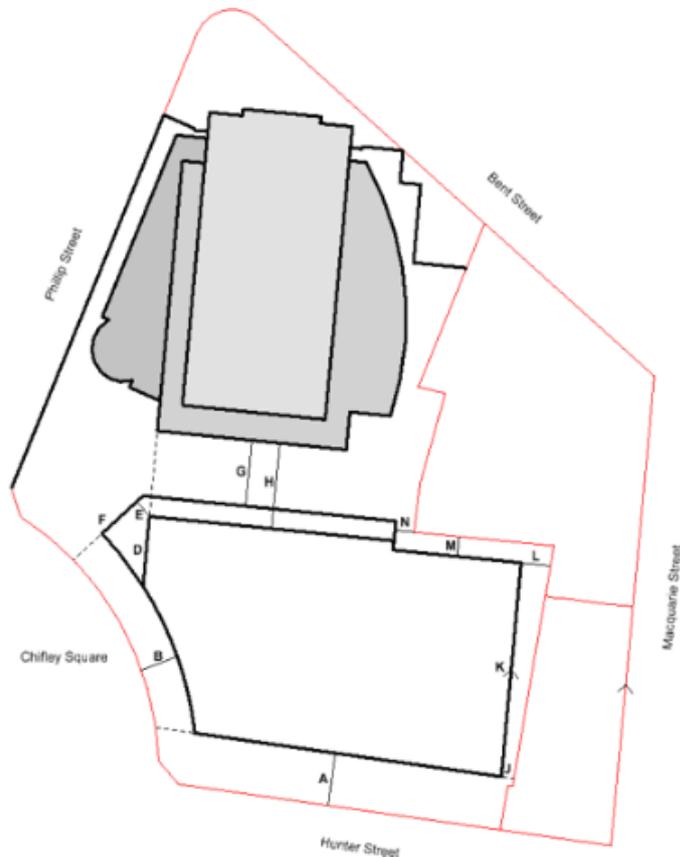


Figure 16. Setbacks of the indicative building envelope

**Planning Proposal:
2 Chifley Square, Sydney**



Key

Minimum setbacks and alignments above the street frontage height:

A – 8m from Hunter Street

B – 6m from Chifley Square

D – above 120m above ground – align with the face of the existing tower, extension of alignment shown with a dashed line

E – 3m exactly measured from the north west corner of the envelope above 120m above ground

F – up to 120m above ground – setout from E aligned perpendicular to the curved alignment of Chifley Square as illustrated, the closest point is approximately 14.7m from Philip Street

G – up to 120m above ground – 10m from the face of the existing tower

H – above 120m above ground – 13m from the face of the existing tower

J – 2m from the boundary aligned parallel to Hunter Street

K – Setout from J aligned parallel to Macquarie Street boundary with 175-181 Macquarie Street

L – Setback resultant of J and K – approximately 4.7m

M – 3m from the boundary

Sky view testing was undertaken for the City's revised planning envelope, with the Sky View Factor better than the Schedule 11 Procedure B Base Case, and therefore meets the control.

Planning Proposal: 2 Chifley Square, Sydney

A desktop wind study of the City's revised planning envelope concluded that the wind conditions would be comparable to the previously tested envelopes prepared by the proponent for this site, with no significant variations to wind effects, compared to the existing condition, expected. Any potential wind comfort levels would also be comparable to previous envelopes tested, including the base case model, with any required wind mitigation measures to be addressed through the detailed design development application stage.

The proposed indicative concept includes design measures to minimise the building's impact on the adjacent heritage items and surrounding public domain, such as greater tower setbacks to the eastern boundary.

The draft DCP, which accompanies the planning proposal, includes detailed site-specific provisions to describe and outline the desired future development on site to ensure a high quality built form and public outcome is delivered.

Public Domain

Controls have been included in the DCP for future development to provide a high quality, unified presentation to Chifley Square, including a unified, consistent frontage to Chifley Square, with activated uses.

The proponent's reference scheme design shows a number of changes in Chifley Square. This square is owned by the City and contains two public art works (a large statue, "Ben Chifley", and a glass wall structure along the southern side of the square titled "Crucimatrilux"), and a café at 1 Chifley Square within the square which operates under a lease from the City. None of the changes shown have been agreed to by the City. Any change to the public domain will need to be agreed to by the City, therefore changes to levels for example shown in the square should only be considered as potential changes.

Heritage

The subject site is not identified as a heritage item but is located within the Chifley Square Special Character Area. The proposed redevelopment facilitated by this planning proposal will not include the demolition of any heritage item.

There are a number of heritage items adjoining the site. These include Chifley Square adjoining the south-western corner of the site, Wyoming and Horbury House adjoining the east of the site in Macquarie Street, and former Qantas House opposite the site.

The proposed planning envelope capable of supporting a development to respond sympathetically to the heritage items in the vicinity, due to the proposed podium and tower setbacks.

The planning proposal is accompanied by site-specific provisions for the DCP to ensure future development on site relates sympathetically to adjacent heritage items in terms of setbacks, massing and materials.

Design excellence

Future development on site will be subject to an architectural design competition consistent with the requirements of clause 6.21D of the LEP, as required by the Guideline for Site Specific Planning Proposals and the Central Sydney Planning Framework.

A Design Excellence Strategy accompanied the planning proposal, which has been refined to be consistent with the Central Sydney Planning Framework. The competition requirements will require an invited architectural design competition consisting of a minimum of six competitors ranging from emerging and established local and national architectural firms and a competition jury that will comprise of representatives nominated by the City and who are part of the Design Advisory Panel. The accompanying draft DCP includes design excellence provisions for an architectural design competition.

Planning Proposal:
2 Chifley Square, Sydney

Traffic and transport

The site will be around 100m from the Hunter Street entrance of the Martin Place Metro station, due to open in 2024. It will also be around 400m of the proposed Hunter Street Metro Station, on the corner of Hunter and George Streets. These services would be in addition to the existing train, bus and light rail services within 600m of the site.

The car parking and service vehicle parking numbers will be assessed under the policy for these in place at the time the DA for the detailed development stage is lodged, noting Charter Hall's desire to reduce car parking numbers on the site.

Removal of the commercial car park will also reduce traffic generation and improve sustainability outcomes

The transport consultant's report states that implementing a Sustainable Travel Strategy (STS) will assist Chifley Square in achieving its strategic direction of becoming a commercial precinct which provides for healthy and active lifestyles, does not negatively adversely impact on the environment, seeks to address sustainability and climate change objectives, and does not lead to unnecessary vehicle trip generation and highway network congestion. The requirement for an STS has been included as a provision in the DCP.

Pedestrian activity and comfort

The proponent's transport study states that the key driver of increased pedestrian demands in the street network is anticipated to be the introduction of Sydney Metro. It is noted there are existing poor conditions (level C or D) along the eastern side of the footpath in Philip Street and the Hunter Street/Elizabeth Street intersection. These conditions are expected to be experienced at this level with the opening of the Martin Place Metro station.

The report notes that improvements to pedestrian comfort could be achieved through improvements such as reconfiguration of Chifley Square, or increased pedestrian space at the corner of Hunter and Elizabeth Street, however such works would need to be subject to agreement with the City. Ensuring that a pedestrian connection will be continued to be provided through the podium, connecting Hunter Street with Bent Street, will assist in providing pedestrian travel options in this part of the city.

Other options to improve conditions would be required by the City and/or State government including adjusting signal phase timing, increased pedestrian crossing line widths and additional pedestrian storage space on other street corners. It is expected that Transport for NSW will be consulted as part of the public agency engagement for this proposal, for consideration of these options.

5.2 Draft development control plan

As a consequence of the proposed site-specific controls in the LEP, it is also proposed to insert site-specific DCP controls into Section 6 of the Sydney DCP 2012. The draft DCP amendments will be publicly exhibited with the planning proposal.

The draft DCP amendment includes provisions to ensure delivery of the future development on site in a manner that is consistent with this planning proposal. The draft DCP addresses the following key design considerations:

- maximum building envelope
- street wall heights
- setbacks
- design interface to Chifley Square
- active frontages

Planning Proposal:
2 Chifley Square, Sydney

- wind
- parking and vehicular access
- design excellence strategy
- pedestrian connection through the podium
- environmentally sustainable development targets
- public art

5.3 Need for the planning proposal

Is the planning proposal a result of any strategic study or report?

The planning proposal is in response to and is consistent with the Central Sydney Planning Strategy. The Strategy describes objectives and a framework to ensure future growth is employment focused, occurs where it respects our special places and spaces, and is highly sustainable, resilient and responsive to climate change. A detailed review of the consistency of the proposal with the strategic planning framework is provided at section 5.4 below.

This planning proposal is a result of a request from the landowner to change the planning controls that relate to the subject site.

The landowner has undertaken a number of studies in support of the request, including an Urban Design Report prepared by Architectus. The study details a proposal to meet the City's vision for Central Sydney to remain economically competitive and capable of accommodating growth in employment generating floor space through additional building height and floor space in selected locations that do not result in unacceptable impacts on public domain amenity. These studies have informed the planning proposal.

The supporting documents commissioned by the applicant to support their request, and the City's urban design addendum are attached as the following appendices to this planning proposal:

- City of Sydney's Urban Design Addendum - November 2021
- Planning Justification Report – Ethos Urban
 - Appendix A: Urban Design Report (with additional appendices) - Architectus
 - Appendix B: Site Survey and report – Real Serve
 - Appendix D: Draft Design Excellence Strategy – Ethos Urban
 - Appendix E: Traffic and Transport Report and Pedestrian Comfort Assessment - AECOM
 - Appendix F: Heritage Impact Statement - Urbis
 - Appendix G: Pedestrian Wind Environmental Study – Windtech
 - Appendix H: Ecologically Sustainable Development Report – Floth
 - Appendix I: Skyview Factor Report – Architectus
 - Appendix J: Vision and Values Statement – Charter Hall
 - Appendix K: Consultation Summary Table – Ethos Urban
 - Appendix L: Staging Plans – Architectus
 - Appendix M: Flood Impact Assessment – Robert Bird Group

Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

This planning proposal seeks to insert new site-specific provisions into the LEP for the subject site. The resultant conditions have been tested to ensure the future built form is appropriate and does not result in any unacceptable impacts on adjoining properties or the public domain. The amended controls will facilitate the delivery of additional employment generating floor space consistent with the vision of the Central Sydney Planning Strategy.

5.4 Relationship to strategic planning framework

Is the planning proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and the exhibited draft strategies)

A Metropolis of Three Cities – The Greater Sydney Region Plan

A Metropolis of Three Cities – The Greater Sydney Region Plan is the NSW Government's overarching strategic plan for growth and change in Sydney. The 20 year plan provides a 40 year vision that seeks to transform Greater Sydney into a metropolis of three cities, being the Western Parkland City; the Central River City; and the Eastern Harbour City.

It identifies key challenges facing Greater Sydney, including a projected population increase of 1.7 million and the associated requirements to deliver 725,000 new homes and create 1 million new jobs by 2036.

The Plan outlines how Greater Sydney will manage growth and change and guide infrastructure deliver. The Plan is to be implement at a local level by District Plans. This planning proposal is consistent with several relevant directions and objectives of the Plan, as follows:

- **Infrastructure** – Future development on the site will align with investment in new transport infrastructure, and benefit from additional passenger capacity, especially the planned Martin Place and Hunter Street Metro stations close to the site.
- **Liveability** – The proposed development will require the maximisation of active frontages at ground level, and sympathetic treatment development adjoining the public domain.
- **Productivity** – The proposal will deliver additional commercial floor space close to existing and future transport infrastructure contributing to the growth of Central Sydney's economy.
- **Sustainability** – Delivery of a new building with improved sustainability outcomes than the current building stock is a key priority of the proposed development concept.

Eastern City District Plan

The Eastern City District Plan sets out the NSW Government's vision, priorities and actions for the Eastern District of the Greater Sydney area, which includes the City of Sydney. It establishes a 20 year vision for the Eastern District to be a global sustainability leader, managing growth while maintaining and enhancing liveability, productivity and attractiveness for residents and visitors. Planning priorities and associated actions for productivity, liveability and sustainability seek to deliver on this vision.

This planning proposal is consistent with the following priorities from the Plan:

- **Planning Priority E1 – Planning for a city supported by infrastructure** – To provide additional commercial floor space in this area of Central Sydney, this planning proposal seeks to expand and enhance commercial uses on the subject site by facilitating the delivery of new office space on a site located close to existing and planned transport infrastructure to maximise the efficient use of the existing and future new capacity.
- **Planning Priority E6 – Creating and renewing great places and local centres and respecting the District's heritage** – The planning proposal has been designed to respond appropriately to the public domain, including the heritage listed Chifley Square, and to be sympathetic to adjoining heritage buildings.
- **Planning Priority E7 – Growing a stronger and more competitive Harbour CBD** – Central Sydney lies at the core of the Harbour CBD, within the Eastern Economic Corridor. This Planning Proposal will help facilitate new commercial office space within Central Sydney to maximise the competitive advantage of this part of Sydney.
- **Planning Priority E10 – Delivering integrated land use and transport planning for a 30 minute city** – The future development concept satisfies the 30 minute city objective as it will increase

Planning Proposal:
2 Chifley Square, Sydney

employment opportunities close to existing and future public transport connections across may part of Greater Sydney within a 30 minute travel time.

- **Planning Priority E11 – Growing investment, business opportunities and jobs in strategic centres** – This planning proposal will facilitate the delivery of new commercial and retail development on the subject site delivering additional office space to Central Sydney, which will add to the viability of the Harbour CBD economy.
- **Planning Priority E13 – Supporting growth of targeted industry sectors** – This planning proposal will deliver additional retail and commercial floor space which will be available for investment from targeted industry sectors including retail, visitor economy and knowledge-intensive businesses.
- **Planning Priority E19 – Reducing carbon emissions and managing energy, water and waste efficiently** – The proposed development concept will deliver a new commercial and retail building with significantly improved sustainability outcomes. Future development on the site is to achieve ambitious ecological sustainable development targets including that a future building on the site is capable of meeting the City's net zero energy requirements.

Is the planning proposal consistent with a council's local strategy or other local strategic plan?

Sustainable Sydney 2030

Sustainable Sydney 2030 is the vision for sustainable development of the City of Sydney to 2030 and beyond. It includes 10 strategic directions to guide the future of the local government area. The plan outlines the City's vision for a 'green', 'global' and 'connected' city and sets targets, objectives and actions to achieve this vision. This planning proposal is aligned with the following relevant strategic directions and objectives:

- **Direction 1 – A globally competitive and innovative city** – The proposal will support a future high quality urban design outcome that will provide new employment opportunities. Investment into the site will help contribute to make Sydney attractive for global investors.
- **Direction 2 – A leading environmental performer** – This planning proposal will deliver ecological sustainable development on the site by establishing ambitious minimum sustainability targets for future development.
- **Direction 3 – Integrated transport for a connected City** – Future development on the subject site is well placed to capitalise on its proximity to existing and future transport infrastructure including nearby Circular Quay, Wynyard and Martin Place railway stations, light rail and bus stops and the future Martin Place and Hunter Street Metro stations in Central Sydney.
- **Direction 4 – A city for walking and cycling** – The proposed development concept facilitated by this planning proposal includes provision for ground floor retail activation, pedestrian connections through the site, and an end of journey facility which will encourage greater active transport use, helping deliver a more people oriented city.
- **Direction 5 – A lively and engaging city centre** – The mix of uses on the subject site is likely to deliver greater activation and a livelier engaging city. This will be supported by future 'fine grain' retail premises with requirements for improved street activation and continued access through the site.
- **Direction 6 – Resilient and Inclusive Local Communities** – Future development facilitated by the planning proposal will contribute to the Central Sydney area through greater opportunities for business, as well as opportunities for improving the quality of the public domain for workers and visitors.
- **Direction 7 – A cultural and creative city** – Public art delivered through the future development on the site will provide new creative and cultural experiences and opportunities for engagement with the public.

Planning Proposal:
2 Chifley Square, Sydney

- **Direction 9 – Sustainable development, renewal and design** – This planning proposal will support delivery of future development that is more ecologically sustainable than the current building on site by establishing aspirational sustainability benchmarks.

Local Strategic Planning Statement – City Plan 2036

City of Sydney's endorsed Local Strategic Planning Statement, City Plan 2036, sets the land use planning context, 20-year vision and planning priorities to positively guide change towards the City's vision for a green, global and connected city. The planning statement explains how the planning system will manage change to achieve the desired outcomes, and guides future changes to the City's controls, including those sought by proponents through planning proposals. This planning proposal gives effect to the following priorities of the Statement:

Infrastructure

- **I1. Movement for walkable neighbourhoods and a connected city** – The future development concept for the subject includes a pedestrian connections through the site to maintain connections between Bent and Hunter Street, and the potential for improved activation of adjoining streets and Chifley Square, to encourage a permeable pedestrian network.
- **I2. Align development and growth with supporting infrastructure** – The subject site is well located to take advantage of nearby existing and future transport infrastructure, including the new Sydney Metro currently under construction, which will significantly increase the public transport capacity within Central Sydney.

Liveability

- **L2. Creating great places** – The planning proposal has the ability to support street life and activation by improving the interface with the adjoining public place and providing new retail fine-grain retail premises, where new food and drink premises will be encouraged. The reference scheme includes collaborative spaces and other spaces to respond to change to business demand resulting from the experience of COVID-19.

Productivity

- **P1. Growing a stronger, more competitive Central Sydney** – This planning proposal supports growth in Central Sydney by facilitating future development that will deliver additional capacity for economic and employment growth, and provide large, premium office floor place to attract globally competitive business

Sustainability

- **S2. Creating better buildings and places to reduce emissions and water and use water efficiently** – Future development facilitated through this planning proposal will be required to meet ambitious sustainability benchmarks ensuring the new buildings will be more sustainable than the existing building stock.

Central Sydney Planning Strategy

The Central Sydney Planning Strategy is a 20-year growth strategy that revised previous planning controls and delivers on the City's Sustainable Sydney 2030 program. As the economic heart of Australia's global city, Central Sydney plays a critical role in the continued growth and economic success of Greater Sydney and the national economy.

The Strategy includes opportunities for additional height and density in the right locations balanced with environmental sustainability and sets criteria for excellence in urban design. This planning proposal is aligned with the following relevant key moves of the Strategy:

- **1. Prioritise employment growth and increase capacity** – This planning proposal will facilitate the delivery of additional employment generating floor space, in the form of office and retail uses, increasing the employment capacity and growth within Central Sydney.

Planning Proposal:
2 Chifley Square, Sydney

- **2. Ensure development responds to context** – The site-specific DCP that accompanies this planning proposal includes provisions to ensure future development responds to its context with a built form that includes sufficient tower setbacks and does not result in development with adverse wind and daylight impacts in the public domain.
- **6. Move towards a more sustainable city** – Future development is to achieve the ambitious sustainability targets as set out in the draft site specific DCP, consistent with the Strategy.
- **8. Move people more easily** – The site is well located to capitalise on existing public transport connections and the recent NSW Government investment in public transport including the new Sydney Metro projects.
- **9. Reaffirm commitment to design excellence** – Future development on site will be subject to a full architectural competitive design process provided for within the draft DCP, which includes design excellence provisions to ensure a high quality built form.

Is the planning proposal consistent with applicable state environmental planning policies (SEPPs)?

This planning proposal is consistent with applicable SEPPs and deemed SEPPs (formally known as Regional Environmental Plans (REPs)) shown in Table 3. In this table, consistent means that the planning proposal does not contradict or hinder the application of the relevant SEPP or REP.

