



85-93 Commonwealth Street Sustainability Summary

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Summary

NABERS

- Target a **NABERS Base Building 5-star rating** for the building including alterations and additions as an outcome of this planning proposal.
- The rating is required as per Sydney Control Development Plan (SCDP) 2015 and is achievable for the development including the new Gross floor area (GFA)
- 85 – 93 Commonwealth Street agrees to undertake energy modelling prior to CC to predict the design performance.

Electrified building systems and services

- Keep existing gas services shut off and continue using all electric building services.
- Electrification of building services builds upon the resilience and decarbonisation story as city moves away from fossil fuel equipment and services. Assisting with **City of Sydney's target for a 70% reduction of greenhouse gas emissions by 2030.**
- Attract premium tenants by aligning with Environmental Social Governance (ESG) objective of tenants.

On Site Solar PV

- Install the maximum kW solar PV system. The estimated leftover roof space equates to about a 25kW Solar PV System.
- This pathway appeals to the City of Sydney as it contributes to **Sustainable Sydney 2035 net zero emissions target .**
- Increase rental yield value from premium tenants and reduce the impact of energy price hikes for owner.



Summary

Net Zero Carbon emissions in operations

- Agree to purchase renewables for the current base building over a commitment period (5 years recommended) for all energy and refrigerants offset.
 - Current base building bill is 75kWh per day, this equates to \$4,851.51 per year.
 - Under NABERS definitions we would also add the tenant HVAC energy to this cost.
- This route exceeds **Sustainable Sydney 2035 net zero emissions target**.
- No project costs with this pathway, but operational costs of 20%-50% energy bill increase for renewable energy offset.

Saving embodied carbon in existing building, low carbon materials

- Retain the existing building and quantify the carbon kg/m² savings. Purchase light weight low carbon material to construct the new development on the roof.
- Helps Sydney to be a part of a decarbonised world. **Sustainable Sydney 2030 construction and demolition waste target**.
- Building retention has high carbon value at low capital expenditure.
- Premium costs for low carbon products. Market recognition is quantifying embodied carbon, aids tenants with ESG disclosure.

High Performance Envelope to new elements

- **Exceed section J of the NCC by 10%**. This also contributes to **NABERS 5 star**.
- Creating a high-performance envelope for the new build decreases energy consumption and greenhouse gases emissions.
- Attract higher rental value yield by offering increased occupant comfort, health, well-being and productivity.
- No issues reported in relation to glare or condensation in existing fabric.

 = Planning Requirement
 = Voluntary Targets



Summary

Resilience: Air filtration for Bushfire Smoke

- Provide an air filtration system to mitigate bushfire smoke increases occupants' health and well-being. Avoids bushfire smoke potential to set off fire alarm.
- Increase rental yield value from premium tenants.

End of Trips

- Include End of Trip (EOT) facilities.
- The Gross Floor Area (GFA) of the new build is under 1000m sqm. Therefore, compliance with **SCDP 2015 Section 3.11** for the provision is not required.

High efficiency Fixtures

- Install highly efficient water fixtures.
- Complies with **SDCP Section 3.6.2** and contributes to **Sustainable Sydney zero increase in potable water use by 2030**
- Reduces water bills and impact of water restrictions.
- Environmental benefits of water efficient fixtures.

Rainwater & Rooftop

- Due to structural limitations of the rooftop and insufficient space in the basement, the building is not able to accommodate a functional green roof and rainwater harvesting system.
- Given the proposed commercial use for the rooftop floor, public access to the rooftop could be difficult to facilitate with both parties because of limited 'breakout' space available on the roof.



NABERS rating target for the base building

Targeting a NABERS 5 Star rating for the existing buildings, alterations and additions.

Item	Pros	Cons
Project delivery cost		<ul style="list-style-type: none">• Additional cost beyond standard building code• Risk to approvals with performance tied to CC/OC
Operational cost	<ul style="list-style-type: none">• Lower electricity and water bills• Attracts premium tenants	
Planning advantage	<ul style="list-style-type: none">• Complying with NABERS 5-star rating target in SCDP 2015 Section 3.6	
Market recognition	<ul style="list-style-type: none">• Reduce environmental impact• Leading asset manager• Creates awareness around energy, water, waste and Indoor environment quality	



Electrification of building services

Remove gas systems and install all-electric building services in new and existing development

