



PUBLIC DISCLOSURE STATEMENT

THE SYDNEY OPERA HOUSE

ORGANISATION CERTIFICATION


FY2021–22

Australian Government
Climate Active
Public Disclosure Statement



An Australian Government Initiative



NAME OF CERTIFIED ENTITY	The Sydney Opera House
REPORTING PERIOD	financial year 1 July 2021 – 30 June 2022 [Arrears report]
DECLARATION	<p><i>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.</i></p> 
Name of signatory Position of signatory Date	<p>Ian Cashen Executive Director, Building, Safety & Security 04/04/24</p>



Australian Government
**Department of Industry, Science,
 Energy and Resources**

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Version March 2022. To be used for FY20/21/CY2021 reporting onwards.



1. CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	12,782 tCO ₂ -e
OFFSETS BOUGHT	100% VCUs
RENEWABLE ELECTRICITY	18.61%
TECHNICAL ASSESSMENT	19/11/2020 Chris Wilson Pangolin Associates Next technical assessment due: 19/11/2023

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2. CARBON NEUTRAL INFORMATION

Description of certification

This inventory has been prepared for the financial year from 1 July 2021 to 30 June 2022 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).

"Climate Active certification is important to demonstrate a genuine commitment to climate action."

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.

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 or precinct'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

Electricity
Base Building Electricity
Telecommunications
Water
IT Equipment
Office Paper
Paper
Stationery
Employee Commute
Working From Home
Business Flights
Transport Fuels
Cleaning Services
Food & Catering
Postage
Hotel Accommodation
(Domestic & International)
Advertising
Taxis
Hire Cars
Refrigerants
Waste (Landfill & Recycling)

Non-quantified

Liquid Waste – Grease Trap

Optionally included

N/A

Outside emission boundary

Excluded

Audience, Tenant and Contractor Travel
Natural Gas – Tenant Consumption

Data management plan for non-quantified sources

Quantification of emissions related to the processes involved in the various streams associated with the treatment of grease trap waste is not currently possible due to insufficient data from third-party suppliers. The associated emissions with the grease trap waste will be immaterial.

4. EMISSIONS REDUCTIONS

Emissions reduction strategy

The Opera House's Environmental Action Plan (EAP) 2020-23 sets an objective to reduce its energy use by 20% from baseline; achieve 85% recycling of operational waste; achieve a 6 Star Green Star - Performance rating and develop a climate positive pathway by 2023. The Opera House will implement the following emissions reductions actions to achieve these targets:

- Electricity (Scope 1 & 2) is responsible for approximately 85% of the Opera House's emissions. Scope 2 - purchased electricity - was identified as the largest emissions source, and therefore provides the greatest opportunity for decarbonisation, making it the primary focus of the emissions reduction strategy. From the 1st of January 2023, the Sydney Opera House will purchase 100% renewable energy.
- Cleaning services contributed 446.6 t to the overall emissions in FY2022; these services are essential to the core operation of the Sydney Opera House and cannot be reduced. Only expense-based data is currently available to quantify these emissions, and the Sydney Opera House is committed to working with suppliers to provide more detailed data as this becomes available.
- ICT Services and Equipment contributed 214.76 t to the overall emissions in FY2022. Only expense-based data is currently available to quantify these emissions, and the Sydney Opera House is committed to working with suppliers to provide more detailed data as this becomes available.
- Professional Services contributed 221.65 t to the overall emissions in FY2022. Only expense-based data is currently available to quantify these emissions, and the Sydney Opera House is committed to working with suppliers to provide more detailed data as this becomes available.
- Transport (Land and Sea) contributed 192.34 t to the overall emissions in FY2022. The majority of these emissions were Scope 3 transport fuels used by staff and contractors. The Sydney Opera House has limited control over this emissions source, but is committed to working with staff and contractors to reduce any unnecessary fuel use.