Table 3: Consistency with SEPPs and REPs

SEPPs with which this planning proposal is consistent	SEPP 1 – Development Standards; SEPP 19 – Bushland in Urban Areas; SEPP 21 – Caravan Parks; SEPP 33 – Hazardous and Offensive Development; SEPP 50 – Canal Estate Development; SEPP 70 – Affordable Housing (Revised Schemes); SEPP (Affordable Rental Housing) 2009; SEPP (Educational Establishments and Child Care Facilities) 2017; SEPP (Exempt and Complying Development Codes) 2008; SEPP (Infrastructure) 2007; SEPP (Mining, Petroleum Production and Extractive Industries) 2007; SEPP (Miscellaneous Consent Provisions) 2007; SEPP (State and Regional Development) 2011; SEPP (State Significant Precincts) 2005; SEPP (Vegetation in Non-Rural Areas) 2017;
SEPPs that are not applicable to this planning proposal	SEPP 36 – Manufactured Home Estates; SEPP 44 – Koala Habitat Protection; SEPP 47 – Moore Park Showground; SEPP 64 – Advertising and Signage; SEPP 65 – Design Quality of Residential Flat Development; SEPP (Building Sustainability Index: BASIX) 2004; SEPP (Coastal Management) 2018; SEPP (Housing for Seniors or People with a Disability) 2004; SEPP (Integration and Repeals) 2016; SEPP (Kosciuszko National Park— Alpine Resorts) 2007; SEPP (Kurnell Peninsula) 1989; SEPP (Penrith Lakes Scheme) 1989; SEPP (Rural Lands) 2008; SEPP (Sydney Drinking Water Catchment) 2011; SEPP (Sydney Region Growth Centres) 2006; SEPP (Three Ports) 2013; SEPP (Urban Renewal) 2010; SEPP (Western Sydney Employment Area) 2009; SEPP (Western Sydney Parklands) 2009
REPs with which this planning proposal is consistent	Sydney REP (Sydney Harbour Catchment) 2005

Planning Proposal:
2 Chifley Square, Sydney

REPS that are not applicable to this planning proposal Sydney REP 8 – (Central Coast Plateau Areas); Sydney REP 9 – Extractive Industry (No 2 – 1995); Sydney REP 16 – Walsh Bay; Sydney REP 20 – Hawkesbury- Nepean River (No 2 – 1997); Sydney REP 24 – Homebush Bay Area; Sydney REP 26 – City West; Sydney REP 30 – St Marys; Sydney REP 33 – Cooks Cove; Greater Metropolitan REP No 2 – Georges River Catchment; Darling Harbour Development Plan No. 1; Sydney Cove Redevelopment Authority Scheme.

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 aims to facilitate the effective delivery of infrastructure across the State and identifies matters to be considered in the assessment of development adjacent to particular types of infrastructure.

As any future development on the site will be considered a `traffic generating development' for the purposes of the SEPP as over 10,000m² of commercial floor space is proposed, any future development application will be required to be referred to Transport for NSW for concurrence prior to determination.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

Under Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005, 2 Chifley Square is located within the Sydney Harbour Catchment Boundary but not within the Foreshore and Waterways Area Boundary.

The planning proposal does not contradict or hinder the application of the planning principles for the Sydney Harbour Catchment, as set out in Clause 13 of the REP.

Is the planning proposal consistent with applicable Ministerial Directions?

The planning proposal is consistent with the applicable ministerial directions as shown in Table 4.

Table 4: Consistency with Ministerial Directions

Ministerial Directions with which this planning proposal is consistent	1.1 Business and Industrial Zones; 2.3 Heritage Conservation; 2.6 Remediation of Contaminated Land; 3.4 Integrating Land use and Transport; 3.5 Development Near Licensed Aerodromes; 4.1 Acid Sulfate Soils; 4.3 Flood Prone Land; 5.10 Implementation of Regional Plans; 6.1 Approval and Referral Requirements; 6.3 Site Specific Provisions; 7.1 Implementation of A Plan for Growing Sydney
Ministerial Directions that are not applicable to this planning proposal	1.2 Rural Zones; 1.3 Mining, Petroleum Production and Extractive Industries; 1.4 Oyster Aquaculture; 1.5 Rural Lands; 2.1 Environmental Protection Zones; 2.2 Coastal Protection; 2.4 Recreation Vehicle Areas; 2.5 Application of E2 and E3 Zones and Environmental Overlays in Far North Coast LEPs; 3.1 Residential Zones; 3.2 Caravan Parks and Manufactured Home Estates; 3.3 Home occupations; 4.2 Mine subsidence and Unstable land; 4.4 Planning for Bushfire Protection; 5.2 Sydney Drinking Water Catchments; 5.3 Farmland of State and Regional Significance on the NSW Far North Coast; 5.4 Commercial and Retail Development along the Pacific Highway, North Coast; 5.8 Second Sydney Airport, Badgerys Creek; 5.9 North West Rail Link Corridor Strategy; 6.2 Reserving Land for Public Purposes; 7.2 Implementation of Greater Macarthur Land Release Investigation; 7.3 Parramatta Road Corridor Urban Transformation Strategy; 7.4

Planning Proposal:
2 Chifley Square, Sydney

Implementation of North West Priority Growth Area Land Use and Infrastructure Implementation Plan; 7.5 Implementation of Greater Parramatta Priority Growth Area Interim Land Use and Infrastructure Implementation Plan; 7.6 Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan; 7.7 Implementation of Glenfield to Macarthur Urban Renewal Corridor

2.6 Remediation of Contaminated Land

The Remediation of Contaminated Land Ministerial Direction promotes remediation of contaminated land for the purpose of reducing the risk of harm to human health. When rezoning land and as part of development applications, it is required to be considered and to ensure remediation work meets certain standards.

This site is currently used for commercial purposes and the proposed future use will remain commercial. The site, and adjoining, have also been used for commercial uses, and no changes to the extent of the basement are provided in the proponent's reference scheme.

Further investigation of any potential contamination would be required to be undertaken for any future development application involving any additional excavation of the site. Notwithstanding, any potential contamination issues identified are unlikely to significantly impact future redevelopment of the site. The site's suitability will be demonstrated as part of a future detailed development application for the site.

3.5 Development Near Regulated Airports and Defence Airfields

This Ministerial Direction seeks to ensure the safe and effective operation of regulated airports and defence airfields is not compromised by development that might constitute an obstruction of potential hazard to aircraft flying in the vicinity, and ensure development, if located on noise sensitive land, incorporates appropriate mitigation measures so the development is not adversely affected by aircraft noise.

The proposed development is within the B8 Metropolitan Centre zone within Central Sydney. This zoning is not proposed to be changed, and future development will be required to be consistent with the objectives of the B8 zone. The proposed future development of the site is considered to be compatible with the adjoining and surrounding land and not result in significant impacts on interior noise levels.

The proposed development concept includes construction of a new tower up to RL 214.2 metres, which would encroach into the Obstacle Limitation Surface (OLS), and as such, Direction 3.5 applies. Clause 4 of the Ministerial Direction states that in preparation of the planning proposal, the relevant planning authority is to consult with the operator of the airport to prepare appropriate height controls and ensure development on the site is not incompatible with the airport's operation.

This planning proposal is not consistent with Ministerial Direction 3.5, however this will be addressed through consultation with the relevant agencies as part of the public exhibition process.

The planning proposal process for this project includes consultation with the relevant public authorities following the issue of a gateway determination. In this instance, this includes consultation with the Sydney Airport Corporation, Airservices Australia and the Civil Aviation Safety Authority.

Following consultation with these public agencies, the planning proposal will be amended where necessary and reported back to Council and the Central Sydney Planning Committee for final approval prior to the drafting of the relevant amendments to the LEP.

6.3 Site Specific Provisions

The objective of this Ministerial Direction is to discourage unnecessarily restrictive site-specific planning controls.

This planning proposal is not consistent with Ministerial Direction 6.3, however this is justified as the applicant submitted a request to prepare a planning proposal to facilitate redevelopment of the subject site for a new commercial tower.

The proposed development concept described in this planning proposal, the amendments to the LEP and the draft DCP have been developed by the City in based in the proponent's design vision for the site as well as the City's vision for future development in Central Sydney.

Furthermore, the site specific provisions would not restrict future development from being undertaken on the subject site, as the site's existing controls in the LEP remain applicable.

5.5 Environmental, social and economic impact

Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitat, will be adversely affected as a result of the proposal?

The planning proposal is unlikely to adversely affect any critical habitat or threatened species, populations or ecological communities or their habitats. The subject site is located in Central Sydney, which does not contain any critical habitats or threatened species, populations or ecological communities.

Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

The changes to the floor space ratio control will provide for the redevelopment of the subject site.

It is unlikely that the proposed amendments will result in any adverse amenity impacts that cannot be controlled. Existing policies, regulations and standards are already in place to ensure environmental impacts are mitigated during the construction phase and eventual use of the development.

The proposed scheme has been developed to minimise the potential for adverse environmental impacts resulting from future development that could occur on the site.

The key environmental considerations arising from the planning proposal, particularly in relation to urban amenity, are discussed below.

Building height, floor space and tower setbacks

The planning envelope facilitated by this planning proposal has been tested against public domain amenity and is capable of comfortably accommodating the proposed indicative concept design with sufficient flexibility to accommodate any required mitigation to respond to and address any issues and provide architectural articulation without resulting in adverse conditions at ground level.

The site is subject to The Domain Sun Access Plane, and the concept envelope has been designed to comply with the height requirements through a sloping roof form.

The proposed podium height provides for the existing podium extent fronting Chifley Square to be a consistent height.

Appropriate tower setbacks have been incorporated into the proposed building envelope that despite not being consistent with the Strategy, help mitigate public domain wind impacts and provide a suitable curtilage to the adjoining heritage items.

Planning Proposal: 2 Chifley Square, Sydney

Notwithstanding the variations to tower setbacks, the proposed maximum planning envelope is consistent with the objectives of the Central Sydney Planning Strategy in that the planning proposal will facilitate additional employment generating floor space through additional building height and floor space without detrimentally impacting pedestrian amenity, solar access and wind conditions in the public domain.

View analysis

A view analysis for the proponent's reference scheme is included in the Urban Design Study appendix to the planning proposal, which explored the visual impact of the design from key public viewpoints in Central Sydney. The Urban Design Addendum prepared by the City also considered the view impacts from the City's proposed planning envelope.

A proposed tower within the planning envelope will be visible from The Domain and from adjoining streets and public places. It is considered that the proposal will not result in significant impacts on views due to it being within the maximum height controls for the site.

The main change in views from the City's planning envelope compared to the requested planning envelope is that the City's proposed envelope will block more of the view of the existing Chifley Tower viewed from the south in Phillip Street and Elizabeth Street. This additional impact is considered to be acceptable.

Solar access and overshadowing

Clause 6.19 of the LEP prevents new buildings from creating additional overshadowing to certain public places, which includes The Domain. The proposal does not include changes to The Domain sun access plane, with the proposed concept design fully compliant with this height control.

The planning envelope for this planning proposal has the same overall height as the requested planning envelope, which is determined by The Domain Sun Access Plane. The only difference is that the planning envelope extends further north-west than the requested planning envelope.

The resultant difference between the two planning envelopes is that the proposed planning envelope could be located closer to Chifley Square and cast some additional shadow to the square in the summer months. However, this is balanced by the increased setback to Hunter Street, which would allow more early morning sun into Hunter Street between the autumn and spring equinoxes. The overall overshadowing changes are very minor in winter due to the shadows already cast by existing tall buildings surrounding the site, and is therefore considered to be an acceptable outcome.

A detailed solar access and overshadowing analysis will be included as part of a detailed development application.

Daylight access / Sky view factor

The Central Sydney Planning Strategy seeks to unlock additional employment generating floor space in Central Sydney through opportunities for additional height and density that will not result in adverse impacts to public domain amenity including daylight access.

The Strategy provides for a base case building envelope to establish the minimum performance benchmarks for daylight levels or sky view factor in public places adjacent to the site. Planning proposals may vary the building envelope set by the Strategy subject to equivalent or improved daylight access to the surrounding public domain.

Sky view testing has been undertaken for the planning envelope, which has a lower (worse) Sky View Factor than the requested planning envelope, but still higher than the Schedule 11 Procedure B Base Case, and therefore meets the control. Wind testing has not been undertaken but review of the existing modelling strongly suggests that it will also achieve equivalence.

Planning Proposal:
2 Chifley Square, Sydney

Wind assessment

A desk top study of the City's revised planning envelope considered general wind effects and identifiable localised effects, but did not include wind tunnel testing.

The study identified that the City's planning envelope is expected to result in wind conditions comparable to previously tested envelopes for this site, and is not expected to result in significant variations in wind effects compared to the existing conditions. It is also expected that the revised scheme will not result in any significant wind effects that would affect safety limits at ground level, surrounding the site.

Any potential exceedances in wind comfort levels for the revised planning envelope would be comparable to previous envelopes tested, including the base case model, and these could be addressed at the detailed design development application stage though the inclusion of wind mitigation measures.

Has the planning proposal adequately assessed any social and economic effects?

This planning proposal provides an opportunity for the redevelopment of the subject site, subject to acceptable public domain amenity conditions. Redevelopment will provide positive social and economic effects including:

- Providing approximately 44,108sqm of additional employment generating floor space to contribute to and strengthen Central Sydney's role as a globally competitive city;
- Creating an estimated 4,000 additional jobs;
- Providing for improved activation and accessibility of the site with the adjoining public domain, delivering improved amenity and safety for the public.

5.6 State and Commonwealth interests

Is there adequate public infrastructure for the planning proposal?

As the subject site is in Central Sydney, it is well served by the full range of public utilities including electricity, telecommunications, water, sewer and stormwater. It is expected that these services would be upgraded where required by the developer.

The proposal will provide contributions for local infrastructure and public domain improvements adjoining the site, to capitalise on its location close to major retail, office, and other uses, and close to existing and planned major transport nodes.

The detailed development application will be subject to the statutory development contributions, which will contribute to the provision of other community facilities, the demand for which will be generated by the development.

What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

The gateway determination will advise the public authorities to be consulted as part of this planning proposal process. Any issues raised will be incorporated into this planning proposal following consultation in the public exhibition period.

Clause 7.16 of the LEP requires concurrent approval from Sydney Airport for all works proposed to penetrate the OLS height, which is RL 156 metres in this location. At a maximum RL 214.2 metres in height, the future development concept would require approval under the Airports Act 1996 before the detailed development application can be approved by the City. It is proposed that the relevant public agencies are consulted on the height at the planning proposal stage.

6. Mapping

This planning proposal does not include any amendments to maps.

No change will be made to any maps contained in the LEP as part of this planning proposal, instead additional floor space ratio is proposed to be included through new site-specific provisions under Division 5 as discussed earlier in this planning proposal document.

Updated maps and new figures to reflect the proposed future development concept as discussed in this planning proposal are detailed in the draft DCP, which has been prepared as part of this planning proposal, and will be exhibited with the planning proposal.

7. Community consultation

This planning proposal is to be exhibited in accordance with the gateway determination once issued by the Department of Planning, Industry and Environment.

It is anticipated that the gateway determination will require public exhibition for a period of not less than 20 working days in accordance with the Environmental Planning and Assessment Act 1979 and the NSW Government Local Environmental Plan Making Guideline.

Notification of the public exhibition will be consistent with the Gateway Determination and the City's Community Participation Plan and include publication on City of Sydney website and notification to surrounding owners and occupiers.

Consultation with relevant NSW agencies, authorities and other relevant organisations will be undertaken in accordance with the gateway determination.

8. Project timeline

The anticipated timeframe for the completion of the planning proposal is as follows, including the working days for these milestones as identified in the Gateway determination issued on 8 February 2022:

Stage	Timeframe
Commencement / Gateway Determination	February 2022
Government agency consultation	April 2022
Public exhibition	By 22 April 2022 (within 51 working days)
Consideration of submissions	May 2022
Post exhibition consideration of proposal	By 5 September 2022 (within 145 working days)
Draft and finalise LEP	September 2022
LEP made	October 2022
Plan forwarded to Department of Planning, Industry and Environment for notification	By 22 November 2022 (within 200 working days)

Appendix 1

Example clauses

The final version of the clauses to be inserted into Division 56 would be subject to drafting and agreement by the Parliamentary Counsel's Office, but may be written as follows.

Part 6 Local provisions – height and floor space

Division 5 Site specific provisions

6.## 2 Chifley Square, Sydney

- (1) The objective of this clause is to encourage:
 - (a) land uses other than residential accommodation and serviced apartments, and
 - (b) new development with appropriate distribution of built form and floor space consistent with the surrounding context, and
 - (c) removal of the commercial car parking.
- (2) This clause applies to 2 Chifley Square, Sydney, being Lot 10 DP 777545.
- (3) Despite any other provision of this Plan, a building on land to which this clause applies may have a maximum floor space ratio of 20.63:1 (~~indicatively~~) comprising:
 - (a) mapped floor space ratio under clause 4.4, and
 - (b) accommodation floor space ratio under clause 6.4, and
 - (c) end of journey floor space under clause 6.6, and
 - (d) an amount of site specific floor space for the site, and for this site specific floor space to be delivered on the southern portion of the site, and
 - (e) notwithstanding Clause 6.21(7)(b) **D(3)(b)** an amount of additional floor space, to be determined by the consent authority, of up to 10% based on the extent of the site to be the subject of the design competition if the building demonstrates design excellence.
- (4) **Despite subclause (3) the floor space ratio for a building on the subject land at or above ground level (existing) must not exceed 20.33:1.**
- (5) Clause 4.6 does not apply to development to which this clause applies.
- ~~(6) Clause 6.19(1)(b) does not apply to development to which this clause applies.~~
- (7) **Clause 6.21D(3)(a) does not apply to development in which this clause applies.**
- (8) **Clause 6.5A does not apply to development in which this clause applies.**
- (9) Development consent must not be granted under this clause unless the consent authority is satisfied that the development will–
 - (a) not be used for the purpose of residential accommodation or serviced apartments, and
 - (b) not be used for the purposes of a commercial car park



Attachment C

**Draft Sydney Development Control Plan
2012 -
2 Chifley Square, Sydney**

Sydney Development Control Plan 2012 – 2 Chifley Square, Sydney



The purpose of this Development Control Plan

The purpose of this Development Control Plan (DCP) is to amend the *Sydney Development Control Plan 2012*, which was adopted by Council on 14 May 2012 and came into effect on 14 December 2012.

The amendment provides objectives and provisions to inform future development on 2 Chifley Square, Sydney.

This plan is to be read in conjunction with draft Planning Proposal: 2 Chifley Square, Sydney.

Citation

This amendment may be referred to as *Sydney Development Control Plan 2012 – 2 Chifley Square, Sydney*.

Land covered by this plan

This land applies to the land identified as 2 Chifley Square, Sydney – which is Lot 10 DP 777545.

Relationship of this plan to Sydney Development Control Plan 2012

This plan amends the Sydney Development Control Plan 2012 in the manner set out in Schedule 1 below.

Schedule 1 – Amendment to Sydney Development Control Plan 2012

Figure 6.1 Specific sites map

Amend Figure 6.1: Specific sites map to include 2 Chifley Square, Sydney.

Amendment to Section 6.3

Insert a new sub-section at the end of Section 6.3 containing all text and figure as shown below.

6.3.# 2 Chifley Square, Sydney

The following objectives and provisions apply to 2 Chifley Square, Sydney as shown in 'Figure 6.1 Specific sites map', where relevant site specific provisions of the Sydney Local Environmental Plan 2012 (Sydney LEP 2012) are implemented.

Clause 6.## of the Sydney LEP 2012 enables development to exceed the floor space ratio shown in the floor space ratio map up to a prescribed amount, providing the subject site is developed for commercial use.

If a development at 2 Chifley Square, Sydney, seeks to utilise additional floor space ratio permitted by clause 6.## of the Sydney LEP 2012, then the provisions in this section also apply to the assessment of the proposed development and override other provisions in this DCP where there is an inconsistency.

