Attachment A12

Sustainability Report

Pitt & Bridge

Sustainability Report

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Revision

Revision	Date	Comment	Prepared By	Approved By
-	08/03/2024	Planning Proposal Issue	AP	RD
1	28/04/2024	Updated Issue Responding to Council Comments	AP	RD
2	01/05/2024	Updated Issue Responding to Council Comments with Dexus ESG targets	AP	RD

Contents

1. Executive Summary

This Sustainability Report supports the Pitt and Bridge project, being a proposal for a green and global premium grade office tower, constituting a vertical exchange of finance, knowledge sharing, innovation, education, sustainability and wellness. Dexus' vision for the project is to provide a home for the green finance sector, providing the infrastructure to attract green businesses and talent which are aligned with global sentiment around addressing climate change and resilience and which can engage with the emerging global green economy. The proposal will lead the way in meeting world-class sustainability objectives and contribute to Sydney's role as a future leader in the global green economy.

The Pitt and Bridge Planning Proposal seeks amendments to the Sydney LEP 2012 and DCP 2012 for land at 56 Pitt Street, 58 Pitt Street, 3 Spring Street and 60 Pitt Street, Sydney. It will create an international hub for the green economy and support the City of Sydney's Net Zero target.

The project will achieve the following key sustainability certification commitments:

- **5.5 Star NABERS Energy** Base Building Rating (Commitment Agreement)
- **6 Star NABERS Energy** Base Building Rating (Target)
- **4.5 Star NABERS Water** Whole building (Target)
- **4 Star NABERS Waste** Base Building (Target)
- **6 Star Green Star** certified rating under Green Star Buildings
- **WELL Core Platinum** certified (Target)
- **100% renewable energy** in operation
- **100% electric and 100% carbon neutral** in operation

The design will be driven by Dexus's ambitious sustainability approach and objectives, which include:

- A commitment to achieving net zero emissions by 2030.
- Maintaining membership with Climate Group's RE100 through 100% renewable electricity commitments.
- Support of the World Green Building Council's Net Zero Carbon Building Commitment
- Commitment to an emissions reduction target certified by the Science Based Targets initiative to be **aligned with a global warming trajectory of under 1.5°C**.
- A commitment under the Science Based Targets to reduce customer-related emissions by 25% by 2030.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

2. Project Information

2.1 Project Overview

The project will deliver an integrated building offering retail and commercial spaces, with an improved streetscape and pedestrian access, welcoming communal areas, and expansive views to Sydney's harbour. The development will contribute to the historic character alongside Pitt St and will integrate thoughtful environmentally sustainable design into all project stages through to operation.

The proposed development comprises of the following:

Floor Level	Description
Basement Levels	Shared car parking facility, bicycle storage, precinct infrastructure, end of trip facilities
Ground & Mezzanine	Retail tenancies, foyer and office tenancies
Podium & Low Rise	Office tenancies
Mid & High Rise	Office tenancies
Sky Lobby & Mezzanine	Office tenancies and foyer

2.2 Project Site

The project site is shown in the figure below. It is bound by Pitt, Bridge, Spring & Gresham Street and consolidates 3 existing sites within the local government area of City of Sydney council. It is adjacent to four existing historic sites with access to expansive north and harbour views.

Figure 1 Project Site Location *(Source: Google Maps)*

3. Sustainability in the City of Sydney

The proposed Ecological Sustainable Design (ESD) initiatives for the project are collectively influenced by various associated drivers, including:

- City of Sydney Council planning controls and guidelines, including:
  - Sydney Local Environmental Plan (LEP) 2012
  - Development Control Plan
  - Guideline for Site Specific Planning Proposals in Central Sydney
  - Central Sydney Infrastructure Plan 2020
  - Net Zero Performance Standards – Step 2
  - Sustainable Sydney 2030

3.1 City of Sydney Development Control Plan

Section 3.6 – Ecologically Sustainable Development of the City of Sydney Development Control Plan identifies the following planning controls:

3.6.1 Energy Efficiency in non-residential developments

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/a.*
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. *Development is a "large commercial development" as per clause 7.33 in Sydney LEP and State Environmental Planning Policy (Sustainable Buildings) 2022. The development is to be designed to meet the relevant performance standards in Table 1: Energy performance standards in order to optimise energy efficiency and the use of renewable energy generated on-site, 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: 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: 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 optimised. The application for a reduction in the standards must be supported by:*

   i. *a Heritage Impact Statement, prepared by an appropriately experienced heritage consultant, and*

   ii. *energy modelling prepared by a suitably qualified person.*

Proposed	Energy performance standards	
and Use	Applications submitted between 1 October 2023 – 31 December 2025	Applications submitted from 1 January 2026 onwards
Office (base building)	- *maximum 45 kWh/yr/m2 of Gross Floor Area (GFA), 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*	- *maximum 45 kWh/yr/m² of GFA, 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* - *and* - *renewable energy procurement equivalent to "net zero emissions from energy used on-site" or a maximum of 45 kWh/yr/m² of GFA*

Table 1: Energy Performance Standards *(Source: Sydney DCP 2012)*

Note: The performance standards for offices only apply when they are 'large commercial development' as defined in State Environmental Planning Policy (Sustainable Buildings) 2022 and for prescribed shopping centres as defined in Sydney LEP 2012.

8. *As per clause 7.33 in Sydney LEP 2012, large Commercial development with a capital investment of $10 million or more involving alterations to an existing office premises is considered to be designed to optimise energy efficiency and the use of renewable energy generated on-site where:*

   a) *development meets the performance standards for new office buildings in Table 1, 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 used on-site; 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 7.33 (2) (b) in Sydney LEP, and provision (8) (b) (i) above, development is considered to have net zero emissions from energy used on-site where:*

a) *Development consumes no more total electricity 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.

Note: Clause 7.33 (2) (b) in Sydney LEP applies to development applications lodged on or after 1 January 2026.

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.

