Project:	Adelaide Central Plaza	**Date:**	21 March 2025
To:	Cameron Thomson	**Reference**	SUADL25012
From:	Nathan Lawry		

RE: Adelaide Central Plaza- Summary of Sustainability Initiatives

This sustainable design response for the proposed mixed-use development at Adelaide Central Plaza, North Terrace outlines the project's commitment to embedding sustainability outcomes throughout the design and construction processes.

Project Context

The proponent is seeking a high quality commercial office offering, and as part of that strategy, sustainability has been identified as a key component. This recognizes both the increasing demand from tenants for higher performing ESG assets[1] but also the substantial impact that real estate contributes to environmental and social outcomes. Globally, the built environment contributes almost 40% of annual carbon emissions (Figure 1).

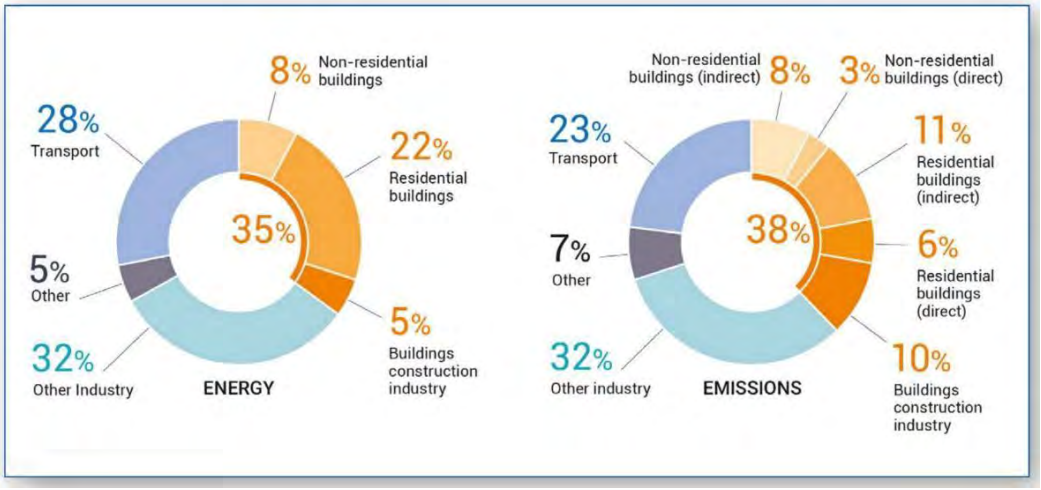


Figure 1 - Contribution of Built Environment to Global CO2 emissions

Source: https://www.weforum.org/agenda/2022/01/decarbonizing-the-built-environment/)

Throughout the planning process, a series of workshops and meetings have allowed for a comprehensive sustainability strategy to be developed. Key outcomes have been coordinated within the design team to ensure they are embedded within the design process and are summarized in subsequent sections.

Sustainability Commitments

The Sustainability Commitments section outlines a set of commitments that have been nominated for the development to provide worthwhile and real-world impact.

Green Star

The project has committed to a 6-star Green Star Buildings v1 rating. This result is deemed by the Green Building Council of Australia as equivalent to World Leadership (see below for comparison). It represents a significant increase against minimum legislated requirements from the NCC, particularly with the recent changes to the tool to increase the overall sustainability

[1] https://www.afr.com/policy/energy-and-climate/just-28pc-of-offices-will-meet-major-tenants-climate-needs-20241202-p5kvat

performance outcomes in line with industry expectations and advancements.

It is commonly accepted amongst sustainability professionals that the new standard is equivalent to +1 star of the old 'Design & As-built' outcome (ie current 5 star equivalent to old 6 star) and is a notion supported by the Green Building Council of Australia in its own presentations to industry on the new tools implications. As such, the 6 star commitment introduces a level of performance not seen in Adelaide to date given all existing 6 star rating were under the previous tool.

Figure 2 - Green Star Rating Outcomes

Importantly, the Green Star rating ensures a holistic outcome regarding sustainable development, with responses required in all categories (as outlined below) ensuring positive gains in each of the social, environmental and economic pillars of sustainability

Figure 3 - Green Star Categories

A detailed initial strategy to achieve the 6-star outcome has been investigated, analysed and key outcomes coordinated to date with the broader design team. Of particular note are the following initiatives:

- All electric, gas free development which allows for inherent decarbonisation over time as renewable energy contributions to electricity grid increase, which also automatically improves NABERS ratings over time as well.