6.3.X.1 Maximum Building Envelope

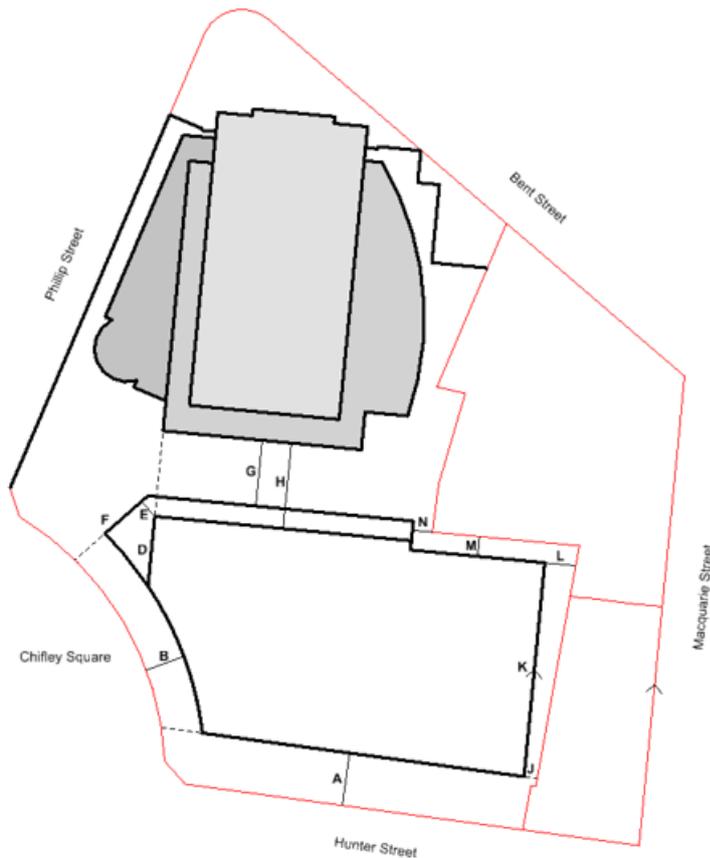
Objectives

- (a) Ensure development provides a strongly defined podium
- (b) Ensure development provides:
 - (i) tower setbacks that create a large setback from Hunter Street
 - (ii) stepping setbacks to Chifley Square that define the square and relates to the stepping massing of the existing tower
 - (iii) sufficient setbacks from side boundaries that all maintenance can occur within the site boundaries
 - (iv) a formally composed presentation when viewed from Macquarie Street
- (c) Determine the maximum planning envelope that respects the local context and achieves acceptable levels of solar access, wind comfort and daylight.
- (d) Ensure the building is appropriately massed within the planning envelope.

Provisions

- (1) The street frontage height facing Chifley Square and Hunter Street shall not exceed RL 61.1m.
- (2) Setbacks of the tower component of development above the street frontage height are to be consistent with Figure 6.XX envelope – tower setbacks.

Figure 6.XX envelope – tower setbacks



Key

Minimum setbacks and alignments above the street frontage height:

A – 8m from Hunter Street

B – 6m from Chifley Square

D – above 120m above ground – align with the face of the existing tower, extension of alignment shown with a dashed line

E – 3m exactly measured from the north west corner of the envelope above 120m above ground

F – up to 120m above ground – setout from E aligned perpendicular to the curved alignment of Chifley Square as illustrated, the closest point is approximately 14.7m from Phillip Street

G – up to 120m above ground – 10m from the face of the existing tower

H – above 120m above ground – 13m from the face of the existing tower

J – 2m from the boundary aligned parallel to Hunter Street

K – Setout from J aligned parallel to Macquarie Street boundary with 175-181 Macquarie Street

L – Setback resultant of J and K – approximately 4.7m

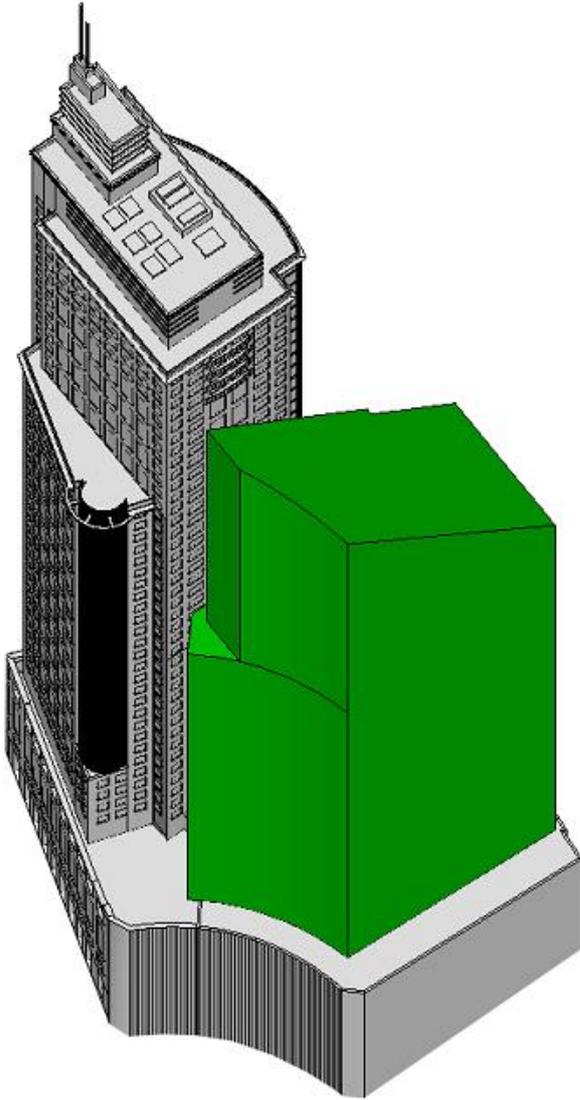
M – 3m from the boundary

N – 3m from the boundary

Grey – existing tower to be retained

- (3) The envelope detailed in 'Figure 6.XX envelope – tower setbacks' is the maximum permissible extent of the building form, and the final building design must be appropriately massed within this envelope. This envelope is indicatively illustrated in 'Figure 6.XX – planning envelope view from the south-west'.

Figure 6.XX – planning envelope view from the south-west



- ~~(4) The consent authority may consider alternative massing that provides better urban design, architectural, wind and daylight outcomes through consideration of the Evaluating Good Design framework established by Better Placed and design excellence requirements established by SLEP 2012.~~
- (4) A minimum of 10.5% of the total tower component envelope area (the sum of the areas measured in plan at each level) is to be for the purposes of architectural articulation (open areas), sun shading and external walls.

6.3.X.2 Materiality

Objective

- (a) Ensure development provides a high-quality cohesive urban ensemble.

Provision

- (1) Consideration of the opportunity for a response to the architecture and materials of the existing Chifley Tower to create a cohesive urban ensemble.

6.3.X.3 Defining Chifley Square

Objective

- (b) Ensure development provides a high-quality unified presentation to Chifley Square.

Provision

- (2) Development is to create a new unified architectural design of the building frontage to Chifley Square with a consistent height datum. The design of this frontage is to complement and join beautifully with the architectural expression of the existing Phillip Street street wall frontage and Qantas House façade.

6.3.X.4 Ground level frontage

Objective

- (a) Maximise active frontages with retail and business premises uses at ground level, and minimise services, vehicle access and lobbies.

Provisions

- (1) Chifley Square and Hunter Street ground level frontages are to maximise activation with retail or food and drink premises or both.
- (2) Entry to the basement carpark is to be maintained at the existing location on Bent Street.

6.3.X.5 Wind

Objective

- (a) Ensure development results in a comfortable and safe wind environment in adjacent public places.

Provisions

- (1) A quantitative wind effects report is to be submitted with a detailed development application for the subject site.
- (2) The quantitative wind effects report is to demonstrate that the proposed development will not:
 - (a) cause wind speeds that exceed the Wind Safety Standard, the Wind Comfort Standard for Walking except where the existing wind speeds exceed the standard; and
 - (b) worsen an existing wind condition that exceeds the Wind Safety Standard and the Wind Comfort Standard for Walking by increasing the spatial extent, frequency or speed of the wind.
- (3) The quantitative wind effects report is to demonstrate that the proposed development will result in lower average wind comfort speed than the Schedule 11 Procedure B Base Case model envelope.
- (4) The quantitative wind effects report is to further demonstrate the proposed development incorporates measures to create a comfortable wind environment that is consistent with the Wind Comfort Standards for Sitting and Standing.

Wind Safety Standard is an annual maximum peak 0.5 second gust wind speed in one hour measured between 6am and 10pm Eastern Standard Time of 24 metres per second.

Wind Comfort Standard for Walking is an hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time (i.e. 5% of those hours) of 8 metres per second.

Wind Comfort Standards for Sitting and Standing is hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time of; 4 metres per second for sitting; and 6 metres per second for standing.

6.3.X.6 Parking and vehicular access

Objectives

- (a) Ensure development results in minimal provision of car parking on site.
- (b) Ensure development provides basement access to adjoining sites.

Provisions

- (1) Vehicular access is to be from the existing location on Bent Street only.
- (2) Commercial car parking spaces removed from the site are not to be converted to tenant car parking spaces
- (3) The basement is to include break through panels and necessary easements to the adjoining site known as 167 Macquarie Street.

6.3.X.7 Design Excellence Strategy

Objective

- (a) To ensure that the building design is the result of a ~~best practice~~ an architectural design competition **to achieve design excellence.**

Provision

- (1) An invited architectural design competition is to be undertaken in accordance with clause 6.21 **D** of the Sydney Local Environmental Plan 2012 and the City of Sydney Competitive Design Policy.
- (2) The competition is to include:
 - (a) no less than six (6) competitors **invited to participate;**
 - ~~(b)~~ the majority to be local or national Australian firms; ~~and~~
 - (c) ~~include~~ the architectural practice that designed the existing tower;
 - (d) at least one (1) competitor is an emerging architect or all competitors must be in partnership with emerging architects**
 - (e) competitors should demonstrate that they meet a gender representation ratio of at least 40% non-male members in their design team**
- (3) The jury is to comprise a total of six (6) members. The proponent is to nominate three (3) jurors made up of one independent member (a person who has no pecuniary interest, nor is a pending or contracted employee or consultant to the proponent) and the City of Sydney is to nominate three (3) jurors.
- (4) Any additional floor space that may be awarded for a building demonstrating design excellence under the site specific clause XXX, is to be accommodated within the building envelope shown within 'Figure 6.XX – envelope – tower setbacks'.

6.3.X.8 Pedestrian connection through the podium

Objectives

- (a) Ensure development results in pedestrian access though the site.

Provisions

- (1) A pedestrian connection is to be provided through the podium providing a legible, accessible connection linking Bent Street with Hunter Street.

6.3.X.9 Sustainability

Objective

- ~~(a) Ensure development is consistent with Australian best practice performance benchmarks for ecologically sustainable development.~~
- ~~(b) Ensure that development includes net zero energy operation.~~
- ~~(c) Ensure development minimises embodied and operational carbon emissions.~~

(1) *Ensure that development includes net zero energy operation.*

- (2) *Ensure that the new office development on the southern portion of the site:***
- (a) *is consistent with Australian best practice performance benchmarks for ecologically sustainable development.***
 - (b) *minimises embodied and operational carbon emissions.***

Provision

- (1) The consent authority must be satisfied that office development is capable of achieving net zero energy for the base building prior to commencing use through achievement of:

- ~~(a) 5.5 Star NABERS Energy Commitment Agreement + 25%; or~~
- ~~(b) certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use~~
- ~~(c) a maximum of 45 kWh/yr/m² of GFA.~~

~~and~~

- ~~(d) renewable energy procurement for a period of at least 5 years equivalent to net zero energy”.~~

~~For clarity, development must be demonstrated to be capable of achieving (c) and either (a) or (b).~~

- (a) *5.5 Star NABERS Energy Commitment Agreement + 25%; or***
- (b) *certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use***
- (c) *a maximum of 45 kWh/yr/m² of GFA.***

and

- (d) *renewable energy procurement for a period of at least 5 years equivalent to net zero energy”.***

For clarity, the whole of the development must be demonstrated to be capable of achieving (d) and the new building either (a),(b) or (c).

The sustainability requirements of (1) (a)-(c) apply to the new developments containing office premises with a net lettable area of 1,000sqm or more, and developments accumulatively involving alterations, additions and refurbishments to existing office premises where the estimated cost of works is over \$5 million, and contains a net lettable area of 1,000sqm or more

- (2) In this sub-section:
- (a) *net zero energy* means the development consumes no more energy than is provided by a combination of:
 - i. renewable energy generated on-site, and/or

- ii. renewable energy sourced/procured from off-site sources. In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.
 - (b) *renewable energy* means energy that comes from natural resources such as sunlight, wind and rain that are renewable (naturally replenished).
- (3) ~~The development is to be designed to include the following environmental performance and features:~~
- ~~(a) GreenStar Building – achieves 6 star;~~
 - ~~(b) only electrically powered plant and equipment be used for all parts of the existing and proposed development including replacement of all existing plant and equipment;~~
 - ~~(c) all plant and equipment to use only natural refrigerants;~~
 - ~~(d) electricity sub-metering metering is to be provided for light, air conditioning and power within each floor and/or tenancy;~~
 - ~~(e) rooftop photo-voltaic panels;~~
 - ~~(f) integrated façade photo-voltaic panels where feasible;~~
 - ~~(g) operational and embodied carbon emissions – provide an operational and embodied carbon emissions integrated design options report that demonstrates how operational and embodied carbon emissions have been minimised over the lifecycle of development through options analysis, including but not limited to, structural optimisation to reduce material volumes, optimisation of use of low embodied carbon materials (including concrete that achieves at least 30% lower embodied carbon than Conventional Ordinary Portland Cement (OPC) concrete), and optimisation of external shading and window to wall ratios (benchmarked against a 50% ratio with high levels of shading, high R-value and low embodied carbon wall construction);~~
- (3) The development is to be designed to include the following environmental performance and features:**
- (a) only electrically powered plant and equipment be used for all parts of the existing and proposed development (***other than for emergency and standby generation***) including replacement of all existing plant and equipment;
 - (b) all plant and equipment to use only natural refrigerants ***where possible or refrigerants with global warming potential (GWP) of not more than 10 for central chilled water generating plant, or not more than 700 for unitary equipment;***
- (4) The new development in the southern portion of the site is to be designed to include the following environmental performance and features:**
- (a) GreenStar Buildings **v1** – achieves 6 star
 - (b) electricity sub-metering metering is to be provided for light, air conditioning and power within each floor and/or tenancy;
 - (c) rooftop photo-voltaic panels;
 - (d) integrated façade photo-voltaic panels where feasible;
 - (e) operational and embodied carbon emissions – provide an operational and embodied carbon emissions integrated design options report that demonstrates how operational and embodied carbon emissions have been minimised over the lifecycle of development through options analysis, including but not limited to, structural optimisation to reduce material volumes, optimisation of use of low embodied carbon materials (including concrete that achieves at least 30% lower embodied carbon than Conventional Ordinary Portland Cement (OPC) concrete), and optimisation of external shading and window to wall ratios (benchmarked against a

50% ratio with high levels of shading, high R value and low embodied carbon wall construction;

- (f) include space allocation and infrastructure to enable daily management of all on-site organic waste including separation, storage and either onsite composting or collection and transfer to organic waste processing facility.
- (5) Design and performance and features in (1) and (3) are to be referenced in City of Sydney Design for Environmental Performance Template submitted with the detailed development application.
- (6) A Sustainable Travel Strategy is required to be prepared as part of an application for redevelopment of the site to address sustainability objectives, and support healthy and active lifestyles, not negatively impact on the environment, and so that the development will not lead to unnecessary vehicle trip generation and network congestion.

6.3.X.10 Public Art

- (1) Incorporate high quality public art in publicly accessible locations to contribute to the identity and amenity of the place.



Attachment D

**Voluntary Planning Agreement – 2 Chifley
Square, Sydney**

Planning agreement

The Council of the City of Sydney ABN 22 636 550 790 and

The Trust Company (Australia) Limited ABN 21 000 000 993
in its capacity as trustee for the 167 Macquarie Street Trust and
The Trust Company (Australia) Limited ABN 21 000 000 993
in its capacity as custodian of the DVP2 Chifley Investment Trust

2 Chifley Square, Sydney

Environmental Planning and Assessment Act 1979

Reference: X085141 | VPA/2021/13

CONTENTS

CLAUSE	PAGE
1. INTERPRETATION	5
1.1 Definitions	5
1.2 Rules for interpreting this document.....	10
2. APPLICATION OF THE ACT AND THE REGULATION	11
2.1 Application of this document	11
2.2 Public Benefits to be made by Developer	12
2.3 Application of sections 7.11, 7.12 and 7.24 of the Act	12
2.4 City rights.....	12
2.5 Explanatory note	12
3. OPERATION OF THIS PLANNING AGREEMENT	12
3.1 Commencement	12
4. WARRANTIES	12
4.1 Mutual warranties.....	12
4.2 Developer warranties	13
5. PUBLIC BENEFITS	14
5.1 Developer to provide Public Benefits	14
5.2 Maintenance of Developer's Works	14
6. COMPLETION.....	14
6.1 Date of Completion	14
6.2 Developer completion notice – Public Benefits	15
6.3 Inspection by the City	16
6.4 Non-completion of Public Benefits	16
7. INDEMNITY	17
8. DEFECTS LIABILITY.....	17
8.1 Security for Defects Liability Period	17
8.2 Defect in the Public Benefits.....	17
9. REGISTRATION AND CAVEAT	18
9.1 Registration of this document.....	18
9.2 Caveat	18
9.3 Release of this document.....	19
10. ENFORCEMENT	19
10.1 Developer to provide Guarantee	19
10.2 Adjustment of Guarantee Amount.....	19
10.3 Right of City to claim on Guarantee.....	20
10.4 Expenditure by the City	21
10.5 Top-up and return of Guarantee	21
11. DISPUTE RESOLUTION	21
11.1 Application.....	21
11.2 Negotiation	21
11.3 Not use information	22
11.4 Condition precedent to litigation	22
11.5 Summary or urgent relief.....	23

12.	TAXES AND GST	23
	12.1 Responsibility for Taxes	23
	12.2 GST free supply	23
	12.3 Supply subject to GST	23
13.	DEALINGS.....	24
	13.1 Dealing by the City	24
	13.2 Dealing by the Developer.....	24
14.	TERMINATION	25
15.	CONFIDENTIALITY, DISCLOSURES AND PRIVACY.....	25
	15.1 Use and disclosure of Confidential Information	25
	15.2 Disclosures to personnel and advisers	26
	15.3 Disclosures required by law.....	26
	15.4 Receiving party's return or destruction of documents	27
	15.5 Security and control.....	27
	15.6 Media releases	27
	15.7 Privacy	27
16.	NOTICES	27
17.	CHAIN OF RESPONSIBILITY	28
18.	GENERAL	29
	18.1 Governing law	29
	18.2 Access to information	29
	18.3 Liability for expenses.....	29
	18.4 Relationship of parties.....	29
	18.5 Giving effect to this document.....	29
	18.6 Time for doing acts	30
	18.7 Severance.....	30
	18.8 Preservation of existing rights	30
	18.9 No merger	30
	18.10 Waiver of rights.....	30
	18.11 Operation of this document.....	30
	18.12 Operation of indemnities.....	31
	18.13 Inconsistency with other documents.....	31
	18.14 No fetter.....	31
	18.15 Counterparts.....	31
	18.16 Developer Limitation of Liability.....	31

SCHEDULES

1.	PUBLIC BENEFITS - OVERVIEW.....	38
2.	PAYMENT OF MONETARY CONTRIBUTION.....	41
	2.1 Payment.....	41
	2.2 Indexation	41
	2.3 No trust.....	41
	2.4 Expenditure by the City	41
3.	TRANSFER LAND.....	42
4.	DEVELOPER'S WORKS	42
5.	CONSTRUCTION OF DEVELOPER'S WORKS.....	42
6.	SUSTAINABILITY COMMITMENTS	42
	6.1 Environmental Performance Commitment	42
	6.2 Guidelines.....	42

Schedules

1	Agreement Details	35
2	Requirements under the Act and Regulation (clause 2)	36
3	Public Benefits (clause 5).....	38

Annexures

A	Deed of Consent	46
B	Right of Carriageway and Breakthrough Works and Instrument	49

DRAFT

BETWEEN:

- (1) **The Council of the City of Sydney** ABN 22 636 550 790 of Town Hall House, 456 Kent Street, SYDNEY NSW 2000 (the **City**); and
- (2) **The Trust Company (Australia) Limited** ABN 21 000 000 993 as trustee for the 167 Macquarie Street Trust and **The Trust Company (Australia) Limited** ABN 21 000 000 993 as custodian of the DVP2 Chifley Investment Trust c/- Level 20, 1 Martin Place, Sydney NSW 2000 (the **Developer**).

BACKGROUND

- (A) The Developer is the owner of the Land and the proponent of the Planning Proposal and intends to undertake the Development on the Land.
- (B) The Developer has offered to enter into this document with the City to provide the Public Benefits on the terms of this document.

THE PARTIES AGREE AS FOLLOWS:

1. **INTERPRETATION**

1.1 **Definitions**

The following definitions apply in this document.

Act means the *Environmental Planning and Assessment Act 1979* (NSW).

Adverse Affectation has the same meaning as in Part 3 of Schedule 3 of the *Conveyancing (Sale of Land) Regulation 2010* (NSW).