3.6.2 Water Efficiency in non-residential developments

1. *All new water fittings and fixtures such as showerheads, water tap outlets, urinals and toilet cisterns, in all non-residential development, the public domain, and public and private parks are to be the highest Water Efficiency Labelling Scheme (WELS) star rating available at the time of development.*

2. *Generally, rainwater tanks are to be installed for all non-residential developments, including major alterations and additions that have access to a roof form from which rainwater can be feasibly collected and plumbed to appropriate end uses.*

3. *Where a non-residential building, the public domain, a public or private open space or a community facility is serviced by a dual reticulation system for permitted non-potable uses such as toilet flushing, irrigation, car washing, firefighting and certain industrial purposes, the development is to be connected to the system.*

4. *Generally, water used for irrigation of public and private open space is to be drawn from reclaimed water or harvested rainwater sources. Possible sources include harvested stormwater, treated greywater and wastewater and water from a decentralised local network.*

5. *Separate meters are to be installed for each individual tenancy in commercial or retail buildings over 5,000sqm,*

6. *Separate meters are to be installed for the make-up lines to cooling towers, swimming pools, on the water supply to outdoor irrigation, and other major uses.*

7. *Where cooling towers are used, they are to be connected to a:*

   a) *recirculating cooling water loop; and*

   b) *conductivity meter so that the blow down or bleed off system in a cooling tower can be automated based on conductivity. This ensures that the water is being re-circulated an optimum number of times before being discharged to the sewer.*

8. *Cooling towers are discouraged where they are a single pass cooling system.*

3.6.3 Photovoltaic solar panels

1. *The use, location and placement of photovoltaic solar panels is to take into account the potential permissible building form on adjacent properties.*

2. *Where possible proposals for new buildings, alterations and additions and major tree plantings are to maintain solar access to existing photovoltaic solar panels having regard to the performance, efficiency, economic viability, and reasonableness of their location.*

3.6.4 Materials and building components

1. *Paints and floor coverings with low levels of volatile organic compounds (VOC) and low formaldehyde wood products are to be used where possible.*
2. *Where possible, use building materials, fittings and finishes that:*
    a) *have been recycled;*
    b) *are made from or incorporate recycled materials; and*
    c) *have been certified as sustainable or 'environmentally friendly' by a recognised third-party certification scheme.*
3. *Design building components, including the structural framing, roofing and facade cladding for longevity, adaptation, disassembly, re-use, and recycling.*
4. *Reduce the amount of materials used in the construction of a building wherever possible. Examples of potential methods include:*
    a) *exposing structures to reduce the use of floor, ceiling and wall cladding and finishes;*
    b) *naturally ventilating buildings to reduce ductwork;*
    c) *providing waterless urinals to reduce piping and water use;*
    d) *using prefabricated components for internal ft outs; and*
    e) *providing only one bathroom for every two bedrooms in residential developments.*

3.2 Guideline for Site Specific Planning Proposals

This guideline details additional controls that exceed the Sydney LEP's minimum ESD controls, and states the following:

Ecologically Sustainable Development (ESD) *must drive zero-net energy, zero waste and water efficient outcomes.*

Development resulting from a Request must exceed Sydney LEP's minimum ESD controls.

Proposed new buildings (or altered buildings) that rely on increased FSR and/or height must achieve an Office and Environment and Heritage (OEH) National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of at least 5.5 stars for office and 4.5 star for hotel.

Sites subject to a Request must be capable of achieving net-zero emissions and water efficient outcomes across the site. These sites must also strive to target zero waste outcomes.

Net-zero emissions involves maximising inherent efficiency through design, materials, and equipment selection with onsite renewable energy generation to the fullest extent possible.

Net-zero emissions, zero waste and water efficient outcomes may be delivered by way of a block agreement where proposed new buildings (or altered buildings) facilitate the upgrade and/or off-set of greenhouse gas emissions, water consumption and operational waste production of other developments within the site.

4. Sustainability at Dexus

Dexus's Sustainability Strategy is centred on the Principles for Responsible Investment and holistic value drivers to support meaningful environmental, social, and economic outcomes, by utilising core business and assets, to create greater sustainability impact. Three priority areas were identified to elevate sustainability outcomes and provide a balance across economic, social, and environmental sustainability: Customer Prosperity, Climate Action, Enhancing communities.

Supporting the prosperity of customers through the investment, design, development and management of real assets. Dexus's products and services aim to support occupant wellbeing and sustainability performance.

Focusing on climate action to accelerate the transition to a decarbonised economy, while also safeguarding and advancing our people, assets, property, and financial returns.

Helping the communities around our assets through inclusive and accessible design and placemaking, and investment in infrastructure that creates social value.

Figure 2 Dexus Sustainability Priorities *(Source:Dexus)*

Dexus recognises effective management of sustainability risks and opportunities requires attention to material sustainability issues that the business interacts with. It is committed to meeting stakeholder expectations in these foundational areas and creating the platform on which greater impact and value can be created through the priority areas. The Foundations are:

- Circularity
- First Nations Engagement
- Health and Wellbeing
- Nature

- Diversity, Equity and Inclusion
- Human Rights
- Governance and Reporting

Figure 3 Dexus Sustainability Foundations *(Source:Dexus)*

Dexus' sustainability has been globally acknowledged by the Global Real Estate Sustainability Benchmark (GRESB) and the Dow Jones Sustainability Indices (DJSI) as a global industry leader. As a member of the Green Building Council Australia (GBCA) and a Carbon Positive Partner, Dexus continues to show great commitment and leadership in delivering a sustainable office portfolio. This is evident across their portfolio which uses the following building certifications to leverage sustainability best practice in building design and operational performance.

Green Star

Dexus adopts the Green Star rating tools as a guide to integrate leading environmental and social practices within their developments. The Green Star certifications achieved and within the pipeline include:

Green Star – Design & As Built

Quay Quarter Tower - office development, 6 Stars

100 Mount Street, North Sydney – office development, 5 Stars

Central Place Sydney – office development, 6 Stars

105 Phillip Street, Parramatta – office developments, 6 Stars

1 Bligh Street, Sydney – office development, 6 Stars

Atlassian central – office development, 6 Stars

33 Alfred – office development, 6 Stars

Waterfront Brisbane – office development, 5.5 stars

Green Star – Performance

Dexus group office portfolio – 5 Stars, FY2020

Retail portfolio

Industrial properties

NABERS

For the 2023 financial year, the Dexus group office portfolio achieved the following NABERS ratings:

NABERS

Energy – 4.9 Star

Water – 4.5 Star

Waste – 3.3, based on 79% portfolio coverage.

Indoor Environment (IE) – 4.8, based on 84% portfolio coverage.

Key highlights from office portfolio, FY2023

Kings Square 2 in Perth achieved a **6-star NABERS** Energy rating and is one of three Dexus-managed assets that hold a 6-star rating.

Four properties including Kings Square 2, Capital Square and 240 St Georges Terrace in Perth each achieved the maximum **6-star NABERS Indoor Environment** rating, demonstrating best practice indoor environment conditions.

Eleven properties have achieved **NABERS Waste ratings of 4-stars or higher**, with standout performers 360 Collins Street in Melbourne and Capital Square in Perth both achieving **5-stars**.

DEXUS ESG Commitments and Targets

Dexus uses the NABERS program to benchmark performance across their portfolios and leverage better environmental outcomes for energy and water efficiency, waste, and indoor environment quality.