Emissions reduction actions

During the 2019-20 period the SOH engaged a consultant to undertake a site wide energy audit. The purpose of the audit was to identify further energy savings opportunities to further reduce consumption toward the 20% reduction target.

A hot weather protocol was initiated to respond to high temperature conditions and efficiently cool the building. During 2020-21 period work continued to optimise building performance while meeting the requirements of the Opera House's Covid safe plan.

During 2020-21, venue lighting in several venue spaces was upgraded with more efficient LEDs. The LED

lighting upgrades delivered a further savings of over 43,000 kWh of electricity per annum.

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

5. EMISSIONS SUMMARY

Emissions over time

The Opera House has achieved energy savings since base year as a result of efficiency projects from 2018 including the upgrade of SOH central chiller plant, the implementation of a new Building Management Control System to optimize heating and cooling performance, and improved waste management performance which resulted an increase waste recycling from 60-85%,

In 2020-21 SOH's carbon footprint was impacted by Sydney Opera House closure from July – September 2021 due to the Covid-19 pandemic. Site closure resulted in a reduction in resource use and waste generation precinct wide due to the cancellation of all performances and events; tours and; closure of retail and food and beverage operations.

Emissions since base year		Total tCO ₂ -e
Base year:	2017–18	17,597.6
Year 1:	2018–19	17,471.2
Year 2:	2019–20	15,142.1
Year 3	2020–21	12,349.6
Year 4	2021–22	12,781.5

Use of Climate Active carbon neutral products and services

N/A

Organisation 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 (tCO ₂ -e)
Accommodation and facilities	0.00	0.00	4.28	4.28
Cleaning and Chemicals	0.00	0.00	446.63	446.63
Electricity	0.00	11,234.12	0.00	11,234.12
Food	0.00	0.00	21.76	21.76
ICT services and equipment	0.00	0.00	214.76	214.76
Office equipment & supplies	0.00	0.00	15.63	15.63
Postage, courier and freight	0.00	0.00	7.46	7.46
Professional Services	0.00	0.00	221.65	221.65
Refrigerants	244.05	0.00	0.00	244.05
Transport (Air)	0.00	0.00	16.84	16.84
Transport (Land and Sea)	3.14	0.00	189.21	192.34
Waste	0.00	0.00	53.14	53.14
Water	0.00	0.00	49.16	49.16
Working from home	0.00	0.00	59.67	59.67
Total	247.19	11,234.12	1,300.19	12,781.50

Uplift factors

N/A

6. CARBON OFFSETS

Offsets retirement approach

In arrears	
1. Total number of eligible offsets banked from last year's report	376
2. Total emissions footprint to offset for this report	12,782
3. Total eligible offsets required for this report	12,406
4. Total eligible offsets purchased and retired for this report	16,263
5. Total eligible offsets banked to use toward next year's report	3,857

Eligible offsets retirement summary

Offsets cancelled 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 (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 (%)	
NIHT Topaiyo REDD +	VCUs	VERRA	07 Sep 2021	9629-113179319-113181794-VCS-VCU-466-VER-PG-14-2293-01062017-31122019-0	2017-2019	0	2,476	2,100	0	376	2.9%	
Midilli Hydroelectric Power Plant	VCUs	VERRA	02 Nov 2022	12430-410522461-410522604-VCS-VCU-290-VER-TR-1-1330-01012015-31122015-0	2015	0	144	0	0	144	1.1%	
Midilli Hydroelectric Power Plant	VCUs	VERRA	02 Nov 2022	12430-410526986-410528604-VCS-VCU-290-VER-TR-1-1330-01012015-31122015-0	2015	0	1,619	0	0	1,619	12.7%	
Wind power project in Maharashtra, India - Andhra Lake Phase - II	VCUs	VERRA	31 Oct 2022	8322-8395184-8401349-VCS-VCU-279-VER-IN-1-1481-01012018-31122018-0	2018	0	6,166	0	0	6,166	48.2%	
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	0	3,857	4,477	35.0%	

Total offsets retired this report and used in this report	12,782
Total offsets retired this report and banked for future reports	3,857

Type of offset units	Quantity (used for this reporting period claim)	Percentage of total
Verified Carbon Units (VCUs)	12,782	100%



7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) summary

N/A

APPENDIX A: ADDITIONAL INFORMATION

N/A

APPENDIX B: ELECTRICITY SUMMARY

Electricity emissions are calculated using a market-based approach

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.