Attributed Value means the value the City and the Developer agree is to be attributed to each element of the Public Benefits as at the date of this document, as set out in clause 1 of Schedule 3 of this document.

Authorisation means:

- (a) an approval, authorisation, consent, declaration, exemption, permit, licence, notarisation or waiver, however it is described, and including any condition attached to it; and
- (b) in relation to anything that could be prohibited or restricted by law if a Government Agency acts in any way within a specified period, the expiry of that period without that action being taken,

including any renewal or amendment.

Right of Carriageway and Breakthrough Works means the works contemplated by Annexure B.

Business Day means a day (other than a Saturday, Sunday or public holiday) on which banks are open for general banking business in Sydney, Australia.

City's Policies means all policies and procedures relevant to the provision of the Public Benefits, as notified by the City in writing to the Developer.

City's Representative means the person named in Item 3 of Schedule 1 or his/her delegate.

Commitment Agreement is an agreement between the NABERS National Administrator, the Department of Planning and Environment (Environment and Heritage) and the Developer to design, build and commission the premises to achieve the applicable NABERS Energy star rating as described in Schedule 3 and otherwise has the meaning attributed to 'Commitment Agreement' under NABERS.

Completion has the meaning set out in clause 6.1.

Completion Notice means a notice issued by the Developer in accordance with clause 6.2.

Confidential Information means:

- (a) information of a party (**disclosing party**) that is:
 - (i) made available by or on behalf of the disclosing party to the other party (**receiving party**), or is otherwise obtained by or on behalf of the receiving party; and
 - (ii) by its nature confidential or the receiving party knows, or ought reasonably to know, is confidential.

Confidential Information may be made available or obtained directly or indirectly, and before, on or after the date of this document.

Confidential Information does not include information that:

- (a) is in or enters the public domain through no fault of the receiving party or any of its officers, employees or agents;
- (b) is or was made available to the receiving party by a person (other than the disclosing party) who is not or was not then under an obligation of confidence to the disclosing party in relation to that information; or
- (c) is or was developed by the receiving party independently of the disclosing party and any of its officers, employees or agents.

Construction Certificate has the same meaning as in the Act.

Contamination has the meaning given to that word in the *Contaminated Land Management Act 1997* (NSW).

Corporations Act means the *Corporations Act 2001* (Cth).

Dealing means selling, transferring, assigning, novating, mortgaging, charging, or encumbering and, where appearing, **Deal** has the same meaning.

Deed of Consent means the consent in the form of Deed of Novation set out in Annexure A.

Defect means any error, omission, defect, non-conformity, discrepancy, shrinkage, blemish in appearance or other fault in the Public Benefits or any other matter which prevents the Public Benefits from complying with the terms of this document.

Defects Liability Period means in relation to the Public Benefits, the period of 12 months from the date on which the Developer's Works reach Completion.

Developer's Representative means the person named in Item 4 of Schedule 1 or his/her delegate.

Developer's Works means those parts of the Public Benefit described as "Developer's Works" in clause 1 of Schedule 3, to be delivered by the Developer in accordance with this document.

Development means the development of the Land by the Developer described at Item 2 of Schedule 1.

Development Application means the development application identified in Item 5 of Schedule 1 and includes all plans, reports models, photomontages, material boards (as amended supplemented) submitted to the consent authority before the determination of that Development Application.

Development Consent means the consent granted to the Development Application for the Development and includes all modifications made under section 4.55 (or section 4.56 if applicable) of the Act.

Dispute means any dispute or difference between the parties arising out of, relating to or in connection with this document, including any dispute or difference as to the formation, validity, existence or termination of this document.

Energy Efficient Review means an independent design review undertaken by a NABERS Certified Independent Design Reviewer sufficiently early in the design process to enable design changes to be made.

Environmental Excellence Initiatives means those parts of the Public Benefit described as 'Environmental Excellence Initiatives' in clause 1 of Schedule 3, to be delivered by the Developer in accordance with this document.

Environmental Laws means all laws and legislation relating to environmental protection, building, planning, health, safety or work health and safety matters and includes the following:

- (a) the *Work Health and Safety Act 2011* (NSW);
- (b) the *Protection of the Environment Operations Act 1997* (NSW); and
- (c) the *Contaminated Land Management Act 1997* (NSW).

Government Agency means:

- (a) a government or government department or other body;

- (b) a governmental, semi-governmental or judicial person; or
- (c) a person (whether autonomous or not) who is charged with the administration of a law.

Gross Floor Area has the meaning given to that term in the *Sydney Local Environment Plan* in effect at the date of this document.

GST means the same as in the GST Act.

GST Act means *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

Guarantee means a bank guarantee or documentary performance bond for the Guarantee Amount which must:

- (a) be denominated in Australian dollars;
- (b) be an unconditional undertaking;
- (c) be signed and issued by a bank licensed to carry on business in Australia, an Australian Prudential Regulation Authority (APRA) regulated authorised deposit taking institution or an insurer authorised by APRA to conduct new or renewal insurance business in Australia having at all times an investment grade security rating from an industry recognised rating agency of at least:
 - (i) BBB + (Standard & Poors and Fitch);
 - (ii) Baa 1 (Moody's); or
 - (iii) Bbb (Bests);
- (d) be issued on behalf of the Developer;
- (e) have no expiry or end date;
- (f) state the beneficiary as the City;
- (g) be irrevocable;
- (h) state the Guarantee Amount as the minimum amount required by this document to be lodged as security;
- (i) state the purpose of the security as required in accordance with this document; and
- (j) be on such other terms approved by the City.

Guarantee Amount(s) means the total amount listed in Item 6 of Schedule 1 of this document.

Guarantee Amount(s) Due Date means the date or milestone by which the Developer must provide the Guarantee Amount to the City, set out at Item 7 of Schedule 1.

Index Number means the Consumer Price Index (Sydney all groups) published by the Australian Bureau of Statistics from time to time.

Insolvency Event means:

- (a) having a controller, receiver, manager, administrator, provisional liquidator, liquidator or analogous person appointed;
- (b) an application being made to a court for an order to appoint a controller, provisional liquidator, trustee for creditors or in bankruptcy or analogous person to the person or any of the person's property
- (c) the person being taken under section 459F(1) of the Corporations Act to have failed to comply with a statutory demand;
- (d) an application being made to a court for an order for its winding up;
- (e) an order being made, or the person passing a resolution, for its winding up;
- (f) the person:
 - (i) suspending payment of its debts, ceasing (or threatening to cease) to carry on all or a material part of its business, stating that it is unable to pay its debts or being or becoming otherwise insolvent; or
 - (ii) being unable to pay its debts or otherwise insolvent;
- (g) the person taking any step toward entering into a compromise or arrangement with, or assignment for the benefit of, any of its members or creditors;
- (h) a court or other authority enforcing any judgment or order against the person for the payment of money or the recovery of any property; or
- (i) any analogous event under the laws of any applicable jurisdiction,

unless this takes place as part of a solvent reconstruction, amalgamation, merger or consolidation that has been approved by the other party.

Instrument means the easement for right of carriageway and the positive covenant contemplated by Annexure B.

Instrument Change means an amendment to the Sydney LEP in accordance with the Planning Proposal.

Land means the land described in Item 1 of Schedule 1 of this document.

Laws means all applicable laws, regulations, industry codes and standards, including all Environmental Laws.

Monetary Contribution means that part of the Public Benefits described as "Monetary Contribution" in clause 1 of Schedule 3 to be paid by the Developer to the City in accordance with this document.

NABERS means the National Australian Built Environment Rating System that measures the environmental performance of Australian buildings, tenancies and homes and is managed nationally by the NSW Office of Environment and Heritage, on behalf of Commonwealth, state and territory governments.

NABERS National Administrator has the meaning attributed to 'Commitment Agreement' under NABERS.

Occupation Certificate has the same meaning as in the Act.

Personal Information means:

- (a) personal information within the meaning of the *Privacy and Personal Information Protection Act 1998* (NSW);
- (b) health information within the meaning of the *Health Records and Information Privacy Act 2002* (NSW); and
- (c) any information which does not fall within the scope of paragraphs (a) and (b) above, but is personal information within the meaning of the *Privacy Act 1988* (Cth).

Personnel means the Developer's officers, employees, agents, contractors or subcontractors.

Planning Proposal means the planning proposal for the Land which received Gateway Determination from the Department of Planning and Environment on 8 February 2022.

Privacy Laws means the *Privacy Act 1988* (Cth), the *Privacy and Personal Information Protection Act 1998* (NSW), the *Health Records and Information Privacy Act 2002* (NSW); the *Spam Act 2003* (Cth), the *Do Not Call Register Act 2006* (Cth) and any other applicable legislation, regulations, guidelines, codes and the City's Policies relating to the handling of Personal Information.

Public Benefits means the provision of benefits to the community by the Developer in the form and at the times specified in Schedule 3.

Regulation means the *Environmental Planning and Assessment Regulation 2021* (NSW).

Standards means the policies, procedures and standards for carrying out the Developer's Works.

Subdivision of Land has the same meaning as in the Act.

Tax means a tax, levy, duty, rate, charge, deduction or withholding, however it is described, that is imposed by law or by a Government Agency, together with any related interest, penalty, fine or other charge.

1.2 **Rules for interpreting this document**

Headings are for convenience only, and do not affect interpretation. The following rules also apply in interpreting this document, except where the context makes it clear that a rule is not intended to apply.

- (a) A reference to:
 - (i) a legislative provision or legislation (including subordinate legislation) is to that provision or legislation as amended, re-enacted or replaced, and includes any subordinate legislation issued under it;
 - (ii) a document (including this document) or agreement, or a provision of a document (including this document) or agreement, is to that document, agreement or provision as amended, supplemented, replaced or novated;
 - (iii) a party to this document or to any other document or agreement includes a permitted substitute or a permitted assign of that party;
 - (iv) a person includes any type of entity or body of persons, whether or not it is incorporated or has a separate legal identity, and any executor, administrator or successor in law of the person; and
 - (v) anything (including a right, obligation or concept) includes each part of it.
- (b) A singular word includes the plural, and vice versa.
- (c) A word which suggests one gender includes the other genders.
- (d) If a word or phrase is defined, any other grammatical form of that word or phrase has a corresponding meaning.
- (e) If an example is given of anything (including a right, obligation or concept), such as by saying it includes something else, the example does not limit the scope of that thing.
- (f) A reference to **including** means "including, without limitation".
- (g) A reference to **dollars** or **\$** is to an amount in Australian currency.
- (h) A reference to **this document** includes the agreement recorded by this document.
- (i) Words defined in the GST Act have the same meaning in clauses about GST.
- (j) This document is not to be interpreted against the interests of a party merely because that party proposed this document or some provision in it or because that party relies on a provision of this document to protect itself.

2. **APPLICATION OF THE ACT AND THE REGULATION**

2.1 **Application of this document**

This document is a planning agreement within the meaning of section 7.4 of the Act and applies to:

- (a) the Land; and
- (b) the Instrument Change.

2.2 **Public Benefits to be made by Developer**

Clause 5 and Schedule 3 set out the details of the:

- (a) Public Benefits to be delivered by the Developer;
- (b) time or times by which the Developer must deliver the Public Benefits; and
- (c) manner in which the Developer must deliver the Public Benefits.

2.3 **Application of sections 7.11, 7.12 and 7.24 of the Act**

- (a) The application of sections 7.11, 7.12 and 7.24 of the Act are excluded to the extent set out in Items 5 and 6 of Schedule 2 to this document.
- (b) For the avoidance of doubt, if the City imposes a condition on a Development Consent for the Development under section 7.11 or section 7.12 of the Act requiring payment of a contribution authorised by a contributions plan, no further contributions pursuant to section 7.11 or section 7.12 of the Act are payable in relation to the Development.

2.4 **City rights**

This document does not impose an obligation on the City to:

- (a) grant Development Consent for the Development; or
- (b) exercise any function under the Act in relation to a change to an environmental planning instrument, including the making or revocation of an environmental planning instrument.

2.5 **Explanatory note**

The explanatory note prepared in accordance with clause 205 of the Regulation must not be used to assist in construing this document.

3. **OPERATION OF THIS PLANNING AGREEMENT**

3.1 **Commencement**

This document will commence on the later of:

- (a) the date of execution of this document by all parties to this document; and
- (b) the date the Instrument Change comes into force.

4. **WARRANTIES**

4.1 **Mutual warranties**

Each party represents and warrants that:

- (a) **(power)** it has full legal capacity and power to enter into this document and to carry out the transactions that it contemplates;

- (b) **(corporate authority)** it has taken all corporate action that is necessary or desirable to authorise its entry into this document and to carry out the transactions contemplated;
- (c) **(Authorisations)** it holds each Authorisation that is necessary or desirable to:
 - (i) enable it to properly execute this document and to carry out the transactions that it contemplates;
 - (ii) ensure that this document is legal, valid, binding and admissible in evidence; or
 - (iii) enable it to properly carry on its business as it is now being conducted, and it is complying with any conditions to which any of these Authorisations is subject;
- (d) **(documents effective)** this document constitutes its legal, valid and binding obligations, enforceable against it in accordance with its terms (except to the extent limited by equitable principles and laws affecting creditors' rights generally), subject to any necessary stamping or registration;
- (e) **(solvency)** there are no reasonable grounds to suspect that it will not be able to pay its debts as and when they become due and payable; and
- (f) **(no controller)** no controller is currently appointed in relation to any of its property, or any property of any of its subsidiaries.

4.2 **Developer warranties**

- (a) The Developer warrants to the City that, at the date of this document:
 - (i) it is the registered proprietor of the Land;
 - (ii) it is legally entitled to obtain all consents and approvals that are required by this document and do all things necessary to give effect to this document;
 - (iii) all work performed by the Developer and the Personnel under this document will be performed with due care and skill and to a standard which is equal to or better than that which a well experienced person in the industry would expect to be provided by an organisation of the Developer's size and experience; and
 - (iv) it is not aware of any matter which may materially affect the Developer's ability to perform its obligations under this document.
- (b) The Developer warrants to the City that, prior to commencing delivery of the Public Benefits it will have obtained all Authorisations and insurances required under any Law to carry out its obligations under this document.

5. PUBLIC BENEFITS

5.1 Developer to provide Public Benefits

The Developer must, at its cost and risk, provide the Public Benefits to the City in accordance with this document.

5.2 Maintenance of Developer's Works

(a) In this clause 5.2, the following definitions apply:

Maintain means works to bring an item to a state of reasonable condition and in accordance with relevant standards applicable at the time of construction of the item, but does not include removing graffiti or repairing any item damaged as a consequence of vandalism. **Maintained** and **Maintenance** have corresponding meanings.

Maintenance Period is the period of 12 months from the date on which the Developer's Works reach Completion.

Maintenance Schedule means the schedule of proposed Maintenance works.

(b) The Developer's Works must be Maintained by the Developer during the Maintenance Period in accordance with the Maintenance Schedule.

(c) The Developer must follow the City's Policies and obtain and comply with all Authorisations necessary to carry out the Maintenance required under this clause 5.2.

(d) If, during the Maintenance Period:

- (i) the Developer fails to materially comply with the approved Maintenance Schedule and does not rectify that failure within 15 Business Days of being notified of that failure by the City or within a reasonable period of time agreed between the parties; or
- (ii) the City becomes aware of an item of the Developer's Works that requires urgent Maintenance to ensure public safety or avoid damage or loss to the public or property,

the City may, by itself, its employees, contractors or agents, carry out the required works and may recover as a debt due and owing to the City, any difference between the amount of the Guarantee and the costs incurred by the City in carrying out the Maintenance work.

6. COMPLETION

6.1 Date of Completion

The Developer must ensure that the Public Benefits are achieved on or before the dates or milestones referred to as the 'Due Date' in clause 1 of Schedule 3 of this document (**Completion**).

6.2 Developer completion notice – Public Benefits

- (a) When, in the reasonable opinion of the Developer, a Public Benefit has reached Completion, the Developer must notify the City’s Representative in writing and must include in that notice:
- (i) in relation to the Environmental Excellence Initiatives:
 - (A) a copy of the executive summary of the Energy Efficient Review prepared by a NABERS certified Independent Design Reviewer in accordance with the NABERS requirements;
 - (B) a copy of 12 months of sub-metering data for energy and water that informed the NABERS rating; and
 - (C) evidence that the NABERS rating for energy and water has been achieved;
 - (D) evidence of the Building Climate Active certification following completion of NABERS ratings;
 - (E) evidence post-occupancy of formal rating for NABERS Waste;
 - (ii) in relation to the Instrument, evidence that the Instrument has been lodged for registration on the title for the Land in accordance with clause 1 of Schedule 3; and
 - (iii) in relation to the Public Art, a statement that the Public Art installation has been completed,

(Completion Notice). For the avoidance of doubt, the Developer can issue separate Completion Notices at separate times for different elements of the Public Benefits, however the Developer must ensure that Completion is achieved for the Public Benefits before the due date specified in Item 1 of Schedule 3.

- (b) If the Environmental Excellence Initiatives have not been achieved on or before the date or milestone referred to in Item 1 of Schedule 3 to this document:
- (i) the Developer must make a request in writing to meet the City to agree what alternative measures it will put into place in order to achieve a sustainable commercial development; or
 - (ii) if alternative measures have been previously agreed, the City may permit the Developer not to achieve the Environmental Excellence Initiatives as set out in this document by issuing a notice in writing to the Developer stating that completion of the items identified in that notice is not required to fulfil the Developer’s obligations under this document.

6.3 **Inspection by the City**

- (a) The City's Representative must inspect the Developer's Works within 5 Business Days of the date that the Completion Notice is received by the City. The City's Representative may refuse to complete the inspection until the Completion Notice has been issued with all required documentation attached in accordance with clause 6.2. Within 10 Business Days of the date of the inspection by the City's Representative, the City must by written notice to the Developer:
 - (i) state that Completion has been achieved;
 - (ii) state that Completion has not been achieved and, if so, identify the Defects, errors or omissions which, in the opinion of the City's Representative, prevent Completion; or
 - (iii) issue a notice under clause 6.4(a).
- (b) Nothing in this clause 6.3, or any notice issued under this clause 6.3, will:
 - (i) reduce or waive in any manner the Developer's responsibility to:
 - (A) deliver the Developer's Works in accordance with this document; or
 - (B) the Developer's responsibility to correct Defects, errors or omissions, whether or not these are identified by the City; or
 - (ii) create any liability for the City in relation to any defective aspect of the Developer's Works.

6.4 **Non-completion of Public Benefits**

- (a) If the Developer makes a request by notice in writing not to complete the Public Benefits (or any part of the Public Benefits):
 - (i) the City may permit the Developer not to complete the Public Benefits (or any part of the Public Benefits) by issuing a notice in writing to the Developer stating that completion of the items identified in that notice is not required to fulfil the Developer's obligations under this document; and
 - (ii) the City may make a claim on the Guarantee in such amount as the City considers necessary to complete the portion of Public Benefit not being delivered by the Developer.
- (b) If the Developer fails to complete the whole of the Public Benefits in the form and to the standards required under the Development Consent or this document then the City may either:
 - (i) complete the Public Benefits itself; or
 - (ii) modify the Public Benefits to reasonably achieve the objectives identified in the Development Consent and this document,

and may recover all costs of and reasonably incidental to that work from the Developer. The City can claim on the Guarantee in order to exercise this right, in which case the provisions of clause 10 will apply. To the extent that the City's costs exceed the amount of the Guarantee, the City can recover this amount from the Developer as a debt due and owing to the City.

- (c) If the City exercises its rights under this clause 6.4 to complete the Public Benefits, the Developer grants the City a licence for the period necessary for the City to access the Land to carry out, or procure the carrying out, of the Public Benefits.

7. **INDEMNITY**

The Developer indemnifies the City against all damage, expense, loss or liability of any nature suffered or incurred by the City its officers, employees, agents and contractors arising from any act or omission by the Developer (or any Personnel) in connection with the performance of the Developer's obligations under this document, except to the extent the damage, expense, loss or liability suffered or incurred is caused by, or contributed to by, any wilful or negligent act or omission of the City (or any person engaged by the City).

8. **DEFECTS LIABILITY**

8.1 **Security for Defects Liability Period**

Until the expiry of the relevant Defects Liability Period, the City may retain from the Guarantee an amount equal to 10% of the Attributed Value of the Public Benefits as security for the Developer's performance of its obligations under this clause 8. The Developer must make any necessary arrangements to allow the provision of the Guarantee for the Defects Liability Period in accordance with this clause.