Water and Energy efficiency remain a strong focus for Dexus and their facility management partners. Through improved energy efficiency measures and increased renewable energy use across the group managed portfolio, Dexus has achieved **Net Zero Emissions for building operations** across Dexus's group managed portfolio. Maintaining a low carbon portfolio remains a top priority for Dexus and it has continued to work with the operations and managed real estate portfolio to maintain net zero missions in operations across each asset while looking upstream and downstream for opportunities to decarbonise its value chain. In March 2023, Dexus was awarded **Climate Active carbon neutral certification** across its management operations and managed portfolio for the FY22 period.

Dexus waste management program extends beyond diverting waste from landfill and adopts **circular economy principles** that support the efficient use of resources and the production of recyclable materials. Dexus have also advanced a series of initiatives to improve the office portfolio's Operational waste management and increase the waste diversion from landfill rate to 65%.

In recent years, the pandemic and the catastrophic bushfire season have presented serious challenges to the indoor environmental quality. It has since become increasingly important to create and maintain healthy indoor environments. Dexus recognises the impacts of indoor environment quality on occupant health and wellbeing. As such, Dexus has set a

target for their office portfolio to achieve **5 Star NABERS IE average** by 2025, enabled by a series of initiatives to improve occupant health and wellbeing.

Dexus is widely recognised as a global leader in Environmental, Social & Governance (ESG). In addition to the above Dexus has set following ESG commitments and targets:

- Continued to deliver commitments in the **Dexus Reflect Reconciliation Action Plan**.
- 40:40:20: Committed to achieving our target of **Gender diversity target** across senior and executive management roles.
- Ongoing commitment to achieve an average **4-star NABERS energy** by FY25 across the group office portfolio.
- Aim to source **100%** of electricity from **renewable sources by 2030** across the group's managed portfolio in the longer-term as a RE100 signatory.
- Looking **beyond net zero** to amplify impact across **Dexus value chain** with Dexus' 1.5 degree decarbonisation journey and 2030 Science Based Target trajectories.

5. Sustainability at Pitt & Bridge

In line with Dexus' sustainability ethos, the Pitt & Bridge development is envisaged to be a global leader in environmental and social sustainability.

Design.

The development at 56 Pitt Street aims to effectively implement sustainable practices to reduce the project's overall environmental footprint. The development intents on maximising the cultural, sustainable, economic, and social benefit throughout. This is demonstrated by implementing bespoke design elements and strategies to ensure a high level of sustainability, resilience, and wellbeing.

Resilience.

Climate adaptation and resilience is key for future-proof buildings. Design elements to reduce heat island effects and mitigate extreme climatic events will be incorporated into the development. A risk assessment associated with the changing climate and natural disasters will assist in dictating design solutions to ensure future adaptability and resilience.

Community.

The development intent puts people at the core of design, demonstrating excellence across both environmental and social sustainability. The design will incorporate strategies contributing to community benefits and facilitating connection to art, nature, and community.

Innovation.

Innovative technology and solutions are a major driver for the Pitt & Bridge development. Smart buildings design is critical towards achieving the project commitment and targets. A fully electric precinct with infrastructure offering and integrated building connectivity facilitates the transition to a carbon neutral future.

Initiatives that fulfill Dexus's three priorities and seven foundations will be implemented, which are also in-line with various rating tools and sustainability certification commitments of the project, refer table below.

5.1 Sustainability Commitments & Targets

Sustainability is a fundamental guiding principle embedded in the proposed development. In response to the project drivers and overarching sustainability vision, the project is committed to achieving the following:

- **5.5 Star NABERS Energy** Base Building Rating (Commitment Agreement)
- **6 Star NABERS Energy** Base Building Rating (Target)
- **4.5 Star NABERS Water** Whole building (Target)
- **4 Star NABERS Waste** Base Building (Target)
- **6 Star Green Star** certified rating under Green Star Buildings
- **WELL Core Platinum** certified (Target)
- **100% renewable energy** in operation
- **100% electric and 100% carbon neutral** in operation

Improvement on NCC 2022 Energy Efficiency Standards

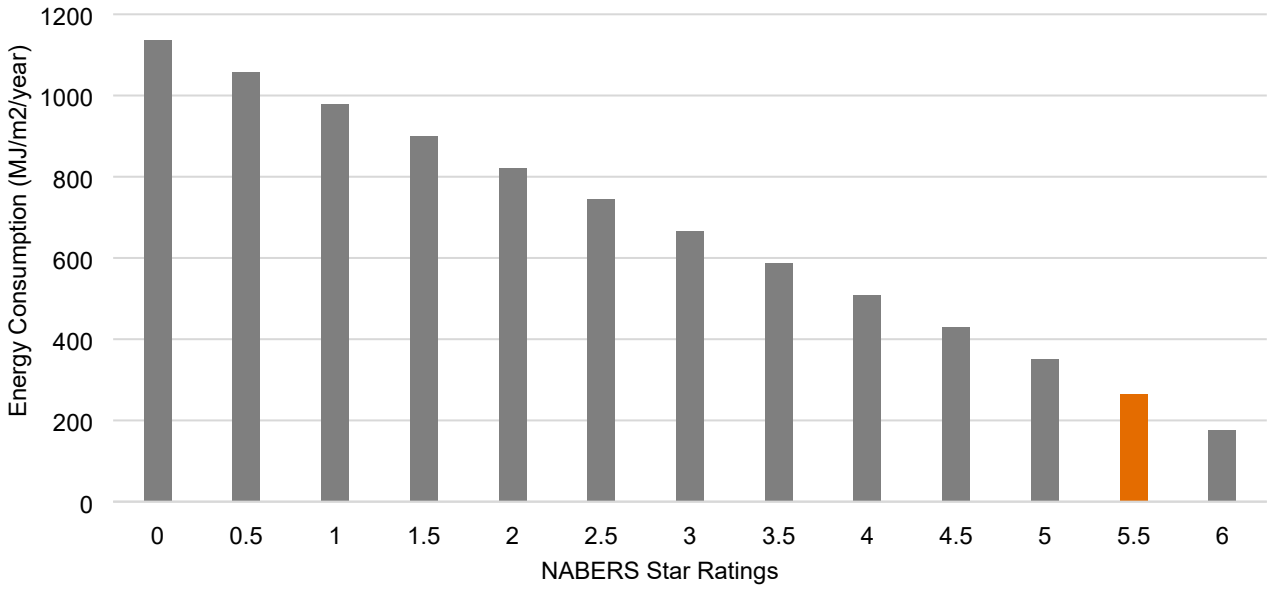
The development will be designed to improve on the already high-performing Section J energy requirements, as stipulated in the 2022 National Construction Code. This will be achieved by the following key design elements:

- High performance façade system with shading considerations to reduce solar hear gains. This includes a significant western core to reduce solar gains up the tower.
- Airtightness in the façade design to reduce bulk air flow and control the internal environment
- Optimising building fabric with consideration given to thermal bridging
- Efficient lighting systems and controls, such as daylight and motion sensors, timers, and the like
- Efficient HVAC systems with heat recovery systems
- Performance solution to car park spaces to reduce energy in ventilation
- Maximising passive design strategies where practically possible

NABERS

The proposed development is targeting a 5.5 Star + 25% NABERS Energy Base Building Rating in accordance with the Sydney DCP 2012. The below graph shows the maximum energy consumption for 0 through to 6 stars and the target energy consumption for the proposed development.

