

PUBLIC DISCLOSURE STATEMENT

THE SYDNEY OPERA HOUSE

ORGANISATION CERTIFICATION FY2022–23

Australian Government

Climate Active Public Disclosure Statement







NAME OF CERTIFIED ENTITY	The Sydney Opera House
REPORTING PERIOD	1 July 2022 – 30 June 2023 Arrears report
DECLARATION	To the best of my knowledge, the information provided in this public disclosure statement is true and correct and meets the requirements of the Climate Active Carbon Neutral Standard.
	Name of signatory: Daniel Filetti Position of signatory: Director, Infrastructure & Procurement Date: 23 rd May 2024



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Version August 2023.



1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	6,425 tCO ₂ -e
OFFSETS USED	100% VCUs
RENEWABLE ELECTRICITY	69.25%
CARBON ACCOUNT	Prepared by: Pangolin Associates
TECHNICAL ASSESSMENT	10/1/2024 Mylene Turban Pangolin Associates Next technical assessment due: FY2026

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2. CARBON NEUTRAL INFORMATION

Description of certification

This inventory has been prepared for the financial year from 1 July 2022 to 30 June 2023 and covers the business operations of the Sydney Opera House Trust (SOHT) ABN 69 712 101 035.

The operational boundary has been defined based on an operational control test, in accordance with the principles of the National Greenhouse and Energy Reporting Act 2007. This includes all operations which are controlled by the Sydney Opera House Trust

The boundary excludes the transport of audience members, tenants and contractors to and from the Opera House precinct. Natural gas consumption by tenants within the precinct has also been excluded as this is separately metered.

The methods used for collating data, performing calculations and presenting the carbon account are in accordance with the following standards:

- Climate Active Standard for organisations
- The GHG Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- National Greenhouse and Energy Reporting (Measurement) Determination 2008

Where possible, the calculation methodologies and emission factors used in this inventory are derived from the National Greenhouse Accounts (NGA) Factors in accordance with "Method 1" from the National Greenhouse and Energy Reporting (Measurement) Determination 2008.

The greenhouse gases considered within the inventory are those that are commonly reported under the Kyoto Protocol; carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and synthetic gases - hydrofluorocarbons (HFCs). No perfluorocarbons (PFCs), and sulphur hexafluoride (SF6) or nitrogen trifluoride (NF3) were detected within the operational boundary. All emission sources have been expressed as carbon dioxide equivalents (CO2-e) using relative global warming potentials (GWPs).

Organisation description

The Sydney Opera House is a masterpiece that belongs to all Australians. It is Australia's number one tourist destination and one of the world's busiest performing arts centre, welcoming more than 10 million visitors a year and hosting 2,000 performances attended by 1.45 million people.

As the symbol of modern Australia, the Opera House is committed to leading by example and embedding environmental sustainability in everything it does. It is one of only a handful of UNESCO World Heritage-listed buildings internationally to achieve a 5 Star Green Star - Performance rating, setting a new standard for heritage buildings and inspiring positive change in our community.

The Opera House's fourth Environmental Action Plan (2020-23) commits to achieving a number of ambitious goals by its 50th anniversary in 2023. Key goals include reducing energy use by 20%; recycling



more than 85% of operational waste; achieving a 6 Star Green Star performance rating, which is equivalent to Global Leadership in Sustainability and developing a pathway to become climate positive.

List of Locations:

- 1. Sydney Opera House Commercial Building
- 2. Pitt Street Office
- 3. St Peters Office
- 4. Leichardt Office



3.EMISSIONS BOUNDARY

Inside the emissions boundary

All emission sources listed in the emissions boundary are part of the carbon neutral claim.

Quantified emissions have been assessed as relevant and are quantified in the carbon inventory. This may include emissions that are not identified as arising due to the operations of the certified entity, however, are **optionally included**.