8.2 **Defect in the Public Benefits**

- (a) If:
 - (i) the Developer is in breach of clause 4.2 of this document; or
 - (ii) the City notifies the Developer of a Defect in the Public Benefits within the Defects Liability Period,

then, following written notice from the City, the Developer must promptly correct or replace (at the Developer's expense) the defective elements of the Public Benefits.

- (b) If the Developer is unable or unwilling to comply with clause 8.2(a), or fails to rectify the Defect within three months of receiving notice from the City under clause 8.2(a), the City may:
 - (i) rectify the Defect itself;
 - (ii) make a claim on the Guarantee in accordance with clause 3 of Schedule 3 for the reasonable costs of the City in rectifying the Defect; and

- (iii) to the extent the costs incurred to rectify the Defect exceeds the Guarantee, recover the reasonable costs from the Developer as a debt due and owing to the City.
- (c) If the City requires access to the Land to rectify any Defect, the Developer grants the City and its contractors a licence for such period as is necessary for the City and its contractors to access the Land to carry out, or procure the carrying out, of the rectification works.

9. REGISTRATION AND CAVEAT

9.1 Registration of this document

- (a) The Developer:
 - (i) consents to the registration of this document at the NSW Land Registry Services on the certificate of title to the Land;
 - (ii) warrants that it has obtained all consents to the registration of this document on the certificate of title to the Land; and
 - (iii) must within 10 Business Days of a written request from the City do all things necessary to allow the City to register this document on the certificate of title to the Land, including but not limited to:
 - (A) producing any documents or letters of consent required by the Registrar-General of the NSW Land Registry Services; and
 - (B) pay to the City the registration and electronic lodgement (PEXA) fees payable in relation to registration of this document at NSW Land Registry Services.
 - (iv) The Developer must act promptly in complying with and assisting to respond to any requisitions raised by the NSW Land Registry Services that relate to registration of this document.

9.2 Caveat

- (a) The City may, at any time after the date of this document, register a caveat over the Land preventing any dealing with the Land that is inconsistent with this document. Provided that the City complies with this clause 9.2, the Developer must not object to the registration of this caveat and may not attempt to have the caveat removed from the certificate of title to the Land.
- (b) In exercising its rights under this clause 9.2 the City must do all things reasonably required to:
 - (i) remove the caveat from the Land once this document has been registered on the certificate of title to the Land; and
 - (ii) consent to the registration of:
 - (A) this document; and

- (B) any plan of consolidation, plan of subdivision or other dealing required by this document or the Development Consent.

9.3 **Release of this document**

If the City is satisfied that the Developer has provided all Public Benefits and otherwise complied with this document then the City must promptly do all things reasonably required to remove this document from the certificate of title to the Land.

10. **ENFORCEMENT**

10.1 **Developer to provide Guarantee**

The Developer must deliver the Guarantee for the Guarantee Amount to the City by the Guarantee Amount Due Date.

10.2 **Adjustment of Guarantee Amount**

- (a) Subject to clause 10.2(b), following each anniversary of the date of the Guarantee (the "Adjustment Date") and at any time prior to the expiry of the Defects Liability Period, the Guarantee Amounts are to be adjusted to a revised amount by applying the following formula:

$$\mathbf{RGA} = \mathbf{GA} \times (\mathbf{A/B})$$

where:

RGA is the revised guarantee amount applicable from the relevant Adjustment Date

GA is the Guarantee Amount that is current on the relevant Adjustment Date

A is the Index Number most recently published before the relevant Adjustment Date

B is the Index Number most recently published:

- (i) before the date of the Guarantee for the first Adjustment Date; and
- (ii) before the preceding Adjustment Date for every subsequent Adjustment Date

If after the formula is applied the revised Guarantee Amount will be less than the amount held at the preceding Adjustment Date, the Guarantee Amount will not be adjusted.

- (b) If the Guarantee Amount is adjusted under clause 10.2(a), the Developer is not required to provide the City with a replacement Guarantee for that revised Guarantee Amount until such time as the City notifies the Developer that the City is ready to exchange the then current Guarantee held by the City, following which the City and the Developer must promptly exchange

the then current Guarantee held by the City with a replacement Guarantee for that revised Guarantee Amount from the Developer.

10.3 **Right of City to claim on Guarantee**

- (a) The Developer agrees that the City may make an appropriation from the Guarantee in such amount as the City, acting reasonably, thinks appropriate if:
- (i) the Developer fails to provide detailed design drawings and a detailed costs estimate;
 - (ii) the Developer fails to comply with clause 2 of Schedule 3 (payment of Monetary Contribution);
 - (iii) the City allows the Developer not to complete the Public Benefits, or any part of them, in accordance with clause 6.4(a)(ii);
 - (iv) an Insolvency Event occurs in respect of the Developer;
 - (v) the Developer fails to deliver the Public Benefits in accordance with clause 6.4(b);
 - (vi) the Developer fails to carry out Maintenance in accordance with clause 5.2 of this document;
 - (vii) the Developer fails to rectify a Defect in accordance with clause 8.2 of this document;
 - (viii) the detailed designs for the Developer's Works are not finalised between the parties within 12 months of the date of issue of a Construction Certificate that approves the construction of any structures above the ground floor of the Development;
 - (ix) the Developer's Works do not reach Completion within 36 months of the date of issue of the first Construction Certificate in respect of the Development (or such later time as agreed by the City in writing);
 - (x) the Developer fails to maintain the Developer's Works in accordance with clause 5.2; or
 - (xi) the City incurs any other expense or liability in exercising its rights and powers under this document.
- (b) Any amount of the Guarantee appropriated by the City in accordance with clause 10.2 must be applied only towards:
- (i) the costs and expenses incurred by the City rectifying any default by the Developer under this document; and
 - (ii) carrying out any works required to achieve the Public Benefits.

10.4 **Expenditure by the City**

If the City claims on the Guarantee to Complete the Developer's Works, then the City:

- (a) is not required to expend more money than the Guarantee Amount and may elect not to carry out items of the Developer's Works to ensure that those works can be carried out for an amount equal to or less than the Guarantee Amount; or
- (b) may expend more than the Guarantee Amount. If the City expends more money than the Guarantee Amount then the amount in excess of the Guarantee Amount will be deemed to be a debt due and owing to the City by the Developer.

10.5 **Top-up and return of Guarantee**

- (a) If the City calls upon the Guarantee in accordance with this clause 10 then the Developer must immediately provide to the City a replacement Guarantee to ensure that, at all times until the Guarantee is released in accordance with paragraph (b), the City is in possession of a Guarantee for a face value equivalent to the Guarantee Amount.
- (b) If:
 - (i) the monies secured by the Guarantee have not been expended;
 - (ii) the City has concurred with Completion in accordance with clause 6.3(a)(i) of this document, taking into account any approved non-completion of Public Benefits approved by clause 6.4(a) of this document; and
 - (iii) the City has been provided with the security for the Defects Liability Period in accordance with clause 8.1,then the City will promptly return the Guarantee to the Developer following the issue of a notice pursuant to clause 6.3(a)(i) of this document.
- (c) If, following expiry of the Defects Liability Period, the City is satisfied that all defects have been rectified in accordance with clause 8 then the City must promptly return to the Developer the portion of the Guarantee retained by the City as security for the Defects Liability Period.

11. **DISPUTE RESOLUTION**

11.1 **Application**

Any Dispute must be determined in accordance with the procedure in this clause 11.

11.2 **Negotiation**

- (a) If any Dispute arises, a party to the Dispute (**Referring Party**) may by giving notice to the other party or parties to the Dispute (**Dispute Notice**)

refer the Dispute to the Developer's Representative and the City's Representative for resolution. The Dispute Notice must:

- (i) be in writing;
 - (ii) state that it is given pursuant to this clause 11; and
 - (iii) include or be accompanied by reasonable particulars of the Dispute including:
 - (A) a brief description of the circumstances in which the Dispute arose;
 - (B) references to any:
 - (aa) provisions of this document; and
 - (bb) acts or omissions of any person, relevant to the Dispute; and
 - (C) where applicable, the amount in dispute (whether monetary or any other commodity) and if not precisely known, the best estimate available.
- (b) Within 10 Business Days of the Referring Party issuing the Dispute Notice (**Resolution Period**), the Developer's Representative and the City's Representative must meet at least once to attempt to resolve the Dispute.
- (c) The Developer's Representative and the City's Representative may meet more than once to resolve a Dispute. The Developer's Representative and the City's Representative may meet in person, via telephone, videoconference, internet-based instant messaging or any other agreed means of instantaneous communication to effect the meeting.

11.3 **Not use information**

The purpose of any exchange of information or documents or the making of any offer of settlement under this clause 11 is to attempt to settle the Dispute. Neither party may use any information or documents obtained through any dispute resolution process undertaken under this clause 11 for any purpose other than in an attempt to settle the Dispute.

11.4 **Condition precedent to litigation**

Subject to clause 11.5, a party must not commence legal proceedings in respect of a Dispute unless:

- (a) a Dispute Notice has been given; and
- (b) the Resolution Period has expired.

11.5 **Summary or urgent relief**

Nothing in this clause 11 will prevent a party from instituting proceedings to seek urgent injunctive, interlocutory or declaratory relief in respect of a Dispute.

12. **TAXES AND GST**

12.1 **Responsibility for Taxes**

- (a) The Developer is responsible for any and all Taxes and other like liabilities which may arise under any Commonwealth or State legislation (as amended from time to time) as a result of or in connection with this document or the Public Benefits.
- (b) The Developer must indemnify the City in relation to any claims, liabilities and costs (including penalties and interest) arising as a result of any Tax or other like liability for which the Developer is responsible under clause 12.1(a).

12.2 **GST free supply**

To the extent that Divisions 81 and 82 of the GST Law apply to a supply made under this document:

- (a) no additional amount will be payable by a party on account of GST; and
- (b) no tax invoices will be exchanged between the parties.

12.3 **Supply subject to GST**

To the extent that clause 12.2 does not apply to a supply made under this document, this clause 12.3 will apply.

- (a) If one party (**Supplying Party**) makes a taxable supply and the consideration for that supply does not expressly include GST, the party that is liable to provide the consideration (**Receiving Party**) must also pay an amount (**GST Amount**) equal to the GST payable in respect of that supply.
- (b) Subject to first receiving a tax invoice or adjustment note as appropriate, the receiving party must pay the GST amount when it is liable to provide the consideration.
- (c) If one party must indemnify or reimburse another party (**Payee**) for any loss or expense incurred by the Payee, the required payment does not include any amount which the Payee (or an entity that is in the same GST group as the Payee) is entitled to claim as an input tax credit, but will be increased under clause 12.3(a) if the payment is consideration for a taxable supply.
- (d) If an adjustment event arises in respect of a taxable supply made by a Supplying Party, the GST Amount payable by the Receiving Party under clause 12.3(a) will be recalculated to reflect the adjustment event and a payment will be made by the Receiving Party to the Supplying Party, or by the Supplying Party to the Receiving Party, as the case requires.

- (e) The Developer will assume the City is not entitled to any input tax credit when calculating any amounts payable under this clause 12.3.
- (f) In this document:
 - (i) consideration includes non-monetary consideration, in respect of which the parties must agree on a market value, acting reasonably; and
 - (ii) in addition to the meaning given in the GST Act, the term "GST" includes a notional liability for GST.

13. **DEALINGS**

13.1 **Dealing by the City**

- (a) The City may Deal with its interest in this document without the consent of the Developer if the Dealing is with a Government Agency. The City must give the Developer notice of the Dealing within ten Business Days of the date of the Dealing.
- (b) The City may not otherwise Deal with its interest in this document without the written consent of the Developer, such consent not to be unreasonably withheld or delayed.

13.2 **Dealing by the Developer**

- (a) Prior to registration of this document in accordance with clause 9, the Developer must not Deal with this document or the Land without:
 - (i) the prior written consent of the City; and
 - (ii) the City, the Developer and the third party the subject of the Dealing entering into a Deed of Consent to the Dealing on terms acceptable to the City.
- (b) On and from registration of this document in accordance with clause 9:
 - (i) the Developer may Deal with this document without the consent of the City only as a result of the sale of the whole of the Land (without subdivision) to a purchaser of the Land;
 - (ii) the Developer may register a plan of strata subdivision, and the City consents to this document remaining registered only on the certificate of title to the common property of the strata plan upon registration of the strata plan; and
 - (iii) the Developer must not otherwise Deal with this document to a third party that is not a purchaser of the whole or any part of the Land without:
 - (A) the prior written consent of the City; and

- (B) the City, the Developer and the third party the subject of the Dealing entering into a Deed of Consent to the Dealing on terms acceptable to the City.
- (c) On provision of an itemised invoice by the City, the Developer must pay the City's costs and expenses relating to any consent or documentation required due to the operation of this clause 13.2.

14. **TERMINATION**

- (a) The City may terminate this document by notice in writing to the Developer if the amended Sydney LEP is:
 - (i) Subsequently amended by an environmental planning instrument made after the planning Proposal in a way that prevents the Development from proceeding; or
 - (ii) Declared to be invalid by a court of competent jurisdiction.
- (b) If the City terminates this document under clause 14(a) then:
 - (i) the rights of each party that arose before the termination or which may arise at any future time for any breach or non-observance of obligations occurring prior to the termination are not affected;
 - (ii) the Developer must take all steps reasonably necessary to minimise any loss that the City may suffer as a result of the termination of this document;
 - (iii) the City will return the Guarantee to the Developer after first deducting any amounts owing to the City or costs incurred by the City by operation of this document. If in exercising its rights under this document the City expends more money than the Guarantee Amount then the amount in excess of the Guarantee Amount will be deemed to be a debt due and owing to the City by the Developer; and
 - (iv) the City will, at the Developer's cost, do all things reasonably required to remove this document from the certificate of title to the Land.

15. **CONFIDENTIALITY, DISCLOSURES AND PRIVACY**

15.1 **Use and disclosure of Confidential Information**

A party (**receiving party**) which acquires Confidential Information of another party (**disclosing party**) must not:

- (a) use any of the Confidential Information except to the extent necessary to exercise its rights and perform its obligations under this document; or
- (b) disclose any of the Confidential Information except in accordance with clauses 15.2 or 15.3.

15.2 **Disclosures to personnel and advisers**

- (a) The receiving party may disclose Confidential Information to an officer, employee, agent, contractor, or legal, financial or other professional adviser if:
 - (i) the disclosure is necessary to enable the receiving party to perform its obligations or to exercise its rights under this document; and
 - (ii) prior to disclosure, the receiving party informs the person of the receiving party's obligations in relation to the Confidential Information under this document and obtains an undertaking from the person to comply with those obligations.
- (b) The receiving party:
 - (i) must ensure that any person to whom Confidential Information is disclosed under clause 15.2(a) keeps the Confidential Information confidential and does not use it for any purpose other than as permitted under clause 15.2(a); and
 - (ii) is liable for the actions of any officer, employee, agent, contractor or legal, financial or other professional adviser that causes a breach of the obligations set out in clause 15.2(b)(i).

15.3 **Disclosures required by law**

- (a) Subject to clause 15.3(b), the receiving party may disclose Confidential Information that the receiving party is required to disclose:
 - (i) by law or by order of any court or tribunal of competent jurisdiction; or
 - (ii) by any Government Agency, stock exchange or other regulatory body.
- (b) If the receiving party is required to make a disclosure under clause 15.3(a), the receiving party must:
 - (i) to the extent possible, notify the disclosing party immediately it anticipates that it may be required to disclose any of the Confidential Information;
 - (ii) consult with and follow any reasonable directions from the disclosing party to minimise disclosure; and
 - (iii) if disclosure cannot be avoided:
 - (A) only disclose Confidential Information to the extent necessary to comply; and
 - (B) use reasonable efforts to ensure that any Confidential Information disclosed is kept confidential.

15.4 **Receiving party's return or destruction of documents**

On termination of this document the receiving party must immediately:

- (a) deliver to the disclosing party all documents and other materials containing, recording or referring to Confidential Information; and
- (b) erase or destroy in another way all electronic and other intangible records containing, recording or referring to Confidential Information,

which are in the possession, power or control of the receiving party or of any person to whom the receiving party has given access.

15.5 **Security and control**

The receiving party must:

- (a) keep effective control of the Confidential Information; and
- (b) ensure that the Confidential Information is kept secure from theft, loss, damage or unauthorised access or alteration.

15.6 **Media releases**

The Developer must not issue any information, publication, document or article for publication in any media concerning this document or the Public Benefits without the City's prior written consent (which will not be unreasonably withheld).

15.7 **Privacy**

- (a) Without limiting its obligations at law with respect to privacy and the protection of Personal Information, the Developer:
 - (i) must not, directly or indirectly collect, use or disclose any Personal Information under or in connection with this document except to the extent necessary to perform its obligations under this document; and
 - (ii) must in the delivery of the Public Benefits and the performance of all its other obligations under this document comply with the Privacy Laws and must not do any act or engage in any practice that would breach the Privacy Laws or which if done or engaged in by the City would be a breach of any Privacy Laws.

16. **NOTICES**

- (a) A notice, consent or other communication under this document is only effective if it is in writing, signed and either left at the addressee's address or sent to the addressee by mail or email. If it is sent by mail, it is taken to have been received 5 Business Days after it is posted. If it is sent by email, it is taken to have been received the same day the email was sent, provided that the sender has not received a delivery failure notice (or similar), unless the time of receipt is after 5:00pm in which case it is taken to be received on the next Business Day.

- (b) A person's address and email address are those set out in Schedule 1 for the City's Representative and the Developer's Representative, or as the person notifies the sender in writing from time to time.

17. CHAIN OF RESPONSIBILITY

- (a) In this clause:
 - (i) **Chain of Responsibility** means legislation that extends liability for Road Law offences to all parties whose actions, inactions or demands influence conduct on the road particularly in relation to speed, fatigue, vehicle standards, vehicle roadworthiness, load restraint, and mass and dimension.
 - (ii) **HVNL** means the *Heavy Vehicle National Law* (NSW), regulations and other instruments under it including any codes of practice and any consolidations, amendments, re-enactments or replacements.
 - (iii) **Heavy Vehicle** has the meaning given to it in the HVNL.
 - (iv) **Road Law** means any law, regulation or rule relating to the use of a road, restrictions on driving hours (in whichever legislative instrument those requirements may appear), mass, load and restraint requirements for the carriage of goods, dangerous goods, environmental impacts and speed and traffic requirements and includes the HVNL.
- (b) The Developer must in connection with any activity carried out under or in relation to this document on land owned by the City:
 - (i) comply with all Chain of Responsibility legislation and must ensure that any activity relating to a Heavy Vehicle used in connection with this document is undertaken in accordance with all applicable Chain of Responsibility obligations (including any fatigue, speed, mass, dimension or load restraint requirements);
 - (ii) not ask, direct or require (directly or indirectly) the driver of a Heavy Vehicle or a party in the Chain of Responsibility to do or not do something the Developer knows, or ought reasonably to know, would have the effect of causing the driver to contravene their Chain of Responsibility obligations, including to breach any fatigue, speed, mass, dimension or load restraint requirements;
 - (iii) ensure that any subcontractors (where any Heavy Vehicle activities are sub-contracted under this document) are contractually bound by similar Chain of Responsibility obligations to those set out in this clause 17(b).
- (c) The Developer will ensure that it has proper processes in place to manage its Chain of Responsibility obligations under this clause 17.
- (d) The Developer must provide the City, upon request, with all information and documentation reasonably required by the City to monitor or audit compliance with this clause (including permitting inspections of vehicles and business premises).

18. GENERAL

18.1 Governing law

- (a) This document is governed by the laws of New South Wales.
- (b) Each party submits to the exclusive jurisdiction of the courts exercising jurisdiction in New South Wales, and any court that may hear appeals from any of those courts, for any proceedings in connection with this document, and waives any right it might have to claim that those courts are an inconvenient forum.

18.2 Access to information

In accordance with section 121 of the *Government Information (Public Access) Act 2009 (NSW)*, the Developer agrees to allow the City immediate access to the following information contained in records held by the Developer:

- (a) information that relates directly to the delivery of the Public Benefits by the Developer;
- (b) information collected by the Developer from members of the public to whom the Developer provides, or offers to provide, services on behalf of the City; and
- (c) information received by the Developer from the City to enable the Developer to deliver the Public Benefits.