For a typical 50-hour usage profile (Monday – Friday, 8am – 6pm) in Sydney CBD, a consumption of 221 MJ/m2 NLA is required for the development to meet it's 5.5 Star NABERS target. Energy consumption of ~200MJ/m2 NLA (5.5 Star NABERS + 10% improvement) is anticipated for the Base Building.



Green Star

The development is committed to achieving a certified 6 Star Green Star rating under the Green Star Buildings tool. This will be implemented across all elements of the design and construction period. Careful consideration of materials throughout will be paramount to ensure the rating is integral to the underlying sustainability of the site. In order for the project to appropriately achieve a 6-star rating, a Green Star pathway will be developed based on the project's scope of works and design to meet the requirements across the eight major categories.

6. Sustainability Strategy

The initiatives and strategies explored within this section follow a holistic and methodical approach towards sustainability, which in turn enables the design team to achieve the aspirational commitments and targets for the development. A summary of the key strategy initiatives includes:

- **5.5 Star NABERS Energy** Base Building Rating (Commitment Agreement)
- **6 Star NABERS Energy** Base Building Rating (Target)
- **4.5 Star NABERS Water** Whole building (Target)
- **4 Star NABERS Waste** Base Building (Target)
- **6 Star Green Star** certified rating under Green Star Buildings
- **WELL Core Platinum** certified (Target)
- **100% renewable energy** in operation
- **5 Star NABERS Waste/ Net Zero Waste** rating for Base Building aspirational target
- **5 Star NABERS Indoor Environment** rating for Base Building aspirational target
- **NABERS Indoor Environment** rating when providing integrated fit out aspirational target
- **Climate Active Upfront Carbon for Buildings** with a Commitment Agreement certification aspirational target
- **PassivHaus** Certification aspirational target
- **PCA Premium Grade** building to demonstrate excellence in design
- **Exceed NCC 2022 Section J energy benchmarks** with a bespoke façade and services system design
- **Fully electric** precinct, utilising no gas on-site (retail cooking exceptions) to allow “Net Zero Ready” status in line with City of Sydney Council and Dexus’ joint vision.
- Integration of **passive design elements** to naturally provide comfort, quality and minimise energy consumption.
- Creation of **healthy interiors**, including reduction in the use of harmful VOCs in glues, sealants and paints.
- Bespoke design solutions that provide a sustainable outcome, **avoiding over engineering** and providing for **long term climate adaptation and resilience.**
- **Minimise consumption** of natural resources, including **water and raw materials**.
- Minimise environmental impacts through **construction**, including **embodied energy** and the **ecological cost of materials**.
- Minimise environmental impacts through **operation**, including **energy consumption, waste creation** and discharge of **pollutants**.
- Promote **urban ecology** through biophilic design elements, the use of green roofs, green walls, extensive landscaping.
- Provide **sustainable, integrated, convenient travel**.
- Promote **biodiversity** through careful building and landscape design that benefits indigenous or endangered plant and animal species.

- Integrate building into the urban fabric and deliver **places** that increase social cohesion, by putting **people** at the forefront of design. It highlights issues such as **Culture, Heritage, Community resilience, Placemaking, Universal design and design for inclusion**.

6.1 Customer Prosperity

Dexus focuses on enhancing customer prosperity by investing in, designing, developing, and managing real assets. Their products and services prioritize occupant health and well-being.

Occupant health and well-being has been defined as a key sustainable building category in order to improve indoor environments for building occupants which in turn aims to improve their overall wellbeing. Australians spend 90% or more of their time indoors. Therefore, consideration to improving indoor environmental quality it a vital step within the design process for any modern building.

The proposed development seeks to improve the overall IEQ for building occupants by addressing the following elements:

Passive Design

- Integration of **passive design elements** to naturally provide comfort, quality and minimise energy consumption.
- **High performance glazing** to reduce unwanted heat gain/loss, while providing access to daylight and views.
- **Airtight façade** construction to control comfort within the space and reduce any conduction gains.
- Considered specification of construction materials and external cladding to maximise positive influence of thermal mass and minimise unwanted heat gain/loss. This includes **exposed concrete ceilings and a combination of insulated precast concrete external walls and insulated lightweight external and party wall construction**.
- **Climate responsive** building façade to optimise energy efficiency.
- **Shading devices** to lower heat gains while not impacting access to views. Shading will have a significant impact on the overall energy performance of the building in association with the predicted climatic changes and mechanical loads reduction both in peak periods and across the year.
- **PassiveHaus** certification is targeted.

Thermal Comfort

- The base building is designed to achieve **high levels of thermal comfort** to provide a comfortable and productive environment for its occupants.

Building Performance Tracking

- Diversity in **operation** has been adequately considered in system design, including **BMS, EMS, lighting control, security, and indoor environment quality.**
- The building **displays data** to communicate performance information.
- **Utility meters** and **energy consumption monitoring** to help with and streamline building management.
- Ongoing **analytics** will continue to optimise the building's performance to ensure **NABERS energy ratings of 5.5 Star** Base Building are achieved.
- **Load management** to reduce peak load on the grid and optimise cooling/heating equipment efficiency.
- **Utility meters** and **water consumption monitoring** to help with identifying leaks early on and optimised building management.
- **Smart command fixtures** can be considered for ongoing analytics of water-use in real time and streamline the building's management and maintenance.