Non-quantified emissions have been assessed as relevant and are captured within the emissions boundary but are not measured (quantified) in the carbon inventory. All material emissions are accounted for through an uplift factor. Further detail is available at Appendix C.

Outside the emissions boundary

Excluded emissions are those that have been assessed as not relevant to an organisation's operations and are outside of its emissions boundary or are outside of the scope of the certification. These emissions are not part of the carbon neutral claim. Further detail is available at Appendix D.



Inside emissions boundary

Quantified

Accommodation and facilities

Cleaning and chemicals

Electricity

Food

ICT services and equipment

Postage, courier and freight

Professional services

Refrigerants

Transport (air)

Transport (Land and Sea)

Waste

Water

Working from home

Office equipment and supplies

Non-quantified

Liquid Waste – Grease Trap

Optionally included

N/A

Outside emission boundary

Excluded

Audience, Tenant, and Contractor Travel

Natural Gas – Tenant Consumption



4.EMISSIONS REDUCTIONS

Emissions reduction strategy

The Opera House's Environmental Action Plan (EAP) was prepared for the period 2020-2023 and the revised version is yet to be released in our next reporting period for 2024 and the coming years. Currently, The Net Zero Strategic Plan is to include Scope 3 and complete the portfolio planning in order to align with the objective to further reduce emissions play and advocacy role to support NSW Government Net Zero Strategy 2050.

- Maintain 6 Star Green Star Performance Certification by continuing to perform in line with the Green Building Councils requirements for high performance buildings.
- Aligning with the requirements of the GBCAs climate positive pathway, working towards full electrification of the building and operational fleet by 2030.
- Continue to reduce Electricity consumption (Scope 1 & 2) via its Renewable Power Purchase Agreement, where 100% of SOH's yearly electricity consumption will be renewable.
- Diverting more than 90% of major building works construction waste and 95% events waste from landfill and increasing operational waste recycling rate from 85 % to 90%. Reducing volumes of food waste in line with industry best practice.
- Measuring the embodied carbon of all future major capital works projects with the goal to set embodied carbon reduction targets for all new major works.

Emissions reduction actions

From the 1st of January 2023, 100% of the Sydney Opera House's electricity is sourced from renewable energy. In FY2023, this has resulted in a 7,311.6 t CO2-e reduction in emissions (market- based accounting method) and will have further reductions in future reporting periods when the renewable electricity accounts for the entire reporting period. This has resulted in a significant reduction in the Sydney Opera House's Scope 2 emissions and allows SOH to reduce those emissions to zero in future years.

The SOH has implemented a best practice waste management program which has led to over 90% of operational waste and event diverted from landfill through repurpose, recycling or organic waste processing.



5.EMISSIONS SUMMARY

Emissions over time

		Emissions since base year	
		Total tCO ₂ -e (without uplift)	Total tCO ₂ -e (with uplift)
Base year:	2017–18	17,597.6	17,597.6
Year 1:	2018–19	17,471.2	17,471.2
Year 2:	2019–20	15,142.1	15,142.1
Year 3	2020–21	12,349.6	12,349.6
Year 4	2021–22	12,781.5	12,781.5
Year 5	2022-23	6,424.29	6,424.29

Significant changes in emissions

3,910.3 Th	e Sydney Opera
Ho	use has purchased
10	0% renewable energy
thr	ough LGC retirement
fro	m 1st of January 2023.
	Ho 10 thr

Use of Climate Active carbon neutral products, services, buildings or precincts

N/A



Emissions summary

The electricity summary is available in the Appendix B. Electricity emissions were calculated using a market-based approach.