18.3 Liability for expenses

- (a) The Developer must pay its own and the City's expenses incurred in negotiating, executing, registering, releasing, administering and enforcing this document.
- (b) The Developer must pay for all reasonable costs and expenses associated with the preparation and giving of public notice of this document and the explanatory note prepared in accordance with the Regulations and for any consent the City is required to provide under this document.

18.4 Relationship of parties

- (a) Nothing in this document creates a joint venture, partnership, or the relationship of principal and agent, or employee and employer between the parties; and
- (b) No party has the authority to bind any other party by any representation, declaration or admission, or to make any contract or commitment on behalf of any other party or to pledge any other party's credit.

18.5 Giving effect to this document

Each party must do anything (including execute any document), and must ensure that its employees and agents do anything (including execute any document), that the other party may reasonably require to give full effect to this document.

18.6 **Time for doing acts**

(a) If:

- (i) the time for doing any act or thing required to be done; or
- (ii) a notice period specified in this document,

expires on a day other than a Business Day, the time for doing that act or thing or the expiration of that notice period is extended until the following Business Day.

(b) If any act or thing required to be done is done after 5pm on the specified day, it is taken to have been done on the following Business Day.

18.7 **Severance**

If any clause or part of any clause is in any way unenforceable, invalid or illegal, it is to be read down so as to be enforceable, valid and legal. If this is not possible, the clause (or where possible, the offending part) is to be severed from this document without affecting the enforceability, validity or legality of the remaining clauses (or parts of those clauses) which will continue in full force and effect.

18.8 **Preservation of existing rights**

The expiration or termination of this document does not affect any right that has accrued to a party before the expiration or termination date.

18.9 **No merger**

Any right or obligation of any party that is expressed to operate or have effect on or after the completion, expiration or termination of this document for any reason, will not merge on the occurrence of that event but will remain in full force and effect.

18.10 **Waiver of rights**

A right may only be waived in writing, signed by the party giving the waiver, and:

- (a) no other conduct of a party (including a failure to exercise, or delay in exercising, the right) operates as a waiver of the right or otherwise prevents the exercise of the right;
- (b) a waiver of a right on one or more occasions does not operate as a waiver of that right if it arises again; and
- (c) the exercise of a right does not prevent any further exercise of that right or of any other right.

18.11 **Operation of this document**

(a) This document contains the entire agreement between the parties about its subject matter. Any previous understanding, agreement, representation or warranty relating to that subject matter is replaced by this document and has no further effect.

- (b) Any right that a person may have under this document is in addition to, and does not replace or limit, any other right that the person may have.
- (c) Any provision of this document which is unenforceable or partly unenforceable is, where possible, to be severed to the extent necessary to make this document enforceable, unless this would materially change the intended effect of this document.

18.12 Operation of indemnities

- (a) Each indemnity in this document survives the expiry or termination of this document.
- (b) A party may recover a payment under an indemnity in this document before it makes the payment in respect of which the indemnity is given.

18.13 Inconsistency with other documents

Unless the contrary intention is expressed, if there is an inconsistency between any of one or more of:

- (a) this document;
- (b) any Schedule to this document; and
- (c) the provisions of any other document of the Developer,

the order of precedence between them will be the order listed above, this document having the highest level of precedence.

18.14 No fetter

Nothing in this document in any way restricts or otherwise affects the City's unfettered discretion to exercise its statutory powers as a public authority.

18.15 Counterparts

This document may be executed in counterparts.

18.16 Developer Limitation of Liability

18.16.1 The Trust Company (Australia) Limited as trustee for 167 Macquarie Street Trust

- (a) The Trust Company (Australia) Limited ("Trustee") enters into this document only in its capacity as Trustee of the 167 Macquarie Street Trust ("the Trust") and in no other capacity. A liability arising under or in connection with this document is limited to and can be enforced against Trustee only to the extent to which it can be satisfied out of property of the Trust out of which Trustee is actually indemnified for the liability. This limitation of Trustee's liability applies despite any other provision of this document and extends to all liabilities and obligations of Trustee in any way connected with any representation, warranty, conduct, omission, agreement or transaction related to this document.

- (b) The parties other than Trustee may not sue Trustee in any capacity other than as Trustee of the Trust, including seek the appointment of a receiver (except in relation to property of the Trust), a liquidator, an administrator or any similar person to Trustee as Trustee or prove in any liquidation, administration or arrangement of or affecting Trustee (except in relation to property of the Trust).
- (c) The provisions of this clause 18.16.1 shall, subject to clause 18.16.1(d), not apply to any obligation or liability of Trustee to the extent that it is not satisfied because under the constitution establishing the Trust or by operation of law there is a reduction in the extent of Trustee's indemnification out of the assets of the Trust , as a result of Trustee's failure to properly perform its duties as Trustee. For these purposes, it is agreed that Trustee cannot be regarded as having failed to properly perform its duties as Trustee to the extent to which any failure by Trustee to satisfy its obligations or breach of representation or warranty under this document has been caused or contributed to by a failure by any other party to fulfil its obligations under the document or any other act or omission of any other party.
- (d) Nothing in clause 18.16.1(c) shall make Trustee liable to any claim for an amount greater than the amount which the other parties would have been able to claim and recover from the assets of the Trust in relation to the relevant liability if Trustee's right of indemnification out of the assets of the Trust has not been prejudiced by Trustee's failure to properly perform its duties.
- (e) Trustee is not obliged to do or refrain from doing anything under this document (including incur any liability) unless Trustee's liability is limited in the same manner as set out in paragraphs 18.16.1 (a)-(d) of this clause.

18.16.2(A) The Trust Company (Australia) Limited as custodian for DVP2 Chifley Investment Trust

- (a) The Trust Company (Australia) Limited ("Custodian") enters into this agreement only as agent of Bieson Pty Limited as trustee of DVP2 Chifley Investment Trust ("Trustee"). The Custodian can only act in accordance with the terms of the agreement under which it is appointed as the Trustee's agent and is not liable under any circumstances to any party under this agreement. This limitation of the Custodian's liability applies despite any other provision of this agreement and extends to all liabilities and obligations of the Custodian in any way connected with any representation, warranty, conduct, omission, agreement or transaction related to this agreement.
- (b) The Custodian is not obliged to do or refrain from doing anything under this agreement (including, without limitation, incur any liability) unless the Custodian's liability is limited in the same manner as set out in clause 18.16.2(B).

- (c) No attorney, agent, receiver or receiver and manager appointed in accordance with this agreement has authority to act on behalf of the Custodian in a way which exposes the Custodian to any liability.
- (d) If, whether by the express provisions of this agreement or by implication of law, the Custodian makes or is taken to have made any representation or warranty then, except for the representations and warranties that can only be within the Custodian's actual corporate knowledge, those representations and warranties are taken to have been made by the Trustee.

18.16.2(B) Bieson Pty Limited as trustee for DVP2 Chifley Investment Trust

- (a) This limitation of the liability of Bieson Pty Limited ("Trustee") as trustee DVP2 Chifley Investment Trust ("Trust") applies despite any other provisions of this document and extends to all Obligations of the Trustee in any way connected with any representation, warranty, conduct, omission, agreement or transaction related to this document and to the extent of any inconsistency between the operation of this clause and any other provision of this document, the terms of this clause will prevail.
- (b) The Trustee enters into this document as trustee of the Trust and in no other capacity.
- (c) The parties other than the Trustee acknowledge that the Trustee incurs the Obligations solely in its capacity as trustee of the Trust and that the Trustee will cease to have any obligation under this document if the Trustee ceases for any reason to be trustee of the Trust.
- (d) Except in the case of and to the extent of fraud, negligence or breach of trust on the part of the Trustee, the Trustee will not be liable to pay or satisfy any Obligations except out of the Assets against which it is actually indemnified in respect of any liability incurred by it as trustee of the Trust.
- (e) Except in the case of and to the extent of fraud, negligence or breach of trust on the part of the Trustee, the parties other than the Trustee may enforce their rights against the Trustee arising from non-performance of the Obligations only to the extent of the Trustee's right of indemnity out of the Assets of the Trust.
- (f) Except in the case of and to the extent of fraud, negligence or breach of trust on the part of the Trustee, if any party other than the Trustee does not recover all money owing to it arising from non-performance of the Obligations it may not seek to recover the shortfall by:
 - (i) bringing proceedings against the Trustee in its personal capacity; or
 - (ii) applying to have the Trustee put into administration or wound up or applying to have a receiver or similar person appointed to the Trustee or proving in the administration or winding up of the Trustee.
- (g) Except in the case of and to the extent of fraud, negligence or breach of trust on the part of the Trustee, the parties other than the Trustee waive

their rights and release the Trustee from any personal liability whatsoever, in respect of any loss or damage:

- (i) which they may suffer as a result of any:
 - (A) breach by the Trustee of any of its Obligations; or
 - (B) non-performance by the Trustee of the Obligations; and
 - (ii) which cannot be paid or satisfied out of the Assets of which the Trustee is entitled to be indemnified in respect of any liability incurred by it as trustee of the Trust.
- (h) The parties other than the Trustee acknowledge that the whole of this contract is subject to this clause and the Trustee will in no circumstances be required to satisfy any liability of the Trustee arising under, or for non-performance or breach of any of its Obligations under or in respect of, this contract or under or in respect of any other document to which it is expressed to be a party out of any funds, property or assets other than the Assets of the Trust under the Trustee's control and in its possession as and when they are available to the Trustee to be applied in exoneration for such liability PROVIDED THAT if the liability of the Trustee is not fully satisfied out of the Assets of the Trust as referred to in this clause, the Trustee will be liable to pay out of its own funds, property and assets the unsatisfied amount of that liability but only to the extent of the total amount, if any, by which the Assets of the Trust have been reduced by reasons of fraud, negligence or breach of trust by the Trustee in the performance of the Trustee's duties as trustee of the Trust.
- (i) No attorney, agent or other person appointed in accordance with this document has authority to act on behalf of the Trustee in a way which exposes the Trustee to any personal liability (except in accordance with the provisions of this clause), and no act or omission of such a person will be considered fraud, negligence or breach of trust of the Trustee for the purposes of this clause.
 - (j) In this clause 18.16.2(B)
 - (i) "Assets" includes all assets, property and rights of the Trust (real and personal of any value whatsoever); and
 - (ii) "Obligations" means all obligations and liabilities of whatever kind undertaken or incurred by, or devolving upon, the Trustee under or in respect of this document.

SCHEDULE 1

Agreement Details

ITEM	TERM	DESCRIPTION
1.	Land	F/I 10/777545 known as 2 Chifley Square, Sydney
2.	Development	<p>Development of the Land to construct a new commercial tower on the southern portion of the Land above the existing podium and an increase of the podium height as detailed in the Planning Proposal and subject to the resultant Instrument Change (Development).</p> <p>(The total Gross Floor Area for the Land is 130,891 square metres)</p>
3.	City's Representative	<p>Name: Director, Planning, Development and Transport</p> <p>Address: Level 1, 456 Kent Street, Sydney NSW 2000</p> <p>Email: planningsystemsadmin@cityofsydney.nsw.gov.au</p> <p>Or such alternative representative nominated by the City and notified to the Developer's Representative from time to time.</p>
4.	Developer's Representative	<p>Name: Hugh Irving</p> <p>Address: Level 20, 1 Martin Place, Sydney NSW 2000</p> <p>Email: hugh.irving@charterhall.com.au</p> <p>Or such alternative representative nominated by the developer and notified to the City's Representative from time to time.</p>
5.	Development Application	Any development application submitted to the City in connection with the Development.
6.	Guarantee Amount	Nil
7.	Guarantee Amount Due Date	N/A

SCHEDULE 2

Requirements under the Act and Regulation (clause 2)

The below table summarises how this document complies with the Act and Regulation.

ITEM	SECTION OF ACT OR REGULATION	PROVISION/CLAUSE OF THIS DOCUMENT
1.	<p>Planning instrument and/or development application (section 7.4(1) of the Act)</p> <p>The Developer has:</p> <p>(a) sought a change to an environmental planning instrument;</p> <p>(b) made, or proposes to make, a Development Application; or</p> <p>(c) entered into an agreement with, or is otherwise associated with, a person, to whom paragraph (a) or (b) applies.</p>	<p>(a) Yes</p> <p>(b) Yes</p> <p>(c) No</p>
2.	<p>Description of land to which this document applies (section 7.4(3)(a) of the Act)</p>	Item 1 of Schedule 1
3.	<p>Description of change to the environmental planning instrument to which this document applies and/or the development to which this document applies (section 7.4(3)(b) of the Act)</p>	The environmental planning instrument as described in clause 2.1
4.	<p>The nature and extent of the provision to be made by the developer under this document, the time or times by which the provision is to be made and the manner in which the provision is to be made (section 7.4(3)(c) of the Act)</p>	Schedule 3
5.	<p>Whether this document excludes (wholly or in part) or does not exclude the application of section 7.11, 7.12 or 7.24 to the development (section 7.4(3)(d) of the Act)</p>	<p>Section 7.11 excluded</p> <p>Section 7.12 not excluded</p> <p>Section 7.24 excluded</p>

ITEM	SECTION OF ACT OR REGULATION	PROVISION/CLAUSE OF THIS DOCUMENT
6.	Applicability of section 7.11 of the Act (section 7.4(3)(e) of the Act)	There is no application of section 7.11 of the Act in respect of the Development and contributions (if any) under section 7.11 will not be required to be paid.
7.	Consideration of benefits under this document if section 7.11 applies (section 7.4(3)(e) of the Act)	No consideration because there is no application of section 7.11 of the Act.
8.	Mechanism for Dispute Resolution (section 7.4(3)(f) of the Act)	Clause 11
9.	Enforcement of this document (section 7.4(3)(g) of the Act)	Clause 10
10.	No obligation to grant consent or exercise functions (section 7.4(9) of the Act)	Clause 2.4
11.	Registration of this document (section 7.6 of the Act)	Clause 9
12.	Whether certain requirements of this document must be complied with before a construction certificate is issued (clause 205(2) of the Regulation)	Payment of the Monetary Contribution – Infrastructure Payment of the Monetary Contribution – Chifley Square Public Domain Upgrade
13.	Whether certain requirements of this document must be complied with before a subdivision certificate is issued (clause 205(2) of the Regulation)	Nil
14.	Whether certain requirements of this document must be complied with before an occupation certificate is issued (clause 205(2) of the Regulation)	As per clause 6 and Schedule 3, completion of: Registration of the Instrument Public Art
15.	Whether the explanatory note that accompanied exhibition of this document may be used to assist in construing this document (clause 205(5) of the Regulation)	Clause 2.5

SCHEDULE 3

Public Benefits (clause 5)

1. PUBLIC BENEFITS - OVERVIEW

The Developer must provide the Public Benefits in accordance with Schedule 3 and this document. The Attributed Value, timing of delivery and additional specifications relating to the Public Benefits is set out in the table below

Item	Public Benefit	Attributed Value	Due date	Additional specifications
Monetary Contribution				
1.	Monetary Contribution – Infrastructure	3% of the cost of the Development (estimated at \$14,700,000)	On or before the date of issue of the Construction Certificate for the Development (excluding enabling works comprising plant relocations and basement modifications)	Inclusive of all infrastructure contributions applicable under s7.12 of the Act.
2.	Monetary Contribution - Chifley Square Public Domain Upgrade	\$900,000	On or before the date of issue of the Construction Certificate for the Development (excluding enabling works comprising plant relocations and basement modifications)	Monetary contribution towards the public domain upgrades within the vicinity of the Development (including activation to Chifley Square). The upgrades would be classified under 'Public Domain Improvements and Open Space' in Table 2 – Community Infrastructure in the <i>Central Sydney Infrastructure Plan 2020</i>
Instrument				
3.	Provision for right of carriageway and breakthrough works and Instrument	N/A	Right of carriageway Provision for the right of carriage way to be made on or before the date of issue of any Occupation Certificate in respect of the tower development (excluding an	Provision for vehicular driveway crossover and easement to 165-169 Macquarie Street, Sydney as follows: <ul style="list-style-type: none"> Design to accommodate a consolidated vehicular access point and structural capacity for a future connection to 165-

Item	Public Benefit	Attributed Value	Due date	Additional specifications
			<p>Occupation Certificate for enabling works, podium or similar)</p> <p>Instrument</p> <p>The Developer will submit the Instrument to NSW LRS for registration on title on or before the date of issue of any Occupation Certificate in respect of the tower development (excluding an Occupation Certificate for enabling works, podium or similar). However, the Instrument will only come into effect upon issue of an Occupation Certificate for the use of the basement in a future redevelopment of 165-169 Macquarie Street.</p>	<p>169 Macquarie Street via the existing 2 Chifley Square vehicular cross over on Bent Street, to service the Site and 165-169 Macquarie Street in the event that 165-169 Macquarie Street is redeveloped in the future.</p> <ul style="list-style-type: none"> • The provision for the breakthrough will be no more than the smallest dimension for height and width along the existing access ramp measured from the street through access point. Access will be limited to passenger and light commercial vehicles that the existing access-way is designed to accommodate. The existing height limit is 3.3m and the existing restriction on vehicle length is 8.8m. • No works required; No breakthrough panels to be removed in connection with the Development or this Agreement. Breakthrough panel works would occur in the future when the locations and design is determined following future development consent for 165-169 Macquarie Street.

Item	Public Benefit	Attributed Value	Due date	Additional specifications
				Granting and registering the Instrument described in Annexure B.
Project Specific Initiatives				
4.	Sustainability Commitments	N/A	Within 12 months after issuing of the final Occupation Certificate	<ul style="list-style-type: none"> 6-star Green Star Buildings v1 certified rating
			Within 12 months after issuing of the final Occupation Certificate	<ul style="list-style-type: none"> 5.5 Star NABERS Energy rating (Commitment Agreement) 4 Star NABERS Water rating (target) 5 Star NABERS Waste rating (target)
			Three (3) months after the last of the first round of post-occupancy NABERS ratings (referred to above) is achieved	<ul style="list-style-type: none"> Climate Active Carbon Neutral Building certification
5.	Public Art	\$2,800,000	Prior to the issue of the final Occupation Certificate for the Development.	<p>In accordance with the <i>Guideline for Site Specific Planning Proposals in Central Sydney and Central Sydney Infrastructure Plan 2020 and any Public Art Strategy approved under a Development Consent</i></p> <p>Developer to provide evidence of invoices demonstrating spend of at least \$2,800,000 on public art consultation or commissioning.</p>
6.	Developer's Works	NIL	N/A	

2. PAYMENT OF MONETARY CONTRIBUTION

2.1 Payment

- (a) The Developer must pay each Monetary Contributions to the City on the due date set out in the table in clause 1 above by electronic funds transfer or unendorsed bank cheque or as otherwise directed by the City.
- (b) At least 30 days prior to each of the Monetary Contributions falling due, the Developer must inform the City of its intention to seek a Construction Certificate and may request from the City written confirmation of the current amount of that Monetary Contribution (calculated as 3% of the cost of the Development in accordance with clause 1 of this Schedule 3).
- (c) After receiving the notice under clause 2.1(b) above, the City will issue a letter to the Developer confirming the Monetary Contribution and providing payment details.

2.2 Indexation

If the Monetary Contributions are not paid to the City on the date of this document then at the date of payment the Monetary Contributions must be indexed as follows:

Monetary Contribution (to be provided) =

Monetary Contribution (as per item 1 of clause 1 above) x
(A/B)

where:

A is the Index Number most recently published before the date the Monetary Contribution is to be paid

B is the Index Number most recently published before the date this agreement commenced in accordance with clause 3.1 of this document.

If after the formula is applied the Monetary Contribution will be less than the amount stated in item 1 of clause 1 above, the Monetary Contribution will not be adjusted.

2.3 No trust

Nothing in this document creates any form of trust arrangement or fiduciary duty between the City and the Developer. Following receipt of the Monetary Contribution, the City is not required to separately account for the Monetary Contribution, report to the Developer regarding expenditure of the Monetary Contribution or comply with any request by the Developer to trace the Monetary Contribution.

2.4 Expenditure by the City

The City will use:

- (a) the Monetary Contribution – Infrastructure (item 1 in the table at clause 1 above) to achieve the public benefit of community infrastructure in central Sydney; and
- (b) the Monetary Contribution - Chifley Square Public Domain Upgrade (item 2 in the table at clause 1 above) for public domain upgrades within the vicinity of the Development, including for activation of Chifley Square.