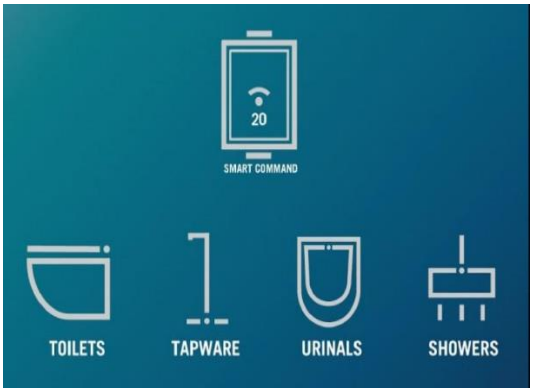


Figure 4 Caroma Smart Command System *(Source: Caroma)*

- **Optimisation Engines / Machine learning** solutions to optimise building HVAC Systems and improve energy efficiency by up to 30%. These solutions are capable of continuously learning from the building structure, weather, and energy consumption patterns of buildings within a portfolio and compute the optimum set point settings to minimize energy consumption while maintaining occupant comfort. As a result, these engines can dynamically approach the BMS controls with new setpoints that minimises costs and maintain comfort.

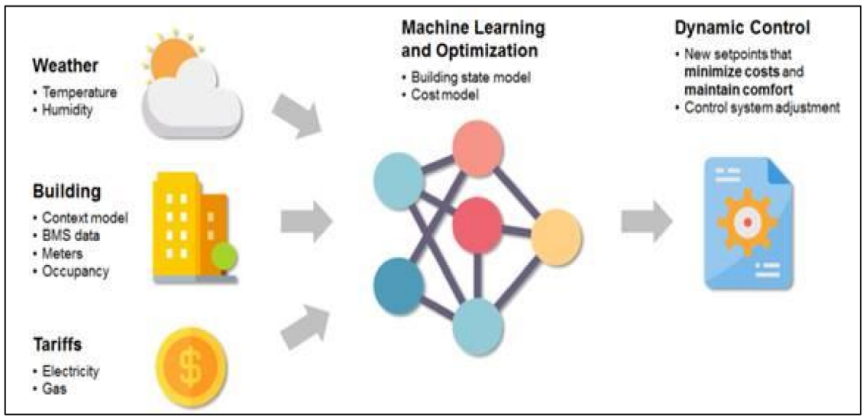


Figure 5 Honeywell Energy Optimisation Engine - Forge Solutions *(Source: Honeywell)*

Healthy Air

- The ventilation system will exceed code outdoor air requirements by **at least 50%,** and actively **monitor CO2** levels in the space. Outdoor air levels will adjust accordingly.
- **Tracking and reporting** of airborne contaminants throughout, with design responses for poor performance, including additional filtration and air movement.
- **Microbial control** measures on cooling coils to reduce mould.
- **Low Volatile Organic Compounds (VOC)** internally applied paints, carpets, adhesives and sealants will be selected for the project.
- **Low Formaldehyde engineered wood products** (particleboard, plywood, MDF) will be selected for the project.
- **Best Practice PVC** to be specified and sourced.

Biophilic Design

- The building provides **views**, includes indoor plants, and incorporates nature-inspired design.
- **Communal spaces** with biophilic elements indoor and outdoor to encourage social and restorative wellbeing.
- The project will incorporate biophilic elements - **Green facade** along the building façade, as well as preference for natural materials throughout.

Access to Outdoors

- Design process to consider **access for occupant to outdoor nature**.

Visual Comfort

- Building orientation, eave and facade design, glazing and material selection to be designed with the intent to achieve **natural daylight** while maintaining a high thermal performance.
- Glazing will be selected to maximise **access to daylight** while prioritising **thermal performance** necessary to achieve the targeted energy consumption outcomes.
- All primary spaces will have a **clear line of sight** to high quality internal or external views.
- **Blinds** to reduce direct solar gains, control radiant heat, and increase indoor comfort.
- Comply with the Dexus **lighting design** standards document.

Acoustic Comfort

- An **Acoustic Comfort Strategy** will be prepared to describe how the building and acoustic design aims to deliver acoustic comfort to the building occupants.
- The building will be designed and tested to achieve minimum acoustic performance requirements aligned with the Acoustic Comfort Strategy.

Access to Healthy Food

- The design will be benchmarked against WBI Nourishment category to ensure that local access to **healthy food** is present.

INTERNATIONAL WELL PLATINUM WELL BUILDING INSTITUTE

NOURISHMENT

Movement

- The building / precinct's design prioritises walking, cycling, and transport options that **reduce the need for private fossil fuel powered vehicles.**

- **End of Trip** facilities provide a safe, inclusive and enjoyable experience.
- **Secure bicycle spaces** to be provided inside the development, as well as on-site **bike repair facilities.**

Access to Stairs

- Fire Stairs are designed to act as **inter-tenancy staircases** as alternative to lifts.

Wayfinding

- Develop a comprehensive wayfinding strategy that incorporates universal design principles to ensure **clear and safe wayfinding for all users**.

6.2 Climate Action

Dexus's focus lies on climate action, aiming to expedite the shift toward a decarbonized economy, while also safeguarding and advancing their people, assets, property, and financial returns.

The IPCC report emphasizes two critical imperatives for the built environment to align with a 1.5°C trajectory**:** reducing energy consumption and transitioning to renewable energy sources. It is essential to fulfill both requirements without compromising one for the other.

This development has sought to include several sustainable initiatives designed in order to meet this goal and sets the trajectory for the built environment to address its emissions fully through all scopes of emissions.

Upfront Carbon

- **40% reduction in upfront carbon** without purchasing carbon offsets, in line with Dexus analysis and reporting framework.
- Undertake a detailed peer-reviewed **life cycle assessment** for the project as early as possible to utilise as a benchmarking tool for design development.
- **Low embodied energy materials** with preference for sourcing from local suppliers.
- Subject to structural engineering requirements, the project will specify recycled content (fly ash or furnace slag) in structural concrete to **reduce Portland cement**.
- The selection of a **limited materials palette**, along with a focus on raw finishes, aims to reduce total material usage in the project.
- Opportunities to use **reclaimed or recycled materials**, such as recycled feature brick walls and the reuse of existing brickwork, will be pursued through detailed design.
- Reinforcing steel bar and mesh shall be produced using **energy-reducing processes**, in accordance with the protocol for Demonstrating Equivalency in Energy Reduction.

Renewable Energy

- **On site renewable energy** generation will be maximised in conjunction with energy needs assessment, site conditions, and feasibility.
- **Innovative renewable energy generation technologies** will be investigated, and opportunities will be identified to adopt in building or on site.
- The project will be investigating and technologies such as **building integrated photovoltaics / photovoltaic & thermal (BIPVT)** through the use of Onyx glazing, tesla roof tiles, BIPVT panels.
- Provision of **rooftop Solar PV** array will be installed on the building to offset grid electricity usage and further reduce GHG emissions associated with the building's operation. Consideration of BIPV in the façade.