- The Green Building Council of Australia has identified electrification as "*the better way for us to create future-ready buildings that are highly efficient, fossil fuel free and powered by renewable energy. Not only are efficient, electric buildings better for the planet, but they're better for people and the bottom line too"*[2]
- From 2027, the SA state government has committed to 100% renewables for the South Australian grid[3] which allows for substantial decarbonisation to be achieved as a natural outcome of making the building all-electric. The globally leading amount of renewables (see below) in our local grid is important design context which this development clearly responds to.

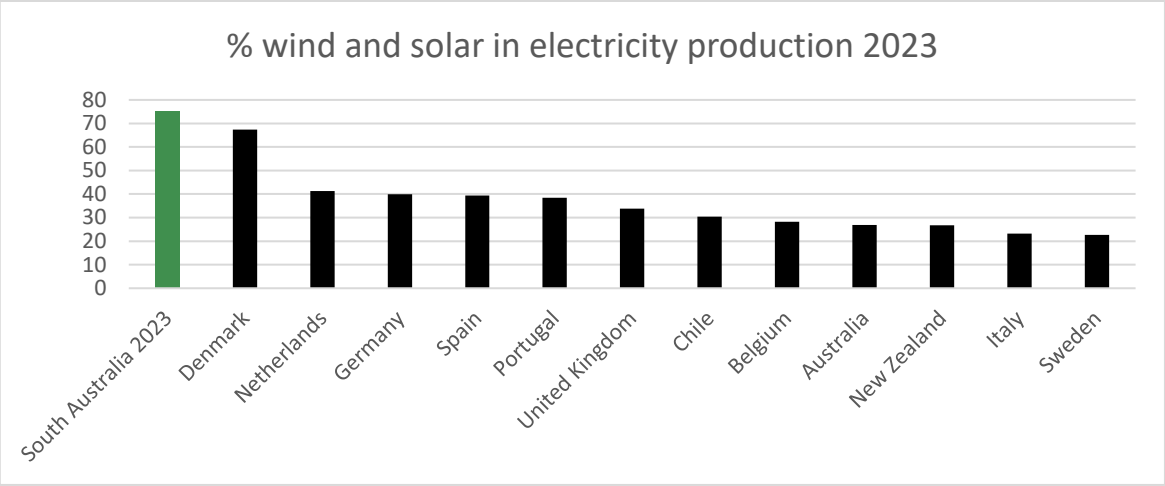


Figure 4 - Share of Wind and Solar of Electricity Generation by region

- Removing gas from the F+B kitchens and replacing with all electric alternatives is a substantial change to the industry and improves energy efficiency and staff amenity due to less heat and pollutants[4]

- 100% renewable electricity to be supplied for at least the first 5 years, making the building Net Zero Energy from day one.
  - This inclusion provides a strong response to the need identified in the IPCC's 6th Climate Change report for "*deep, rapid, and sustained reductions in greenhouse gas emissions"* as it is the largest contributor to greenhouse gas emissions associated with the built environment