Emission category	Sum of scope 1 (tCO ₂ -e)	Sum of scope 2 (tCO ₂ -e)	Sum of scope 3 (tCO ₂ -e)	Sum of total emissions (t CO ₂ -e)
Accommodation and facilities	0.00	0.00	1.80	1.80
Cleaning and Chemicals	0.00	0.00	525.73	525.73
Climate Active carbon neutral products and services	0.00	0.00	0.00	0.00
Electricity	0.00	3922.48	749.16	4671.65
Food	0.00	0.00	149.81	149.81
ICT services and equipment	0.00	0.00	178.23	178.23
Office equipment & supplies	0.00	0.00	25.84	25.84
Postage, courier and freight	0.00	0.00	10.03	10.03
Professional Services	0.00	0.00	298.58	298.58
Refrigerants	115.40	0.00	0.00	115.40
Transport (Air)	0.00	0.00	79.26	79.26
Transport (Land and Sea)	3.16	0.00	187.24	190.40
Waste	0.00	0.00	75.40	75.40
Water	0.00	0.00	89.98	89.98
Working from home	0.00	0.00	12.19	12.19
Total emissions	118.56	3922.48	2383.25	6424.29

Uplift factors

N/A



6.CARBON OFFSETS

Offsets retirement approach

This certification has taken an in-arrears offsetting approach. The total emission to offset is 6,425 t CO₂-e. The total number of eligible offsets used in this report is 6,425. Of the total eligible offsets used, 3,857 were previously banked and 2,568 were newly purchased and retired. 0 are remaining and have been banked for future use.

Co-benefits

The following offsets were purchased:

- 1. Guohua Rongcheng Phase II Wind Farm Project: The proposed project has a total installed capacity of 49.5 MW, consisting of 33 wind turbines with unit capacity of 1500kW. The expected annual power delivered to the grid is 102,337 MWh. The power output will be delivered to the North China Power Grid (NCPG) via Shandong Power Grid. The proposed project will generate power with wind energy and contribute to sustainable development mainly by:
 - Reducing the emission of CO2 and other pollutants compared with fuel-fired power plant;
 - Creating local employment opportunities during the construction and operation of the proposed project and improving the living standard of local people;
 - Implementation of the proposed project will also contribute to the improvement of power system structure and the promotion of renewable energy development.
- 2. Midilli Hydroelectric Power Plant: As for social impacts, significant positive employment effects occurred especially during the construction and installation period. Management, operation, and maintenance of the HPP creates permanent jobs which require high qualification, contributing to capacity building and know-how dissemination in Turkey. Moreover, since it is a renewable energy project, it contributes to achieve nationally stated sustainable development priorities which were indicated like in the law on use of renewable energy resources for electricity generation. Introduction purpose of this Law; the use of renewable energy resources for electrical energy generation to spread these resources to the economy in a reliable, economical, and quality manner, decreasing greenhouse gas emissions, utilizing wastes, protecting the environment, and developing the manufacturing sector needed to achieve these objectives. Moreover, sustainable development goals outcomes and the actual results of the contributed sustainable development indicators by the project during the monitoring period such as Climate Action and Affordable and clean energy.
- 3. Lynwood Human-Induced Regeneration Project: This project establishes permanent native forests through assisted regeneration from in-situ seed sources (including rootstock and lignotubers) on land that was cleared of vegetation and where regrowth was suppressed for at least 10 years prior to the project having commenced.



Eligible offsets retirement summary

Offsets retired for Cli	Offsets retired for Climate Active carbon neutral certification										
Project description	Type of offset units	Registry	Date retired	Serial number (and hyperlink to registry transaction record)	Vintage	Stapled quantity	Eligible quantity retired (tCO ₂ -e)	Eligible quantity used for previous reporting periods	Eligible quantity banked for future reporting periods	Eligible quantity used for this reporting period	Percentage of total (%)
Guohua Rongcheng Phase II Wind Farm Project	VCUs	VERRA	31 Oct 2022	8017-447954128- 447962461-VCU-034-APX- CN-1-1301-01012019- 30112019-0	2019	0	8,334	4,477	0	3,857	60.03%
Midilli Hydroelectric Power Plant	VCUs	VERRA	02 Nov 2022	12430-410530029- 410532465-VCS-VCU-290- VER-TR-1-1330-01012015- 31122015-0	2015	0	2,437	0	0	2,437	37.92%
Lynwood Human- Induced Regeneration Project	KACCU	Clean Energy Regulator	15 Dec 2023	<u>8356150271 -</u> <u>8356150401</u>	2015	0	131	0	0	131	2.03%
	Total eligible offsets retired and u								sed for this report	6,425	
	Total eligible offsets retired this report and banked for use in future reports								0		