Market Based Approach Summary			
Market Based Approach	Activity Data (kWh)	Emissions (kgCO ₂ 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 & Precinct LGCs)	0	0	0%
GreenPower	3,324	0	0%
Jurisdictional renewables (LGCs retired)	0	0	0%
Jurisdictional renewables (LRET) (applied to ACT grid electricity)	0	0	0%
Large Scale Renewable Energy Target (applied to grid electricity only)	2,579,060	0	19%
Residual Electricity	11,290,989	11,234,125	0%
Total grid electricity	13,873,372	11,234,125	19%
Total Electricity Consumed (grid + non grid)	13,873,372	11,234,125	19%
Electricity renewables	2,582,383	0	
Residual Electricity	11,290,989	11,234,125	
Exported on-site generated electricity	0	0	
Emissions (kgCO ₂ e)		11,234,125	
Total renewables (grid and non-grid)	18.61%		
Mandatory	18.59%		
Voluntary	0.02%		
Behind the meter	0.00%		
Residual Electricity Emission Footprint (TCO₂e)	11,234		

Figures may not sum due to rounding. Renewable percentage can be above 100%

Location Based Approach Summary

Location Based Approach	Activity Data (kWh)	Scope 2 Emissions (kgCO2e)	Scope 3 Emissions (kgCO2e)
ACT	0	0	0
NSW	13,873,372	10,821,230	971,136
SA	0	0	0
Vic	0	0	0
Qld	0	0	0
NT	0	0	0
WA	0	0	0
Tas	0	0	0
Grid electricity (scope 2 and 3)	13,873,372	10,821,230	971,136
ACT	0	0	0
NSW	0	0	0
SA	0	0	0
Vic	0	0	0
Qld	0	0	0
NT	0	0	0
WA	0	0	0
Tas	0	0	0
Non-grid electricity (Behind the meter)	0	0	0
Total Electricity Consumed	13,873,372	10,821,230	971,136

Emission Footprint (TCO2e)	11,792
Scope 2 Emissions (TCO2e)	10821
Scope 3 Emissions (TCO2e)	971

Climate Active Carbon Neutral Electricity summary

Carbon Neutral electricity offset by Climate Active Product	Activity Data (kWh)	Emissions (kgCO2e)
	0	0

Climate Active carbon neutral electricity is not renewable electricity. The emissions have been offset by another Climate Active member through their Product certification.

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

The following sources emissions have been assessed as relevant, are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. These emissions are accounted for through an uplift factor. They have been non-quantified due to one of the following reasons:

1. **Immaterial** <1% for individual items and no more than 5% collectively
2. **Cost effective** Quantification is not cost effective relative to the size of the emission but uplift applied.
3. **Data unavailable** 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	(1) Immaterial	(2) Cost effective (but uplift applied)	(3) Data unavailable (but uplift applied & data plan in place)	(4) Maintenance
Liquid Waste – Grease Trap	Yes	No	No	No

APPENDIX D: OUTSIDE EMISSIONS BOUNDARY

Excluded emission sources

The below emission sources have been assessed as not relevant to an organisation's or precinct'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:

1. **Size** The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions
2. **Influence** 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.
5. **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.

Emission sources tested for relevance	(1) Size	(2) Influence	(3) Risk	(4) Stakeholders	(5) Outsourcing	Included in boundary?
Audience, Tenant and Contractor Travel	Yes	No	No	No	No	No
Natural Gas – Tenant Consumption	No	No	No	No	No	No



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