Electrification – Operations

- **Fully electric precinct**, utilising no gas on-site (retail cooking exceptions) to allow “Net Zero Ready” status in line with City of Sydney Council and Dexus’ joint vision.

Electrification – Construction

- The project will require **Head Contractor Green Power Purchase** for construction site.

Resilience

- **Climate change and operational resilience plan** will be developed in line with Green Star Buildngs v1 at concept design, and ensure review and update at major milestones.
- **Comprehensive review** of the acute shocks and chronic stresses likely to influence **future building operations** will be undertaken.
- The building’s **design and future operational plan** will address any high or extreme system level of risks.

6.3 Enhancing Communities

Dexus contributes to the well-being of communities around its assets by promoting inclusive and accessible design, fostering placemaking, and investing in infrastructure that generates social value.

In order to integrate building into the urban fabric and deliver places that increase social cohesion, by putting people at the forefront of design the development seeks to address this ESD category through the following on-site initiatives.

Community Resilience

- The project will align with the **Dexus Community Engagement Plan** to develop community resilience response of building / precinct.
- A **needs analysis** will be undertaken of the community to identify shocks and stresses that impact the building’s ability to service the community and develop responses to manage these.

Placemaking & Activation

- A **placemaking strategy** will be developed that delivers vibrant, activated, communal or public spaces in line with Dexus's Placemaking Strategy.
- The building / precinct's design contributes to the **liveability of the wider urban context** and enhances the public realm. Opportunities to provide community social benefit are identified and implemented.

Culture & Heritage

- The building / precinct's **design reflects and celebrates local demographics and identities,** the history of the place, and any hidden or minority entities through meaningful engagement with community groups early in the design process.

Reconciliation

- **Designing with Country** outcomes will be incorporated into project.
- At least **one project team member** will participate in the D**exus RAP Working Group**.
- **A Project RAP** will be developed based on the goals of the Dexus National RAP and achieve 90% of the targets set.

Figure 6 RAP Artwork by Amy Allerton *(Source: Dexus)*

Social Procurement

- Head Contractor contractual requirement will target a **Social Procurement spend of 2%, with an aspiration for up to 4%,** of construction contract value.

Universal Design

- **Universal and inclusive design** overlay incorporated from concept design phase to enhance physical and psychological safety beyond DDA compliance.
- The project will engage with target groups to inform universal and inclusive design outcomes that **caters to physical and mental disability,** as well as psychological safety and neurodivergence.

Design for Inclusion

- Option for **gender neutral facilities** will be designed into **base building** floor plates that is optional for customer to adopt.
- **Gender neutral facilities in publicly accessible** will be included.

6.4 Nature

In order to protect and enhance the local biodiversity and urban ecology, the development seeks to address this ESD category through the following on-site initiatives.

Native Plants

- The landscaping will include a diversity of species and prioritises the use of **climate- resilient and indigenous plants**. Endemic plant species will be selected to improve the **biodiversity value** of the landscaping and connection to the land.
- The landscaping will include **critically endangered and/or endangered** plant species native to the bioregion.

Native Bees

- **Native bee hives** will be incorporated in the site.

Biodiversity

- Engage an ecologist to develop a **site-specific Biodiversity Management Plan** and provides it to the building owner or building owner representative.
- As part of the Biodiversity Management Plan, include review of biodiversity pre-european settlement to **understand former site ecology and potential for repatriation** of native species of flora and fauna.

6.5 Circularity

Dexus seeks to incorporate circular principles in design and construction to build smart and ‘future-fit’ buildings that offer flexibility and adaptability of use and de-fit/re-fit processes.

This development has sought to include several sustainable initiatives to address this ESD category through the following on-site initiatives.

Life Cycle Thinking

- **Circularity audit** of the existing built forms and materials pre demolition.

- Development of a **circularity strategy** for the proposed new construction materials.

Greenkey Fitouts

- **Greenkey Fitout Guidelines** will be provided as minimum requirements for customers to adopt.
- **Any integrated and / or speculative fitouts** will be delivered in line with Greenkey Fitout Guidelines.
- The project will aspire to **collaborate and engage with customers and supply chains** to support delivery of a Greenkey Fitout and exceed the baseline requirements through innovative products where possible.

Construction Waste

- Construction waste will be diverted from landfill with monthly cumulative reporting in line with **Dexus waste reporting framework**.

Operational Waste

- **A waste consultant** will be engaged to collaborate with Dexus Operational Business Units to **maximise waste recovery in operation**.
- The project will explore **implementing emerging technologies** for waste stream separation.
- **Dedicated on-site waste separation systems and management processes** will be implemented to keep waste streams at their highest value.

Responsible Procurement

- The building's design and construction procurement process will follow **ISO 20400 Sustainable Procurement** – Guidance.
- At least one identified **supply chain risk and opportunity** will be addressed.
- The project will align with **Dexus's Sustainable Procurement Procedure** and Supplier Code of Conduct.
- **Responsible Procurement Plan** will be developed and implemented.
- Responsibly manufactured products with appropriate **Responsible Products Value RPVs values for structure, envelope, finishes** will be sourced in line with Green Star credits will be.

6.6 Governance, Reporting & Disclosure

The project governance will be set to fulfill the project's formal commitments to achieve the following and respective reporting and disclosure required:

- **5.5 Star NABERS Energy** Base Building Rating (Commitment Agreement)
- **6 Star NABERS Energy** Base Building Rating (Target)
- **4.5 Star NABERS Water** Whole building (Target)
- **4 Star NABERS Waste** Base Building (Target)
- **6 Star Green Star** certified rating under Green Star Buildings
- **WELL Core Platinum** certified (Target)
- **100% renewable energy** in operation
- **100% electric and 100% carbon neutral** in operation

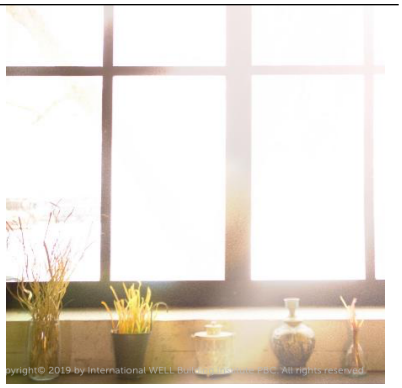
7. WELL

The project will be designed to demonstrate excellence across both environmental and social sustainability, in pursuit of a WELL core Platinum outcome under the WELL v2 certification. The elements of WELL will be integrated within the development's consideration of designing for people, society and community.