Type of offset units	Eligible quantity (used for this reporting period)	Percentage of total
Verified Carbon Units (VCUs)	6,294	97.85%
Australian Carbon Credit Units (ACCUs)	131	2.03%



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7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) summary

The following RECs have been surrendered to reduce electricity emissions under the market-based reporting method.

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1. Large-scale Generation certificates (LGCs)*

13,189 a

^a RECs for Sydney Opera House are retired on a Calendar Year basis as per the contractual arrangements. From the total of 13,189 LGCs purchased for 2023, 7,986 have been allocated to the electricity consumption of the period 1 January to 30 June 2023 (considered in this application).

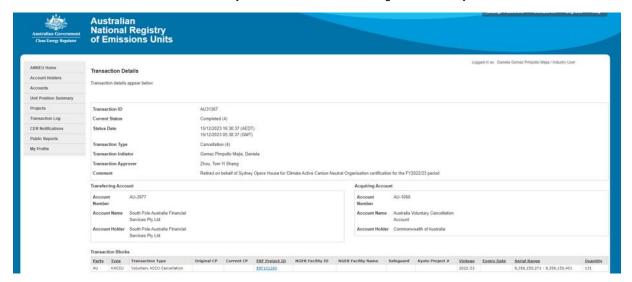
Project supported by LGC purchase	Project location	Eligible unit type	Registry	Surrender date	Accreditation code	Certificate serial number	Generation year	Fuel source	Quantity (MWh)
Avonlie Solar Farm	NSW	LGC	REC Registry	19/01/2024	SRPXNSA1	5309-13240	2023	Solar	7,932
Avonlie Solar Farm	NSW	LGC	REC Registry	19/01/2024	SRPXNSA1	1512-5257	2023	Solar	3,746
Avonlie Solar Farm	NSW	LGC	REC Registry	19/01/2024	SRPXNSA1	1-1	2023	Solar	1
Avonlie Solar Farm	NSW	LGC	REC Registry	19/01/2024	SRPXNSA1	2-251	2023	Solar	250
Avonlie Solar Farm	NSW	LGC	REC Registry	19/01/2024	SRPXNSA1	252-1511	2023	Solar	1,260
Total LGCs surrendere	d this report	and used in	this report						13,189



^{*} LGCs in this table only include those surrendered voluntarily (including through PPA arrangements), and does not include those surrendered in relation to the LRET, GreenPower, and jurisdictional renewables.

APPENDIX A: ADDITIONAL INFORMATION

Details of Purchased Carbon Offsets for Lynwood Human-Induced Regeneration Project





APPENDIX B: ELECTRICITY SUMMARY

There are two international best-practice methods for calculating electricity emissions – the location-based method and the market-based method. Reporting electricity emissions under both methods is called dual reporting.

Dual reporting of electricity emissions is useful, as it provides different perspectives of the emissions associated with a business's electricity usage.

Location-based method:

The location-based method provides a picture of a business's electricity emissions in the context of its location, and the emissions intensity of the electricity grid it relies on. It reflects the average emissions intensity of the electricity grid in the location (State) in which energy consumption occurs. The location-based method does not allow for any claims of renewable electricity from grid-imported electricity usage.

Market-based method:

The market-based method provides a picture of a business's electricity emissions in the context of its renewable energy investments. It reflects the emissions intensity of different electricity products, markets and investments. It uses a residual mix factor (RMF) to allow for unique claims on the zero emissions attribute of renewables without double-counting.