Item	Pros	Cons
Project delivery cost	<ul style="list-style-type: none">No costs associated with gas space heating & hot water for design and equipment	<ul style="list-style-type: none">Costs associated with switchboard upgradeConverting gas system to electrical systems
Operational cost	<ul style="list-style-type: none">Risk and reliance reduction as economy decarbonises by removing fossil fuel equipment and services	<ul style="list-style-type: none">At present unit price of gas is cheaper than electricityVulnerable in a power outage
Planning advantage	<ul style="list-style-type: none">Working towards Sustainable Sydney net zero carbon 2030-2050 Targets	
Market recognition	<ul style="list-style-type: none">Increased comfort and health for occupants as toxic gases associated with natural gas are eliminatedAll-electric building attracts premium tenants	



On-site renewable energy

On-site renewable energy from solar photovoltaic system on the roof

Item	Pros	Cons
Project delivery cost		<ul style="list-style-type: none">• Large upfront costs for premium equipment material and workforce
Operational cost	<ul style="list-style-type: none">• Building owners are insulated from future energy price hikes• 3-5 year payback period for Solar PV• Higher rental yield value	<ul style="list-style-type: none">• Maintenance costs of solar photovoltaic system
Planning advantage	<ul style="list-style-type: none">• Working towards Sustainable Sydney net zero carbon 2030-2050 Targets	
Market recognition	<ul style="list-style-type: none">• Market recognition for contributing to Sustainable Sydney 2030-2050 renewable energy targets	



Net Zero Carbon Pathway

Purchase renewables for all energy and carbon offsets, and offsets for any other emissions.

Item	Pros	Cons
Project delivery cost	<ul style="list-style-type: none">• No project cost, but costs associated with electrification and onsite renewables	
Operational cost		<ul style="list-style-type: none">• Increased operational costs (20-50%)
Planning advantage	<ul style="list-style-type: none">• Exceeds the City of Sydney 2035 Target	
Market recognition	<ul style="list-style-type: none">• Aligned with Environmental Social Governance objectives of tenants• Aligned with major financing intuitions	<ul style="list-style-type: none">• Locking in a higher energy price



Embodied carbon reduction and waste management

Implementing embodied carbon and waste management plan and purchasing low carbon products

Item	Pros	Cons
Project delivery cost	<ul style="list-style-type: none">• Building retention has high Carbon Value at nil/low cost	<ul style="list-style-type: none">• Higher premium for low carbon products• Premium cost for driven workforce to apply embodied carbon reduction principals
Operational cost		
Planning advantage	<ul style="list-style-type: none">• Contributes to sustainable Sydney 2030 construction and demolition waste	
Market recognition	<ul style="list-style-type: none">• Quantifying embodied carbon helps tenants with their ESG disclosure	



High performance building envelope and passive design for thermal comfort

Exceeding section J minimums by 10%, adding external shadings and/or screenings

Item	Pros	Cons
Project delivery cost	<ul style="list-style-type: none">• Reduction in heating and cooling loads can also decrease size and cost of relevant mechanical equipment	<ul style="list-style-type: none">• Large upfront costs for premium material and workforce
Operational cost	<ul style="list-style-type: none">• Reduction in building owners' energy bills• Increased occupant comfort, health, well-being and productivity• Higher rental value yield	
Planning advantage	<ul style="list-style-type: none">• Builds on resilience story for climate change protection	
Market recognition		



Efficient building systems such as cooling, heating and lighting

Replace existing systems and/or install new and efficient heating, cooling, ventilation and lighting systems

Item	Pros	Cons
Project delivery cost		<ul style="list-style-type: none">• Large upfront costs for premium equipment and workforce
Operational cost	<ul style="list-style-type: none">• Reduction in building owners' energy bills• Increased occupant comfort, health, well-being and productivity• Higher rental and resale value	<ul style="list-style-type: none">• Higher maintenance/replacement costs for premium equipment and workforce
Planning advantage	<ul style="list-style-type: none">• Added benefit to increasing NABERS rating	
Market recognition	<ul style="list-style-type: none">• Environmental benefits of efficient building systems	



Water efficient fixtures, rainwater capture and reuse

Installing rainwater harvesting systems and water efficient fixtures

Item	Pros	Cons
Project delivery cost		<ul style="list-style-type: none">• Cost of rainwater harvesting systems; tanks, piping network, workforce, water treatment and retrofit to existing system• Premium cost of efficient water fixtures
Operational cost	<ul style="list-style-type: none">• Reduce water costs• Reduce impact of water restrictions• Higher rental and resale value	<ul style="list-style-type: none">• Premium replacement cost of efficient water fixtures
Planning advantage	<ul style="list-style-type: none">• Contributes to Sustainable Sydney 2030–2050 targets• Conforms to section SDCP 2015 3.6	
Market recognition	<ul style="list-style-type: none">• Environmental benefits of water efficient fixtures	