The below is an outline of design initiatives to achieve the certified Platinum WELL outcome for the Pitt & Bridge Street development. Each category requires a minimum 2 points, with a maximum of 12 being awarded. In line with the project vision, the key focus has been on quality of space, mind, and movement. The below elements may contribute to the leadership demonstrated in occupant wellness:

Air

- Indoor Air quality performance metrics achieved for particulate matter, organic gasses and inorganic gasses
- Beautiful, informative digital displays through the space, displaying air quality, water quality and any other useful information will be displayed in the building
- Air Filtration provided to a high quality, ensuring indoor environment is free from toxins, clean and safe even in times of poor air quality



Water

- Filtered drinking water available in all spaces to encourage water intake
- Quality of Water delivered to site will be of an exceptional standard
- Internal bathrooms designed with non-antibacterial soap and paper towels for hand drying, to reduce virus spread and for healthy hands

Nourishment

- Social places to come together to eat, socialize and meet
- Fruits and Vegetables to be available on site
- Positive healthy messaging across the site, with negative messaging banned
- Food education literature is available for all

Light

- Shading provided to the windows to mitigate glare
- Architecture designed to maximise Window clarity and window-to-floor area for greater natural light penetration within the space
- Access to good views across all non-internal spaces
- Efficient lighting with low flicker, high rendering, and glare control for clarity

Movement

- Provision of ample bicycle storage space, lockers and showers to encourage alternate transport
- Provision of bicycle maintenance facilities on site (tools, pump, etc.)
- The ground-floor landscape design to include outdoor space, water features, planting, art, etc.

Thermal Comfort

- High levels of thermal comfort year-round, with -0.5 < PMV <0.5
- Air Temperature and humidity monitored and recorded in a centralized BMCS, potentially displayed on screens for user information

Sound

- Background noise levels designed to exceed Australian standards and provide a comfortable space
- Acoustic engineer engaged to ensure development's sound levels are appropriate for each use
- Acoustic privacy provided between spaces and disruptions minimised
- Acoustic consideration within building fabric and construction to mitigate reverberation

Materials

- Waste management plan developed to manage waste streams, encourage recycling and reduce impact to landfill across all stages of the project
- Reduction in pesticide use for lower environmental impact
- Green Cleaning products and protocols instigated throughout the project.

Mind

- Restorative spaces for people to relax
- Access to nature through views, green walls, plants and the like
- Great natural, easy access to light, trees and water are prevalent across the site
- Communal spaces for people to interact socially

Community

- Information guide available for users and access to wellness resources
- Occupant surveys to ensure employee's needs are met
- The building will exceed codes and standards for universal access (design for disability)
- Universal Design elements will be incorporated in all design elements for common areas (braille, signage, physical access, hearing loops, safety, etc.)

8. PASSIVHAUS

The project will be designed according to Passivhaus principles. A Passivehaus building is designed and built in accordance with five building science principles that, when implemented correctly, achieve the technical Passivhaus metrics required for certification. The design principles are used to attain a quantifiable and rigorous level of energy efficiency within a specific quantifiable comfort level under a "fabric first" design philosophy. The following five principles are central to Passivhaus design and construction.

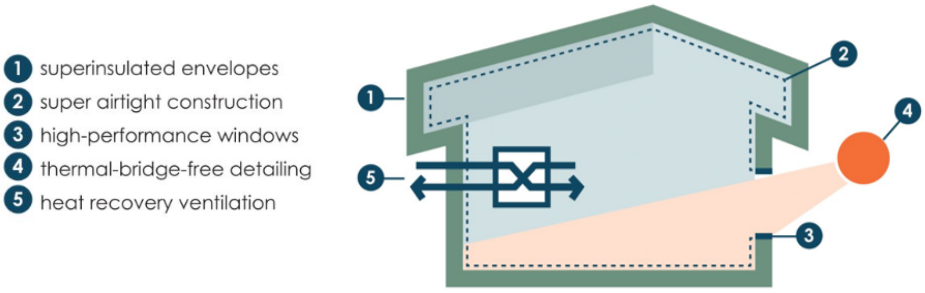


Figure 7 Passivhaus Principles *(Source: Australian Passivhaus Association)*

9. Climate Active Upfront Carbon for Buildings

Climate active upfront Carbon for Buildings focuses on the delivery phase of the building lifecycle, A1 to A5 as defined in EN 15978:2011 and shown in the diagram below. It also recognises however that it is during the design phase of a building that future operational emissions can be minimised through passive and active efficiency measures. Therefore, the emissions reduction plan for the project must consider upfront and operational emissions.

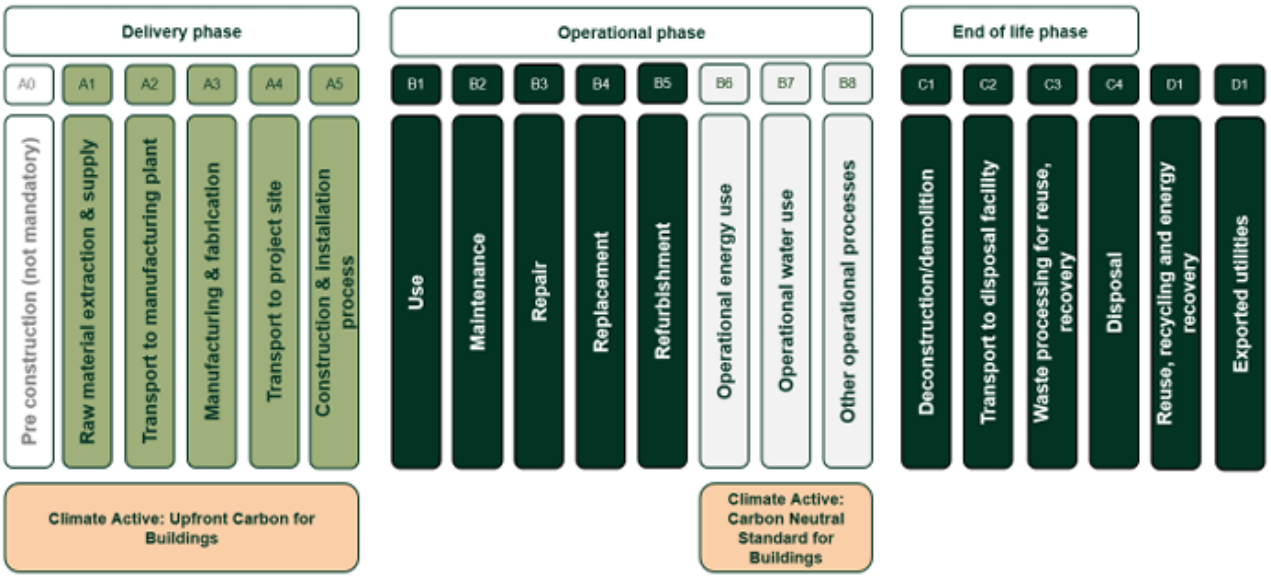
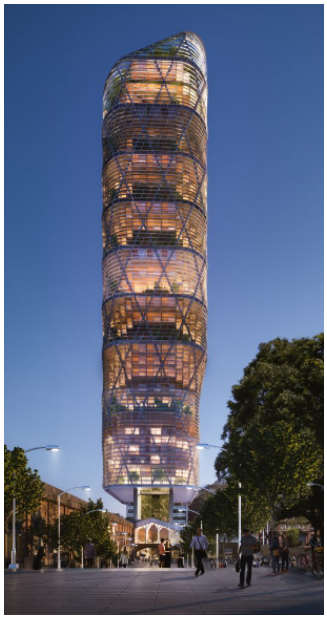