For this certification, electricity emissions have been set by using the market-based approach



Market Based Approach	Activity Data (kWh)	Emissions (kg CO2-e)	Renewable Percentage of total
Behind the meter consumption of electricity generated	0	0	0%
Total non-grid electricity	0	0	0%
LGC Purchased and retired (kWh) (including PPAs)	7,985,744	0	50%
GreenPower	38,747	0	0%
Climate Active precinct/building (voluntary renewables)	0	0	0%
Precinct/Building (LRET)	0	0	0%
Precinct/Building jurisdictional renewables (LGCs surrendered)	0	0	0%
Electricity products (voluntary renewables)	0	0	0%
Electricity products (LRET)	0	0	0%
Electricity products jurisdictional renewables (LGCs surrendered)	0	0	0%
Jurisdictional renewables (LGCs surrendered)	0	0	0%
Jurisdictional renewables (LRET) (applied to ACT grid electricity)	0	0	0%
Large Scale Renewable Energy Target (applied to grid electricity only)	2,990,466	0	19%
Residual Electricity	4,891,776	4,671,646	0%
Total renewable electricity (grid + non grid)	11,014,957	0	69%
Total grid electricity	15,906,733	4,671,646	69%
Total electricity (grid + non grid)	15,906,733	4,671,646	69%
Percentage of residual electricity consumption under operational control	95%	1,011,010	
Residual electricity consumption under operational control	4,636,503	4,427,860	
Scope 2	4,094,574	3,910,318	
Scope 3 (includes T&D emissions from consumption under operational control)	541,929	517,542	
Residual electricity consumption not under operational control	255,273	243,786	
•		,	

Total renewables (grid and non-grid)	69.25%
Mandatory	18.80%
Voluntary	50.45%
Behind the meter	0.00%
Residual scope 2 emissions (t CO ₂ -e)	3,910.32
Residual scope 3 emissions (t CO ₂ -e)	761.33
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	3,910.32
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	761.33
Total emissions liability (t CO ₂ -e)	4,671.65
Figures may not sum due to rounding. Renewable percentage can be above 100%	

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Location-based approach summary							
Location-based approach	Activity Data (kWh) total	Under operational control			Not under operational control		
Percentage of grid electricity consumption under operational control	100%	(kWh)	Scope 2 Emissions (kgCO ₂ -e)	Scope 3 Emissions (kgCO ₂ -e)	(kWh)	Scope 3 Emissions (kgCO ₂ -e)	
ACT	0	0	0	0	0	0	
NSW	15,906,733	15,906,733	11,611,915	954,404	0	0	
SA	0	0	0	0	0	0	
VIC	0	0	0	0	0	0	
QLD	0	0	0	0	0	0	
NT	0	0	0	0	0	0	
WA	0	0	0	0	0	0	
TAS	0	0	0	0	0	0	
Grid electricity (scope 2 and 3)	15,906,733	15,906,733	11,611,915	954,404	0	0	
ACT	0	0	0	0			
NSW	0	0	0	0			
SA	0	0	0	0			
VIC	0	0	0	0			
QLD	0	0	0	0			
NT	0	0	0	0			
WA	0	0	0	0			
TAS	0	0	0	0			
Non-grid electricity (behind the meter)	0	0	0	0			
Total electricity (grid + non grid)	15,906,733						

Residual scope 2 emissions (t CO ₂ -e)	11,611.92
Residual scope 3 emissions (t CO ² -e)	954.40
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	11,611.92
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	954.40
Total emissions liability	12,566.32

Operations in Climate Active buildings and precincts

C	perations in Climate Active buildings and precincts	Electricity consumed in Climate Active certified	Emissions (kg CO ₂ -e)
٨	I/A	building/precinct (kWh) 0	0
C	Climate Active carbon neutral electricity is not renewable ele	ectricity. These electricity emissions have been of	fset by another Climate

Climate Active carbon neutral electricity is not renewable electricity. These electricity emissions have been offset by another Climate Active member through their building or precinct certification. This electricity consumption is also included in the market based and location based summary tables. Any electricity that has been sourced as renewable electricity by the building/precinct under the market based method is outlined as such in the market based summary table.