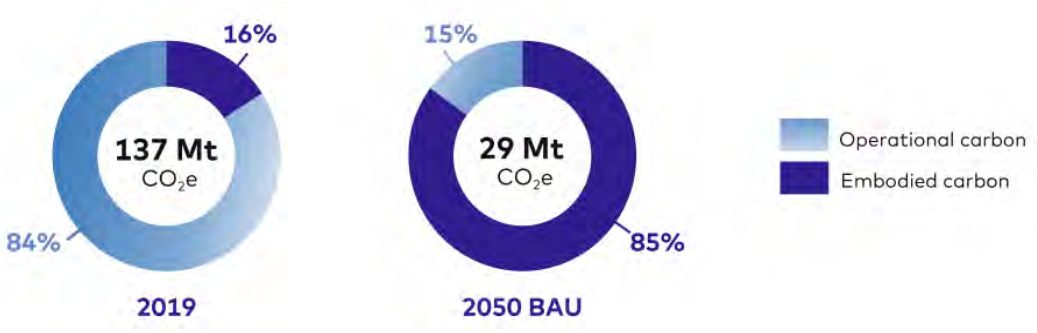


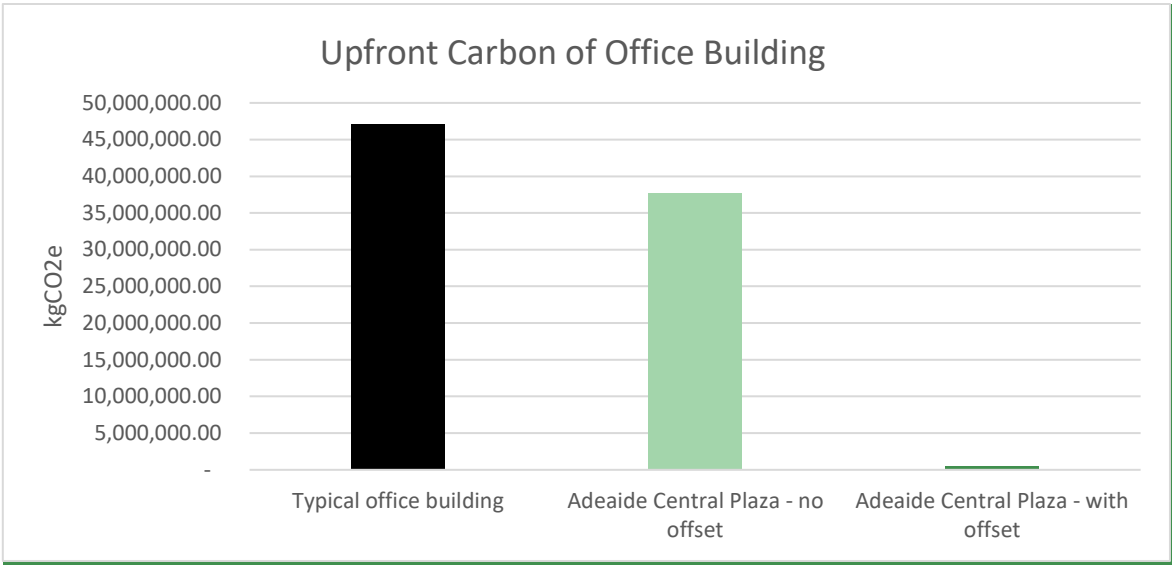
Figure 5- Embodied vs Operational Carbon in Buildings

(https://www.thinkstep-anz.com/assets/Whitepapers-Reports/Embodied-Carbon-Embodied-Energy-in-Australias-Buildings-2021-07-22-FINAL-PUBLIC.pdf)

- 20% reduction in embodied/upfront carbon
  - Once a building is all-electric and supplied by 100% renewable electricity, the only remaining emissions are embodied in materials which will increasingly become more important as the electricity emissions intensity reduces over time (see Figure 5 above). Reduction in this source of carbon emissions is a significant

[2] *https://new.gbca.org.au/green-star/green-star-strategy/electrification/*
[3] https://www.premier.sa.gov.au/media-releases/news-items/new-target-for-renewables
[4] https://pubmed.ncbi.nlm.nih.gov/37582122/

challenge for the industry and the incorporation of design techniques and material solutions will further increase the industry's capacity to tackle this challenge. Using industry benchmarks for upfront carbon intensity, this project will avoid almost 9,500 tonnes of carbon emissions through design efficiencies and material selections, and will offset almost 38,000 tonnes of carbon.



- Minimum 20% reduction in operational energy efficiency, providing ongoing energy savings to residents and guests
- Offset of all carbon emissions associated with demolition and refrigerants
- Offset all upfront carbon emissions associated with A1-A5 impacts i.e. raw material supply, transport, manufacturing and construction
- Review of climate change risks and mitigate all identified high risks addressed and mitigated
    - Ensuring the building caters to increasingly adverse climate impacts and maintains acceptable living standards for its residents and supports their health and wellbeing despite the climate stressors.
- Air tightness consultant engagement and testing to improve energy efficiency, reduce external pollutants and improve internal air quality.
- Demand Management in combination with energy efficiency to all buildings reducing peak load by >10%, which reduces grid stress in high demand scenarios and reduces overall cost of supply associated with additional investment in grid services and infrastructure
- Electric Vehicle Charging to a minimum 5% of all spaces, with 25% future proofed
- Available roof space to be prioritised for large PV array
- Reduced Urban Heat Island Effect by nominating higher SRI (solar reflective index) roofs, increasing urban amenity
- Prioritise materials with lower embodied emissions and sustainability credentials
- Operational Waste Strategy to collect individual streams well above industry norm including
    - Landfill
    - Cardboard
    - Mixed Recycling
    - Food Waste
    - Soft Plastics
    - Foam
    - Waste oil
    - Bulky Waste
    - Fluorescent lights
    - 10c recycled bottles

By committing to a formal Green Star rating, the proponent is ensuring that early intent is followed through to construction and operations, with the green Building Council of Australia requiring a review of all as-built documentation as evidence of compliance.