Figure 8 The certification boundary for upfront carbon focusses on emissions related to raw materials extraction, product manufacture, transport and construction emissions, shown here as modules A1 to A5, with A0 pre-construction as an optional (best practice) inclusion. This diagram is derived from EN 15978:2011, PAS2080:2016 and ICMS3 *(Source: 2019 Commonwealth of Australia, www.climateactive.org.au)*

10. Sustainability Leadership

A review of best practice commercial buildings and precincts was performed to benchmark the Pitt & Bridge sustainability targets. The sustainability targets for Pitt & Bridge are on-par with similar world-leading projects. Below is a summary of commercial developments that demonstrate sustainable design leadership.



Atlassian Central, Sydney

6 Star Green Star

5.5 Star NABERS energy Commitment Agreement

Features:

- An electricity-generating façade system with self-shade capabilities to reduce direct heat gain and mass timber construction (MTC), significantly lowering the building's embodied carbon footprint.
- 100% fossil fuel free and powered by renewable energy.

Waterfront, Brisbane

6 Star Green Star

5.5 Star NABERS energy Commitment Agreement

4.5-Star NABERS Water target

4-Star NABERS Waste target

Features:

- Two office towers, premium riverfront dining, enhanced retail offerings and more expansive public spaces, with a widened and upgraded riverwalk for pedestrians and cyclists.
- Active transport will be enhanced with the new Riverwalk delivered by the Waterfront Brisbane project that connects the city to the water.

Connect Corporate Centre Stage 3, Sydney

6 Star NABERS Energy

4.5 Star NABERS Water

Features:

- High performance glazing, sunshades, and self-shading architectural features.

5 Martin Place, Sydney

5.5 Star NABERS Energy

4.5 Star NABERS Water

3.5 Star NABERS Waste

5 Star NABERS Indoor Environment

5 Star Green Star Design and As Built,

Features:

- A combination of active and passive chilled beam space conditioning and high-performance glazing.
- It integrates the existing 1916 heritage facade on the first 11 floors and uses a unique cantilevered structure and double skin north facade on the tower levels to create a modern office and high-end retail space in the Sydney CBD.

Kings Square 2, 562 Wellington Street

6 Star NABERS Energy

5 Star NABERS Water

6 Star NABERS Indoor Environment

5 Star Green Star Design and As Built,

Features:

- Low temperature VAV air distribution system, high efficiency chilled water system
- Energy efficient lighting
- Rainwater collection to service the building's toilets.

1 Bligh Street, Sydney

6 Star Green Star Design and As Built, certified

5.5 Star NABERS Energy

5 Star NABERS Water

2.5 Star NABERS Waste

5.5 Star NABERS Indoor Environment

NABER Carbon Neutral certified

Features:

- Solar cooling system which feeds in the Tri-generation system
- Blackwater recycling and fire system water reuse
- Bespoke structural design to allow for reduction in amount of concrete used

International Towers, Barangaroo

6 Star NABERS Energy across all office buildings

6 Star NABERS Water

6 Star NABERS Waste

6 Star NABERS Indoor Environment

Platinum WELL Certification in Towers Two and Three

6 Star Green Star Performance across all office buildings

8 Bishop Gate, London

BREEAM Outstanding, certified at design stage

Targeting **WiredScore Platinum**

Features:

- Efficient hybrid stability system to reduce steel usage and incorporate recycled materials into the concrete core
- Smart systems using enhanced building metrics that optimise energy efficiency
- Rainwater collection and greywater recycling.

2 Finsbury Avenue, London

Targeting **BREEAM Outstanding**

Targeting **Net Zero Carbon** in Construction & Operation

Features:

- 100% electricity from renewable sources
- Healthy green areas
- ‘Open Learning Hub’ to create a shared resource and accessible City knowledge for wider community

One Taikoo Place, Shanghai

Platinum WELL, BEAM Plus & LEED certifications

Features:

- Biodiesel Trigeneration System which turns recycled oil fuel from cooking oil of local restaurants to electricity.
- Heat rejection to provide hot water and serve adsorption chiller
- AI-enabled smart building utilising advanced data analytics, machine learning and predictive maintenance
- EV chargers for all parking spaces
- Reuse of existing caisson to reduce upfront embodied carbon emissions

The Edge, Amsterdam

BREEAM Outstanding, certified at As Built stage

Features:

- Smart building controls with sensors to measure occupancy, movement, lighting levels, humidity and temperature
- Aquifer thermal energy storage
- Light system with Power over Ethernet (PoE) technology, where the system is powered by ethernet and data is connected to BMS
- Personalised workspace via smartphone app where occupants can customise temperature and lighting levels

11. Summary

Sustainability in design is set to be a fundamental driver for the Pitt & Bridge development. In line with the development's core vision, the project will aim to incorporate strategies and initiatives to ensure a sustainable outcome centred around well-being and resilience.

The initiatives outlined in this report are intended to be used as a design guide for the development. The specific initiatives that will be installed across the precinct will be determined throughout the development application stage and will be subject to feasibility analysis, including that of the final use and layout. The initiatives are being designed to comply with the guidelines set out by the relevant authorities.

The development's commitment to reducing the overall environmental impact is evident of the holistic approach taken to long-term sustainability. This is demonstrated through the project's formal commitments to achieve the following:

- **5.5 Star NABERS Energy** Base Building Rating (Commitment Agreement)
- **6 Star NABERS Energy** Base Building Rating (Target)
- **4.5 Star NABERS Water** Whole building (Target)
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- **6 Star Green Star** certified rating under Green Star Buildings
- **WELL Core Platinum** certified (Target)
- **100% renewable energy** in operation
- **100% electric and 100% carbon neutral** in operation

We trust this report provides a sufficient overview of the proposed development's commitments to environmentally sustainable design and the sustainability vision for the Pitt & Bridge Street development.

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