3. TRANSFER LAND

Not used.

4. DEVELOPER’S WORKS

Not used.

5. CONSTRUCTION OF DEVELOPER’S WORKS

Not used.

6. SUSTAINABILITY COMMITMENTS

6.1 Environmental Performance Commitment

- (a) Within 6 months of the final Construction Certificate for the Development, excluding any Construction Certificate issued for demolition of existing structures on the Land, early works or works below ground level, the Developer must submit to the City’s Representative:

- (i) the signed Commitment Agreement;
- (ii) a hydraulic engineer report demonstrating water efficiency and how the proposed building is likely to achieve a 4 star NABERS water rating for the commercial component; and
- (iii) the executive summary of the Energy Efficient Review prepared by a NABERS certified Independent Design Reviewer;

together being the “Environmental Performance Commitment”.

- (b) If the Developer fails to provide an Environmental Performance Commitment that will achieve the required NABERS ratings contained in Item 4 of Clause 1 of Schedule 3, then the Developer will meet with the City to agree on alternative measures it will put in place in order to achieve a sustainable commercial development.
- (c) The Developer will keep the City informed of its progress in relation to the achievement of its Sustainability Commitments at regular intervals.

6.2 Guidelines

The following list of Guidelines are included for information purposes only for the general nature of the work identified as Sustainability Commitments in this document. The City makes no representation or warranty as to the currency and completeness of the guidelines identified, or their application on the final design

of the Sustainability Commitments. The Developer must make its own enquiries regarding whether any guideline has been replaced or supplemented.

- Factsheet 4: Preparing for NABERS office rating applications prepared by NSW Office of Environment and Heritage, published August 2011
- Factsheet 7: The NABERS Energy Commitment Agreement prepared by NSW Office of Environment and Heritage, published July 2014
- Guidelines for the use of simulation in Commitment Agreements prepared by NSW Office of Environment and Heritage, version 2011-June
- NABERS Guide to Building Energy Estimation, prepared by NSW Office of Environment and Heritage, published June 2011
- NABERS Guide to Tenancy Energy Estimation, prepared by NSW Office of Environment and Heritage, published June 2011
- Rules for collecting and using data (formerly titled Validation Protocol) version 3.0, February 2013, prepared by NSW Office of Environment and Heritage.
- City of Sydney Sustainable Design Technical Guideline.

EXECUTED as a deed.

Signed, sealed and delivered for
**THE COUNCIL OF THE CITY OF
SYDNEY** (ABN 22 636 550 790) by
its duly authorised officer, in the
presence of:

Signature of officer

Signature of witness

Name of officer

Name

Position of officer

456 Kent Street, Sydney NSW 2000

Authorised delegate pursuant to
section 377 of the Local Government
Act 1993

Address of witness

Signed, sealed and delivered for
and on behalf of **The Trust
Company (Australia) Limited** (000
000 993) as trustee for 167
Macquarie Street Trust by its duly
appointed attorney pursuant to Power
of Attorney Registered Book 4676 No
134 dated 18 September 2014 in the
presence of:

Signature of witness

Signature of attorney (I have no
notice of revocation of the power of
attorney under which I sign this
document)

Name of witness (please print)

Name of attorney (please print)

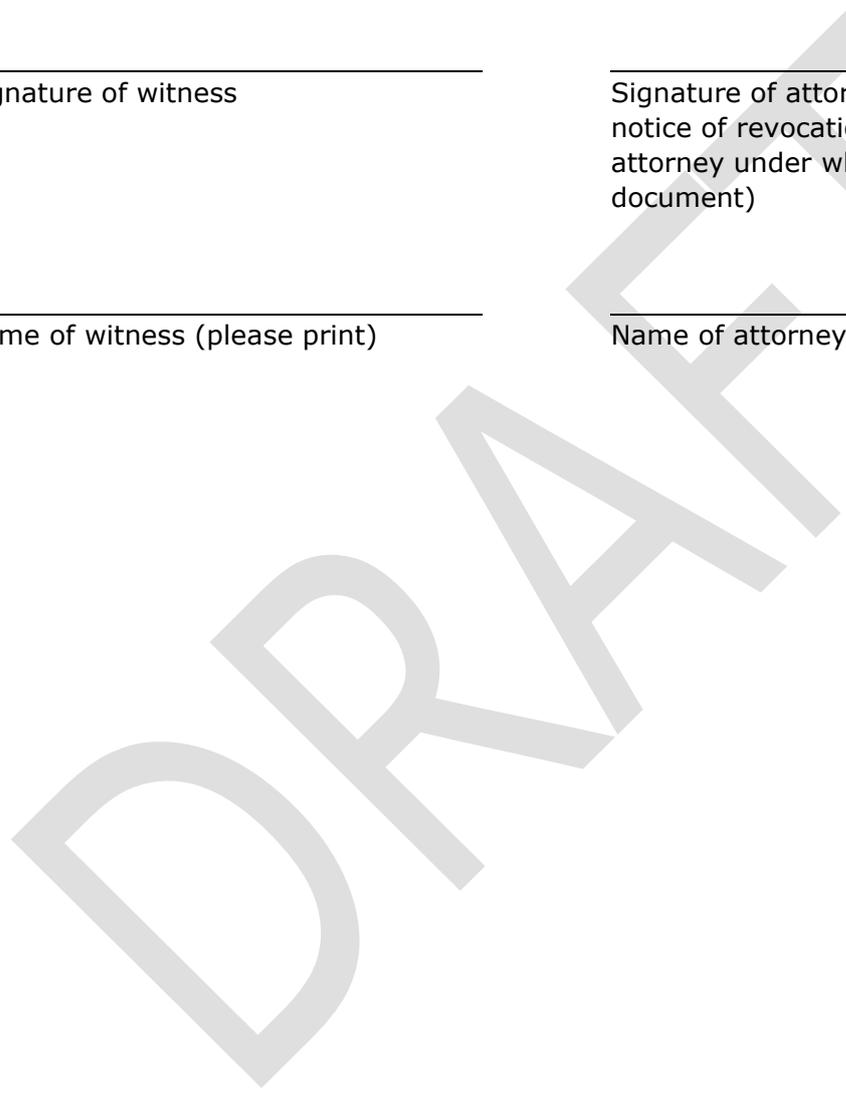
Signed, sealed and delivered for and on behalf of **The Trust Company (Australia) Limited** (000 000 993) as custodian for DVP2 Chifley Investment Trust by its duly appointed attorney pursuant to Power of Attorney Registered Book 4676 No 134 dated 18 September 2014 in the presence of:

Signature of witness

Signature of attorney (I have no notice of revocation of the power of attorney under which I sign this document)

Name of witness (please print)

Name of attorney (please print)



ANNEXURE A

Deed of Consent

(Clause 13.2)

DEED OF NOVATION

THIS DEED OF NOVATION is made on _____ between the following Parties:

1. **The Council of the City of Sydney ABN 22 636 550 790** of Town Hall House, 456 Kent Street, SYDNEY NSW 2000 (“**Council**”), and
2. **[Insert Name, ACN and address]** (*jointly*), the “**Remaining Party**”, and
3. **[Insert Name, ACN and address]** (*jointly*), the “**Outgoing Party**”, and
4. **[Insert Name, ACN and address]** (“**Incoming Party**”).

BACKGROUND

- A. The Council, the Remaining Party and the Outgoing Party are Parties to the VPA.
- B. The VPA relates to the whole of the Land.
- C. The Outgoing Party wishes to transfer the [Land/part of the Land] to the Incoming Party.
- D. The Incoming Party agrees to perform the obligations and seeks to obtain the benefits of the Outgoing Party under the VPA.
- E. The Remaining Party will continue to be a party to the VPA.
- F. The Remaining Party, the Outgoing Party and the Incoming Party have agreed to enter into this Deed of Novation, in accordance with clause 13.2 of the VPA, at the request of the Council.

1. Definitions and Interpretation

VPA is the Planning Agreement entered into between the Council, the Remaining Party and the Outgoing Party on [date], registered number [#].

1.1 Definitions

Words and expressions defined in the VPA have the same meaning in this Deed.

1.2 Headings

Headings do not affect the interpretation of this document.

2. Performance of Obligations

2.1 Incoming Party

On and from the date of this Deed, the Incoming Party:

- (a) is substituted for the Outgoing Party as a party to the VPA and acknowledges itself to be bound by the provisions of the VPA, as if the Incoming Party had originally been named as the Outgoing Party in that VPA;
- (b) without limiting clause 2.1(a), must punctually carry out and perform all other obligations of the Outgoing Party under the VPA which are not performed at the date of this Deed; and
- (c) will be:
 - (i) entitled to the benefit of the VPA; and

(ii) entitled to enforce the VPA against Council,
as if the Incoming Party had originally been named as the Outgoing Party in that VPA.

2.2 Notices

The Council must address all notices and communications to be given or made by it to the Incoming Party under the VPA to the following address:

[Insert Incoming Party address]

3. Performance affected by novation

3.1 Performance by Outgoing Party

The Outgoing Party:

- (a) (subject to clause 3.3 of this Deed) releases and discharges Council and the Remaining Party from their respective obligations under the VPA and from all claims and demands in respect of the performance of and obligations under the VPA that arise on or after the date of this Deed; and
- (b) warrants to the Council, the Remaining Party and the Incoming Party that it has properly performed its obligations under the VPA up to and including the date of this Deed, complying with all contractual requirements.

3.2 [Developer's / Landowner's] obligations

The Incoming Party must perform all of the [Developer's / Landowner's] obligations under the VPA as if named as the [Developer / Landowner], whether or not the relevant obligations relate to works that were to be performed prior to the date of this Deed, including the delivery of all Public Benefits to Council.

3.3 Release by Council

Council and the Remaining Party release and discharge the Outgoing Party from all of its obligations under the VPA and from all claims and demands in respect of the performance of and obligations under the VPA that arise on or after the date of this Deed.

4. Governing Law

This deed is governed by the laws of New South Wales.

5. Further acts

Each party will take all steps, execute all deeds and do everything reasonably required by any other party to give effect to any of the actions contemplated by this deed.

6. Counterparts

This deed may consist of a number of counterparts and the counterparts taken together constitute one and the same instrument.

EXECUTED as a DEED

Signed, sealed and delivered for the **COUNCIL OF THE CITY OF SYDNEY** by its duly authorised officer, in the presence of:

Signature of officer

Signature of witness

Name of officer

Name

Position of officer

456 Kent Street, Sydney NSW 2000

Address of witness

Executed by [Outgoing party] in accordance)
with section 127 of the Corporations Act)
)

Signature of Director/Secretary

Signature of Director

Name of Director/Secretary

Name of Director

Executed by [Remaining Party] in)
accordance with section 127 of the)
Corporations Act)

Signature of Director/Secretary

Signature of Director

Name of Director/Secretary

Name of Director

Executed by **[INSERT INCOMING PARTY**)
NAME AND ACN] in accordance with section)
127 of the Corporations Act:)

Signature of Director/Secretary

Signature of Director

Name of Director/Secretary

Name of Director

ANNEXURE B

Right of Carriageway and Breakthrough Works and Instrument

Right of Carriageway and Breakthrough Works

As part of the future redevelopment at 165-169 Macquarie Street, Sydney, and on the timing set out in the Instrument below,, the Developer must construct the right of carriageway and breakthrough works, so as to enable below ground vehicular access suitable for a Small Rigid Vehicle (3.0m high and 6.4m long) to be provided from Bent Street over the Land to the land comprised in Lot 10 DP1034064, currently known as 165-169 Macquarie Street, Sydney in accordance with the terms contained below in this Annexure B. The provision for the Breakthrough Panel will be no more than the smallest dimension for height and width along the Access Ramp measured from the street through access point. Access will be limited to passenger and light commercial vehicles that the existing access-way is designed to accommodate. The existing height limit is 3.3m and the existing restriction on vehicle length is 8.8m.

Instrument

The Developer must grant and register the Instrument in the location generally adjacent to Bent Street on the terms contained below in this Annexure B.

Terms of easement for right of carriageway

Instrument setting out terms of Easements or Profits à Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B Conveyancing Act 1919.

Lengths are in metres

(Sheet **[insert]** of **[insert]** sheets)

Plan: Plan of Easement for right of carriageway and Positive Covenant covered by Plan No. **[insert]**

Full name and address of the owner of the land: Trust Company (Australia) Limited
ABN **[insert]**
[Address TBC]

Part 1 (Creation)

Number of item shown in the intention panel on the plan	Identity of easement, right of carriageway or restriction to be created and referred to in the plan.	Burdened (lot(s) or parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities:
1.	Right of carriageway marked as [insert] on the Plan limited in	Lot 10 DP777545	Lot 11 DP1034064

	height and depth as shown on the Plan		
--	---------------------------------------	--	--

Part 2 (Terms)

1 Interpretation

1.1 Definitions

In this Instrument:

Access Ramp means the existing Bent Street access ramp on the Lot Burdened.

Authorised User means every person authorised by the Owner of the Lot Benefited for the purposes of the Easement created by this Instrument, including employees, agents, servants, contractors, workmen, tenants and invitees of the Owner of the Lot Benefited.

Authority means any local, state or federal government statutory or public authority or corporation having jurisdiction over the Lot Benefited or the Lot Burdened and includes any consent authority.

Breakthrough means the fixed opening at the boundary of the Easement Site where it meets the boundary of the Lot Benefited.

Breakthrough Panels means the removable panels erected at basement level at the boundary of the Easement Site forming a temporary barrier between the Site and the Lot Benefited.

Council means The Council of the City of Sydney and its successors.

Development Consent means any development consent or other planning approval over all or part of the Lot Benefited that is relied upon to authorise the use of the Lot Benefited.

Easement means the easement in this Instrument and includes the conditions in relation to that easement.

Easement Management Plan means a plan prepared by the Owner of the Lot Burdened and approved by the Council which addresses the following issues:

- (a) design and operational details of the car park (including a traffic control system where reasonably required) for the use of the Easement Site including:
 - (i) use and replacement of security access cards or equivalent to the owners and occupiers of the Lot Benefited;
 - (ii) access arrangements for emergency and other service vehicles using the Easement Site to access the Lot Benefited;
 - (iii) signals for traffic flow if reasonably required;

- (iv) 24-hour emergency contact details; and
- (v) other security measures as may be reasonably necessary;
- (b) details of signage to be installed in the Easement Site to direct vehicles to the various areas serviced by the Easement;
- (c) the proposed method of managing possible traffic conflicts within the Easement Site; and
- (d) the proposed method of formulating and adopting rules for the use of the Easement by owners and occupiers of both the Lot Benefited and the Lot Burdened and any other Authorised Users.

Easement Site means, in relation to the Easement in this Instrument:

- (a) the approximate site of the Easement on the Plan, being the western wall of the Access Ramp, between GF (RL29) and B1 (RL25), being:
 - (i) subject to final design and survey;
 - (ii) subject to structural engineering review and traffic engineering review (to confirm there are no material impacts on the existing building on the Lot Burdened); and
 - (iii) no greater than the smallest dimension for height and width along the Access Ramp measured from the street through access point, with access limited to passenger and light commercial vehicles that the existing access-way is designed to accommodate (the existing height limit being 3.3m and the existing restriction on vehicle length being 8.8m); and
- (b) all items within the site of the Easement identified on the Plan which are the subject of the Easement.

Emergency Situation means any circumstance involving a need, for reasons of safety, for evacuation or egress from a building or other place, including fire, earthquake, flooding, terrorist activity and any training or test of such evacuation or egress.

Instrument means this instrument under section 88B of the *Conveyancing Act 1919* (NSW).

Liability means actions, claims, demands, damages, losses, costs, expenses and other liabilities (whether in contract, tort (including negligence) or otherwise).

Lot Benefited means the land referred to in Part 1 of this Instrument as being the land benefited by the Easement, or any part of it.

Lot Burdened means the land referred to in Part 1 of this Instrument as being the land burdened by the Easement, or any part of it.

Owner of the Lot Benefited means every person who is at any time entitled to an estate or interest in the Lot Benefited, including any freehold, strata, stratum or leasehold estate or interest in possession in the Lot Benefited and each part of the Lot Benefited.

Owner of the Lot Burdened means every person who is at any time entitled to an estate or interest in the Lot Burdened, including any freehold or leasehold estate or interest in possession in the Lot Burdened and each part of the Lot Burdened.

Plan means DP[**insert**], being a plan of subdivision or consolidation of the Site.

Site means the land comprised in folio identifier 10/777545 being 2 Chifley Square, Sydney.

1.2 Interpretation

- (a) The singular includes the plural and the plural includes the singular.
- (b) A gender includes all genders.
- (c) Where a word or phrase is defined, its other grammatical forms have a corresponding meaning.
- (d) "clause", "paragraph", "schedule" or "sub-clause" means a clause, paragraph, schedule or sub-clause respectively of this Instrument.
- (e) Unless stated otherwise, one provision does not limit the effect of another provision.
- (f) A reference to any law or to any provision of any law includes any modification or re-enactment of it, any legislative provisions substituted for it and all regulations and statutory instruments issued under it or them.
- (g) A reference to conduct includes any omission, statement or undertaking, whether or not in writing.
- (h) Headings in this Instrument are for information purposes only and do not affect the interpretation of this Instrument.
- (i) A reference to a person includes any type of entity or body of persons, whether or not it is incorporated or has a separate legal identity, and any executor, administrator or successor in law of the person.
- (j) An agreement on the part of, or in favour of, two or more persons binds, or is for the benefit of, them jointly and severally.
- (k) **Includes** means includes but without limitation.

1.3 Conditions

Each of the provisions of this Easement will constitute and be covenants and agreements by and between the Owner of the Lot Burdened and the Owner of the

Lot Benefited and, in relation to the positive covenant, the Council for themselves and their respective successors, assigns and transferees with the intention and agreement that the benefit and burden of such covenants and agreements will pass with the benefit and burden of the Easement.

1.4 **No fetter**

- (a) Nothing in this Instrument in any way restricts or otherwise affects the unfettered discretion of the Council in the exercise of its statutory powers as a public authority.
- (b) If any conflict arises between the unfettered discretion of the Council in the exercise of its powers as a statutory authority and the performance of any right or obligation in this Instrument, the former prevails.

1.5 **GST**

- (a) In this clause 1.6:
 - (i) **GST Law** has the meaning given in the A New Tax System (Goods and Services Tax) Act 1999 (Cth); and
 - (ii) terms used in this clause which are not defined in this Instrument, but which are defined in the GST Law, have the meanings given in the GST Law.
- (b) Unless otherwise stated in this Instrument, amounts payable, and consideration to be provided, under any other provision of this document exclude GST.
- (c) If GST is payable on a supply made in connection with this Instrument, the recipient must pay the party making the supply (supplier) an additional amount equal to the GST payable on that supply provided that the supplier first issues a tax invoice to the recipient.
- (d) If an adjustment event arises in connection with a supply made in connection with this Instrument:
 - (i) the supplier must recalculate the GST payable to reflect the adjustment event;
 - (ii) the supplier must give the recipient an adjustment note as soon as reasonably practicable after the supplier becomes aware of the adjustment event; and
 - (iii) the adjustment amount must be paid without delay either by the recipient to the supplier or by the supplier to the recipient as the case requires.
- (e) If a payment to a party under this Instrument is a reimbursement or indemnification, calculated by reference to a loss, cost or expense incurred by that party, the payment will be:

- (i) reduced by the amount of any input tax credit to which that party is entitled for that loss, cost or expense; and
- (ii) then, increased by an amount equal to the GST payable if and to the extent that the payment is consideration for a taxable supply.

2 Terms of Right of Carriageway numbered 1 above

2.1 Terms of the Easement

Subject to clauses 2.2 to 2.8 and the removal of the Breakthrough Panels in accordance with clause 3.2, the Owner of the Lot Burdened grants to the Owner of the Lot Benefited and its Authorised Users full and free right to go, pass and repass over the Easement Site at all times with all types of vehicles for which the carriageway is designed for the purpose of accessing and servicing the Lot Benefited through the Breakthrough and to do anything reasonably necessary for that purpose, upon grant of an Occupation Certificate for the use of the basement in a future redevelopment at 165-169 Macquarie Street, Sydney.