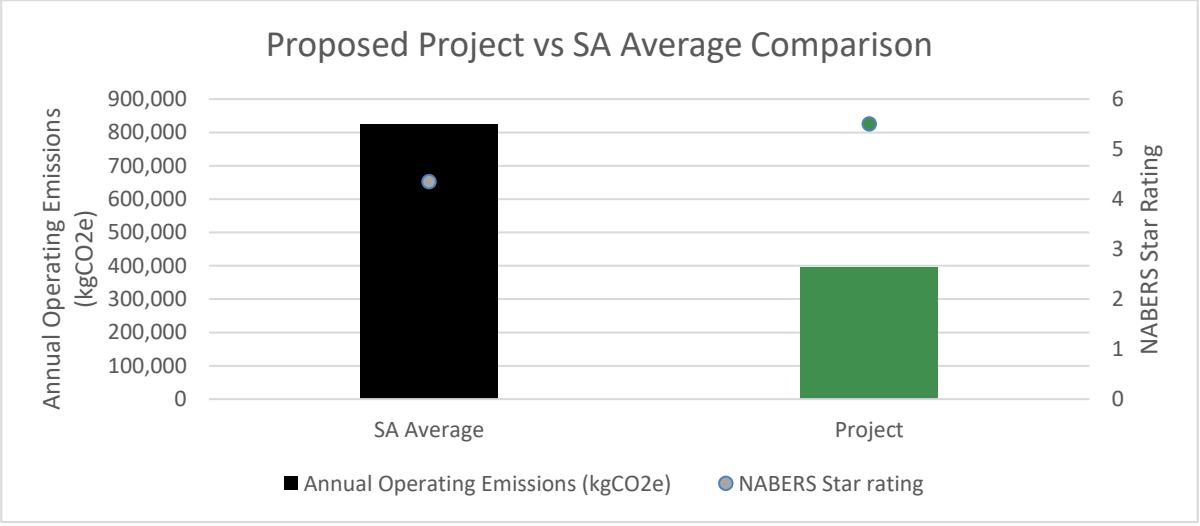
NABERS

A NABERS rating is a tangible pathway to predict with a reasonable degree of confidence the expected energy consumption and associated carbon emissions of a project in the design phase. The pursuit of a formal NABERS ratings also indicates a strong commitment to the sustainability measures proposed as it is a third party verified and contractually bound outcome. NABERS star ratings correspond to the following outcomes according to the NABERS administrator[5]

A summary of current NABERS Energy ratings for Offices in South Australia has been provided below for context.

	SA average NABERS star rating	# in SA	% offices above 5.5 star
Current Office NABERS Energy Results	4.35	74	32

The ongoing 5.5 star NABERS Energy result is responsible for an annual emissions reduction compared to an average SA office of at least 529,000 kg CO2 from just the base building operations without any consideration of the renewable energy supply agreement. Accounting for renewable electricity supply, the base building will avoid approximately 825,000 kg CO2 annually compared to the SA market average.



[5] https://www.nabers.gov.au/sites/default/files/2022-11/Fact%20Sheet%20-%20Office%20Buildings.pdf

Conclusion

The proposed office tower at Adelaide Central Plaza, Adelaide will present a significant increase in sustainable design and energy efficiency against minimum practice. The commitment to a 6 star Green Star rating and a 5.5 Star NABERS Energy rating ensure strong performance outcomes. Given Green Star's holistic nature, substantial outcomes in relation to internal environment quality, health and wellbeing, landscape and biodiversity, management, transport, climate change, energy, carbon and water will be achieved. Furthermore, the committed NABERS rating ensures significant energy and carbon reductions against business-as-usual will also be achieved. The commitments outlined within this report will continue to be coordinated and embedded into subsequent design and construction phases to ensure the potential benefits are realized through to occupation.