Climate Active carbon neutral electricity products

Climate Active carbon neutral product used	Electricity claimed from Climate Active electricity products (kWh)	Emissions (kg CO ₂ -e)
N/A	0	0

Climate Active carbon neutral electricity is not renewable electricity. These electricity emissions have been offset by another Climate Active member through their electricity product certification. This electricity consumption is also included in the market based and location-based summary tables. Any electricity that has been sourced as renewable electricity by the electricity product under the market-based method is outlined as such in the market based summary table.



APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

The following emissions sources have been assessed as relevant, are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. They have been non-quantified due to <u>one</u> of the following reasons:

- 1. Immaterial <1% for individual items and no more than 5% collectively
- 2. <u>Cost effective</u> Quantification is not cost effective relative to the size of the emission but uplift applied.
- 3. <u>Data unavailable</u> Data is unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.
- 4. Maintenance Initial emissions non-quantified but repairs and replacements quantified.

Relevant non-quantified emission sources	Justification reason
Liquid Waste – Grease Trap	Immaterial

Data management plan for non-quantified sources

There are no non-quantified sources in the emission boundary that require a data management plan.



APPENDIX D: OUTSIDE EMISSIONS BOUNDARY

Excluded emission sources

The below emission sources have been assessed as not relevant to this organisation's operations and are outside of its emissions boundary. These emissions are not part of the carbon neutral claim. Emission sources considered for relevance must be included within the certification boundary if they meet two of the five relevance criteria. Those which only meet one condition of the relevance test can be excluded from the certification boundary.

Emissions tested for relevance are detailed below against each of the following criteria:

- <u>Size</u> The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions.
- 2. <u>Influence</u> The responsible entity has the potential to influence the reduction of emissions from a particular source.
- 3. **Risk** The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.
- 4. Stakeholders Key stakeholders deem the emissions from a particular source are relevant.
- Outsourcing The emissions are from outsourced activities previously undertaken within the
 organisation's boundary, or from outsourced activities typically undertaken within the boundary for
 comparable organisations.



Excluded emissions sources summary

Emission sources tested for relevance	Size	Influence	Risk	Stakeholders	Outsourcing	Justification
						Size: e.g., The emissions source is likely to be large compared to the total emissions from electricity, stationary energy and fuel emissions.
						Influence: We do not have the potential to influence the emissions from this source, including by shifting to a different lower-emissions supplier for our business.
Audience, Tenant and Contractor Travel	Y	N	N	N	N	Risk: There are no relevant laws or regulations that apply to limit emissions specifically from this source, the source does not create supply chain risks, and it is unlikely to be of significant public interest.
						Stakeholders: Key stakeholders, including the public, are unlikely to consider this a relevant source of emissions for our business.
						Outsourcing: We have not previously undertaken this activity within our emissions boundary and comparable organisations do not typically undertake this activity within their boundary.
						Size: e.g., The emissions source is not likely to be large compared to the total emissions from electricity, stationary energy and fuel emissions.
						Influence: We do not have the potential to influence the emissions from this source, including by shifting to a different lower-emissions supplier for our business.
Natural Gas – Tenant Consumption	N	N	N	N	N	Risk: There are no relevant laws or regulations that apply to limit emissions specifically from this source, the source does not create supply chain risks, and it is unlikely to be of significant public interest.
						Stakeholders: Key stakeholders, including the public, are unlikely to consider this a relevant source of emissions for our business.
						Outsourcing: We have not previously undertaken this activity within our emissions boundary and comparable organisations do not typically undertake this activity within their boundary.