2.2 No force or effect until Development Consent obtained and development complete

The rights and obligations granted under this Instrument have no force or effect until:

- (a) the Owner of the Lot Benefited has obtained Development Consent for a development on the Lot Benefited that has basement access corresponding with the location of the Breakthrough;
- (b) that development is completed; and
- (c) an Occupation Certificate for the use of the basement in a redevelopment of the Lot Benefited is issued.

2.3 Restriction on use for construction

Despite any other provision of this Instrument, the Easement Site cannot be used for vehicular access (or otherwise) to the Lot Benefited for the purposes of carrying out any demolition, excavation or construction works on the Lot Benefited, except for the necessary works carried out in accordance with clause 3.2.

2.4 Conditions of access

- (a) Once the Breakthrough Panels have been removed from the Easement Site the Owner of the Lot Burdened:
 - (i) must not use the Easement Site in such a way as to obstruct or unreasonably interfere with the use and enjoyment of the Easement Site by the Owner of the Lot Benefited, including ensuring that the area of the Easement Site immediately adjoining the Breakthrough is kept clear at all times; and

- (ii) may not install additional security measures at the entrance to the Easement Site unless:
 - (A) appropriate keys, security card-keys or other access authorities are provided to the Owner of the Lot Benefited and its Authorised Users on request;
 - (B) the security measures are operational 24-hours a day; and
 - (C) a 24-hour emergency call service is available in case of failure of the security measures to operate as designed.
- (b) The Owner of the Lot Benefited and its Authorised Users:
 - (i) must not unreasonably interfere with the enjoyment of the Easement Site by the Owner of the Lot Burdened;
 - (ii) must promptly reimburse to the Owner of the Lot Burdened the reasonable costs incurred by the Owner of the Lot Burdened in restoring any damage to the improvements erected within the Easement Site caused by the negligent or improper use of the Easement Site by the Owner of the Lot Benefited or its Authorised Users, which amount shall be a liquidated debt owed by the Owner of the Lot Benefited to the Owner of the Lot Burdened;
 - (iii) must comply with any reasonable directions of the Owner of the Lot Burdened in relation to the safe and orderly use of the Easement Site; and
 - (iv) must not cause any disturbance or damage to the Easement Site or do anything that would cause the Easement Site to fall into disrepair.

2.5 **No parking**

Once the Breakthrough Panels have been removed from the Easement Site neither the Owner of the Lot Burdened nor the Owner of the Lot Benefited may authorise any person to park a vehicle on the Easement Site at any time. Prior to the removal of the Breakthrough Panels from the Easement Site the Owner of the Lot Burdened may use the Easement Site for the purpose of visitor parking or storage.

2.6 **Works to Lot Burdened**

Subject to compliance with the requirements of clause 2.6, the Owner of the Lot Burdened may carry out works of any nature on or about the Lot Burdened, including without limitation, constructing, installing, removing, redeveloping or otherwise changing improvements on or about the Easement Site.

2.7 **Restrictions on access**

The Owner of the Lot Burdened may temporarily restrict access through part (but not all of) the Easement Site for the purpose of, or as a result of:

- (a) the construction, repair or maintenance of any improvement on the Site;
or
- (b) carrying out obligations under paragraph 3.1 or any other obligation under this Instrument,

provided that:

- (c) such restriction is for a period not exceeding 48 hours or such other period of time as agreed by the Owner of the Lot Benefited; and
- (d) the Owner of the Lot Burdened:
 - (i) obtains the prior written consent of the Owner of the Lot Benefited and complies with any reasonable conditions imposed on that consent; and
 - (ii) gives at least one month's written notice to the Owner of the Lot Benefited prior to works commencing;
 - (iii) takes all reasonable steps to:
 - (A) minimise noise, dust, air pollution and disruption to access to the Easement Site by the Owner of the Lot Benefited and its Authorised Users;
 - (B) maintain security;
 - (C) maintain all services to and passing through Easement Site; and
 - (D) maintain access to the Lot Benefited,
except as may be necessary to facilitate works undertaken in accordance with clause 2.7(a) above.

2.8 **Emergencies**

The Owner of the Lot Burdened may restrict temporarily access to the Easement Site in an Emergency Situation provided that it gives as much notice as is practicable to the Owner of the Lot Benefited and uses all reasonable endeavours to resolve the Emergency Situation and restore access to the Easement Site as soon as possible.

2.9 **Release**

The Owner of the Lot Benefited and its Authorised Users use the Easement Site at their own risk and release the Owner of the Lot Burdened, its employees, agents and contractors (each an Indemnified Party) from all Liabilities arising out of or in connection with the use of the Easement Site by the Owner of the Lot Benefited and its Authorised Users except to the extent that that Liability arises from the default or negligent or wilful act or omission of an Indemnified Party.

2.10 **Persons empowered to release, vary or modify the Right of Carriageway**

This Right of Carriageway may only be released, varied or modified with the consent of each of the Council, the Owner of the Lot Burdened and the Owner of the Lot Benefited.

3 Terms of Positive Covenant in relation to the Right of Carriageway numbered 1 on the Plan

3.1 **Maintenance of Easement Site**

The Owner of the Lot Burdened:

- (a) Must at all times, keep the Easement Site in a state of good repair;
- (b) Must at all times maintain, light and manage the Easement Site so as to ensure the safe and orderly use of the Easement;
- (c) Must not permit the Easement Site to fall into disrepair so that the use of the Easement Site becomes unsafe, impractical or impossible;
- (d) Must keep the Easement Site clean and free from rubbish; and
- (e) Is entitled to charge the Owner of the Lot Benefited an operations and maintenance fee, based upon equitable use and frequency of use between the two basements or as otherwise agreed between the Owner of the Lot Burdened and the Owner of the Lot Benefited, at the same time the Owner of the Lot Benefited commences uses of the Easement,

3.2 **Creation of Breakthrough Panels**

If,

- (a) the Owner of the Lot Benefited has obtained a Development Consent for a development on the Lot Benefited that has basement access corresponding with the location of the Breakthrough; and
- (b) the Owner of the Lot Benefited and the Owner of the Lot Burdened have agreed upon the design and use (which must be complementary to the development on the Lot Burdened), construction and timing of the Breakthrough,

the Owner of the Lot Burdened must construct the Breakthrough Panels within 6 months after Owner of the Lot Benefited has received the first Construction Certificate for the development on the Lot Benefited referred to in clause 3.2(a).

3.3 **Removal of Breakthrough Panels**

- (a) If the Owner of the Lot Benefited has obtained a development consent for a development on the Lot Benefited that has basement access corresponding with the location of the Breakthrough, the Owner of the Lot Benefited may, by giving at least 60 days' notice to the Owner of the Lot Burdened, require the Owner of the Lot Burdened to provide access to the Owner of the Lot Benefited and its Authorised Users to perform works to

remove the Breakthrough Panels and prepare new line markings over the Easement Site.

- (b) Prior to the Owner of the Lot Benefited providing a notice under clause 3.2(a), the Owner of the Lot Benefited must provide to the Owner of the Lot Burdened:
 - (i) a dilapidation report capturing the condition of the vehicular access point, basement ramp, basement, basement Breakthrough and Breakthrough Panels;
 - (ii) safe work method statements for the proposed work for approval or endorsement by the Owner of the Lot Burdened (acting reasonably);
 - (iii) a Construction Methodology Plan for the proposed work outlining how the Breakthrough Panels will be removed and how the future tunnel connection will connect into the basement of the Lot Burdened without compromising the structural integrity or watertightness of the structure of the Lot Burdened for approval or endorsement by the Owner of the Lot Burdened (acting reasonably);
 - (iv) a structural report with modelling that demonstrates that the structure of the Lot Burdened will not be adversely affected by the proposed works or construction methodology to perform said works;
 - (v) an access management plan that details how access within the basement of the Lot Burdened will be maintained for the duration of the works for approval or endorsement by the Owner of the Lot Burdened (acting reasonably);
 - (vi) a copy of the plan showing the new signage and line marking to be implemented on completion of the works and evidence of endorsement or approval by Council and a suitably qualified traffic engineer; and
 - (vii) a copy of the required construction certificate(s) to undertake the development contemplated by the Development Consent and before it obtains the required occupation certificate(s) for the development contemplated by the Development Consent.
- (c) The Owner of the Lot Benefited must not issue a notice under clause (a) prior to receiving approval or endorsement of the items listed under clause (b) which require approval or endorsement from the relevant party.
- (d) The notice served under clause (a) must include contact details of the relevant officer at Council that is responsible for the assessment of the Development Consent for the purpose of clause 3.5(a).
- (e) Subject to clause (b) and (c), if the Owner of the Lot Benefited provides a notice under clause (a), the Owner of the Lot Burdened must provide

access to the Owner of the Lot Benefited and its Authorised Users to remove the Breakthrough Panel and prepare new line markings over the Easement Site within 3 months of the expiry of the notice period under that notice.

- (f) At or before the time of removing the Breakthrough Panel the Owner of the Lot Benefited must install in a good and workmanlike manner such fire doors within its site as may be required to comply with fire safety regulations in force at that time.

3.4 **Emergency Vehicles and services**

Despite any other provision of this Instrument the Owner of the Lot Burdened:

- (a) must allow the Easement Site to be used for access by all emergency and other essential service organisations; and
- (b) must not interfere with such access.

3.5 **Easement Management Plan**

- (a) The Owner of the Lot Burdened must prepare an Easement Management Plan within 6 months of receipt of notice from the Owner of the Lot Benefited that the Lot Benefited has obtained a Development Consent for a development on the Lot Benefited that has basement access corresponding with the location of the Breakthrough and provide it to the Owner of the Lot Benefited and Council for approval (with such approval not to be unreasonably withheld or delayed).
- (b) The Owner of the Lot Burdened and the Owner of the Lot Benefited must comply with the approved Easement Management Plan.
- (c) Council and the Owner of the Lot Benefited may review the effectiveness of the Easement Management Plan and require it to be amended, but no more than once in any 12-month period.

3.6 **Insurance**

- (a) Each of the Owner of the Lot Burdened and the Owner of the Lot Benefited must take out and maintain:
 - (i) a public liability insurance policy with respect to any Liabilities to any person for the death or injury of any person within or about the Easement Site for an amount in respect of any single accident of not less than \$20 million; and
 - (ii) industrial special risks insurance in respect of its improvements and operations on the Easement Site for their full replacement value.
- (b) The certificates of currency for the policy referred to in paragraph 3.5(a)(i) must note the other owner as an interested party.

- (c) The policies referred to in paragraphs 3.5(a) must be taken out and maintained with an insurer licensed by the Australian Prudential Regulation Authority to operate in Australia or have an investment grade security rating from an industry recognised rating agency such as Standard and Poors, Moodys or Bests.

3.7 **Persons empowered to release, vary or modify the Positive Covenant**

This Positive Covenant may only be released, varied or modified with the consent of each of the Council, the Owner of the Lot Benefited and the Owner of the Lot Burdened.

DRAFT

Attachment E

**Gateway Determination – 2 Chifley Square,
Sydney**

Gateway Determination

Planning proposal (Department Ref: PP-2021-4750): permit a maximum FSR of 20.3:1 to deliver an additional commercial tower development at 2 Chifley Square, Sydney.

I, the Director at the Department of Planning and Environment, as delegate of the Minister for Planning, have determined under section 3.34(2) of the *Environmental Planning and Assessment Act 1979* (the Act) that an amendment to the Sydney Local Environmental Plan 2012 to permit a maximum FSR of 20.3:1 to deliver an additional commercial tower development at 2 Chifley Square, Sydney. should proceed subject to the following conditions:

1. The planning proposal is to be updated to:
 - a) Update Table 1 and the explanation of provisions of the Planning Proposal to provide a clearer breakdown of existing and future floor space allocation. This update should also include confirmation of the height of both the existing and proposed podium and tower elements, and provide justification for a final proposed FSR.
 - b) Provide a visual demonstration of how the height of the proposal fits within The Domain Solar Access Plane.
 - c) Update the planning proposal to reflect the adoption of the Central Sydney Planning Strategy.
 - d) Update the Planning Proposal to address the new Local Environmental Plan Making Guideline (December 2021). This should include an update to Section 8: Project Timeline, which should be reflected in working days.
 - e) Remove reference to Ministerial Direction 3.5 – Development Near Licenced Aerodromes.
 - f) Address inconsistencies with Ministerial Direction 3.5 – Development Near Regulated Airports and Defence Airfields, and include relevant information to address noise considerations as per Clause 7. This may include the preparation of an appropriate study.
2. Prior to community consultation, the planning proposal is to be revised to address condition 1.
3. Consultation is required with the following public authorities:
 - Transport for NSW
 - Sydney Metro
 - Heritage NSW
 - Relevant utility providers, including Sydney Water
 - Civil Aviation Safety Authority
 - Sydney Airport Corporation
 - Department of Infrastructure, Transport, Regional Development and Communication.
4. Council is to exhibit the associated draft amendment to Sydney Development Control Plan 2012 concurrently with the Planning Proposal.

5. The planning proposal should be made available for community consultation for a minimum of 20 working days.
6. The planning proposal must be exhibited 51 working days from the date from the Gateway determination.
7. The planning proposal must receive a final recommendation from Council 145 working days from the date of the Gateway determination.
8. The timeframe for completing the LEP is to be 200 days from the date of the Gateway determination.
9. Given the nature of the proposal, Council should be authorised to be the local plan-making authority.

Dated 8th day of February 2022.



David McNamara
Director
Eastern District, City of Sydney
Department of Planning and Environment

Delegate of the Minister for Planning

Ms Monica Barone
General Manager
City of Sydney
Town Hall House
456 Kent Street
SYDNEY NSW 2000

Dear Ms Barone

Planning proposal PP-2021-4750 to amend Sydney Local Environmental Plan 2012

I am writing in response to the planning proposal you have forwarded to the Minister under section 3.34(1) of the *Environmental Planning and Assessment Act 1979* (the Act) and additional information received on 10 December 2021 in respect of the planning proposal to increase the maximum FSR to 20.3:1 to deliver an additional commercial tower development at 2 Chifley Square, Sydney.

As delegate of the Minister for Planning, I have determined that the planning proposal should proceed subject to the conditions in the enclosed gateway determination.

I have also agreed, as delegate of the Secretary, the inconsistency of the planning proposal with applicable directions of the Minister under section 9.1 of the EP&A Act Section 6.3 Site Specific Provisions is justified in accordance with the terms of the Direction.

No further approval is required in relation to this Directions.

Council may still need to obtain the agreement of the Secretary to comply with the requirements of relevant applicable directions of the Minister under section 9.1 of the EP&A Act Section 3.5 Development near Regulated Airfields and Defence Airfields. Council should ensure this occurs prior to public exhibition.

Considering the nature of the planning proposal I have determined that Council may exercise local plan-making authority functions in relation to the planning proposal.

The proposed local environmental plan (LEP) is to be finalised within 200 days from the date of the Gateway determination. Council should aim to commence the exhibition of the planning proposal as soon as possible. Should Council seek to make a proposed LEP, the request to draft the LEP should be made directly to Parliamentary Counsel's Office well in advance of the date the LEP is projected to be

made. A copy of the request should be forwarded to the Department of Planning and Environment.

The NSW Government has committed to reduce the time taken to complete LEPs. To meet these commitments, the Minister may appoint an alternate planning proposal authority if Council does not meet the timeframes outlined in the gateway determination.

The Department's categorisation of planning proposals in the Local Environmental Plan Making Guideline (Department of Planning, Industry and Environment, 2021) is supported by category specific timeframes for satisfaction of conditions and authority and Government agency referrals, consultation, and responses. Compliance with milestones will be monitored by the Department to ensure planning proposals are progressing as required.

Should you have any enquiries about this matter, I have arranged for Mary Su to assist you. Ms Su can be contacted on 9373 2807.

Yours sincerely



08.02.2022

David McNamara
Director Eastern District, City of Sydney
Eastern Harbour City

Encl: Gateway determination

Attachment F

**Resolutions of Council and the Central
Sydney Planning Committee – November
2021 – 2 Chifley Square, Sydney**

Resolution of Council

15 November 2021

Item 8.3

Public Exhibition - Planning Proposal - 2 Chifley Square, Sydney - Sydney Local Environmental Plan 2012 and Sydney Development Control Plan 2012 Amendment

It is resolved that:

- (A) Council approve Planning Proposal – 2 Chifley Square, Sydney, as shown at Attachment A to the subject report, to be submitted to the Minister for Planning and Public Spaces with a request for Gateway Determination, subject to amendments to reduce the maximum floor space ratio to 20.3:1 applying to the site, to be consistent with an amended planning envelope in the planning proposal to achieve a minimum 6m tower setback to Chifley Square;
- (B) Council approve Planning Proposal – 2 Chifley Square, Sydney, as shown at Attachment A to the subject report, as amended to reflect (A) above, for public authority consultation and public exhibition in accordance with any conditions imposed under the Gateway Determination;
- (C) Council seek authority from the Minister for Planning and Public Spaces to exercise the delegation of all the functions under section 3.36 of the Environmental Planning and Assessment Act 1979 to make the local environmental plan and to put into effect Planning Proposal – 2 Chifley Square, Sydney;
- (D) Council approve the Draft Sydney Development Control Plan 2012 – 2 Chifley Square, Sydney Amendment, shown at Attachment B to the subject report, as amended to reflect (A) above, for public authority consultation and public exhibition concurrent with the Planning Proposal;
- (E) authority be delegated to the Chief Executive Officer to make any variations to Planning Proposal – 2 Chifley Square, Sydney, following receipt of the Gateway Determination;

- (F) authority be delegated to the Chief Executive Officer to make any minor variations to Draft Sydney Development Control Plan 2012 – 2 Chifley Square, Sydney Amendment to correct any drafting errors or ensure it is consistent with the Planning Proposal following the Gateway Determination; and
- (G) authority be delegated to the Chief Executive Officer to prepare a draft planning agreement in accordance with the letter of offer dated 27 October 2021 at Attachment C to the subject report and the requirements of the Environmental Planning and Assessment Act 1979, to be exhibited concurrently with the Planning Proposal.

Carried unanimously.

X038910

Resolution of Central Sydney Planning Committee

11 November 2021

Item 11

Public Exhibition - Planning Proposal - 2 Chifley Square, Sydney - Sydney Local Environmental Plan 2012 and Sydney Development Control Plan 2012 Amendment

Moved by the Chair (the Lord Mayor), seconded by Councillor Scully –

It is resolved that:

- (A) the Central Sydney Planning Committee approve Planning Proposal – 2 Chifley Square, Sydney, as shown at Attachment A to the subject report, to be submitted to the Minister for Planning and Public Spaces with a request for Gateway Determination, subject to amendments to reduce the maximum floor space ratio to 20.3:1 applying to the site, to be consistent with an amended planning envelope in the planning proposal to achieve a minimum 6m tower setback to Chifley Square;
- (B) the Central Sydney Planning Committee approve Planning Proposal – 2 Chifley Square, Sydney, as shown at Attachment A to the subject report, for public authority consultation and public exhibition in accordance with any conditions imposed under the Gateway Determination;
- (C) the Central Sydney Planning Committee note the recommendation to Council's Transport, Heritage and Planning Committee on 8 November 2021 that Council seek authority from the Minister for Planning and Public Spaces to exercise the delegation of all the functions under section 3.36 of the Environmental Planning and Assessment Act 1979 to make the local environmental plan and to put into effect Planning Proposal – 2 Chifley Square, Sydney;
- (D) the Central Sydney Planning Committee note the recommendation to Council's Transport, Heritage and Planning Committee on 21 June 2021 that Council approve the Draft Sydney Development Control Plan 2012 – 2 Chifley Square, Sydney Amendment, shown at Attachment B to the subject report, as amended to reflect (A) above, for public authority consultation and public exhibition concurrent with the Planning Proposal;

- (E) authority be delegated to the Chief Executive Officer to make any variations to Planning Proposal – 2 Chifley Square, Sydney, following receipt of the Gateway Determination;
- (F) authority be delegated to the Chief Executive Officer to make any minor variations to Draft Sydney Development Control Plan 2012 – 2 Chifley Square, Sydney Amendment to correct any drafting errors or ensure it is consistent with the Planning Proposal following the Gateway Determination;
- (G) authority be delegated to the Chief Executive Officer to prepare a draft planning agreement in accordance with the letter of offer dated 27 October 2021 at Attachment C to the subject report and the requirements of the Environmental Planning and Assessment Act 1979, to be exhibited concurrently with the Planning Proposal.

Carried unanimously.

X038910