PUBLIC DISCLOSURE STATEMENT

QUEENSLAND ACADEMY FOR SCIENCE MATHEMATICS AND TECHNOLOGY

ORGANISATION CERTIFICATION

CY2022

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY	Queensland Academy for Science Mathematics and Technology
REPORTING PERIOD	Calendar Year 1 January 2022– 31 December 2022 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.* 
	Kath Kayrooz Principal 29/04/2024

Australian Government
Department of Climate Change, Energy, the Environment and Water

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Version March 2023.

1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	1,064 tCO_2-e
OFFSETS USED	100% VCUs
RENEWABLE ELECTRICITY	19.12%
CARBON ACCOUNT	Prepared by: Pangolin Associates
TECHNICAL ASSESSMENT	Date: 05/10/2022 Organisation Pangolin Associates Next technical assessment due: CY 2025

Contents

2. CARBON NEUTRAL INFORMATION

Description of certification

This inventory has been prepared for the calendar year from 1 January 2022 to 31 December 2022 and covers the Australian business operations of Queensland Academy of Science Mathematics and Technology.

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 the following locations and facilities:

- 78 Bywong Street, Toowong 4066, QLD

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

- Climate Active Standards
- The Greenhouse Gas 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 (CO_2), methane (CH_4), nitrous oxide (N_2O) and synthetic gases - hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). These have been expressed as carbon dioxide equivalents (CO_2-e) using relative global warming potentials (GWPs).

Organisation description

The Queensland Academy for Science Mathematics and Technology (QASMT) ABNL 83 103 205 154 is one of the most successful and prestigious selective entry state high schools in Australia and ranked the highest performing school in the state (since 2018).

It is a school whose exceptional academic standards rest easily beside great endeavour and success in a wide range of activities. We emphasise critical thinking, collaboration and discovery. Our curriculum is the International Baccalaureate – its hallmarks are breadth, balance and rigour. We have delivered this innovative programme for many years – quite simply because it is the best way of enabling young people to learn. The relationship between staff and students is very supportive and is based on mutual respect. The QASMT style of education is powerful preparation for students for success at university and in the world of work.

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

Climate Active Carbon Neutral Products and Services

Electricity

Food

ICT services and equipment

Office equipment & supplies

Postage, courier and freight

Products

Professional Services

Refrigerants

Stationary Energy (liquid fuels)

Transport (Air)

Transport (Land and Sea)

Waste

Water

Working from home

Non-quantified

N/A

Optionally included

N/A

Outside emission boundary

Excluded

Student Commute

4.EMISSIONS REDUCTIONS

Emissions reduction strategy

Queensland Academy for Science Mathematics and Technology Sustainability objectives are to be:

- Net Zero Carbon Emissions (Carbon Neutral) School
- Single Plastic Free School

Our emissions reduction target will be to reduce total emissions by 30% over the next ten years from a CY2021 baseline, with the five-year target of 15%. Annual targets will be 3% reduction in total emissions per year.

Our Emission reduction strategy for meeting these targets includes the following actions:

1. Reduce energy use;
    a. Install 270 solar panels in 2022 to reduce energy use from non-renewable sources. We will actively seek opportunities to increase the number of solar panels over the next 10 years. The 10-year target is to have 500 solar panels.
    b. Investigate and implement strategies to reduce emissions through regular analysis of consumption and impact of operational and behavioural changes, including lighting, heating and cooling, and IT devices.
    c. Encouraging public transport and walking/cycling for the staff and student commute
    d. Increase capacity of current e-bike recharging facilities for students and staff by 50% in the next five years
2. Reduce waste;
    a. Reduce general waste by 15% in the next 5 years.
    b. Increase recycling capacity of all materials, including office waste.
    c. Continue education around waste streaming using the colour coded bins for different waste types.
    d. Commit to zero purchase of single-use plastic used in the school.
    e. Decrease organic waste through composting.
    f.Limit paper printing by
        i. Digital library
        ii. Electronic textbooks
        iii. Electronic permission forms for student activities
        iv. Electronic assignment submissions
        v. Electronic scanning and storage of school documentation including curriculum and business operations
3. Reduce water use;
    a. Investigate opportunities to increase water harvest capacity by 15% over the next five years.
    b. Investigating potential for grey water capture and reuse.
    c. Maintain and upgrade current infrastructure to support the conservation of water.

Emissions reduction actions

School Action - Students and Staff embrace Sustainability across the school.

School Infrastructure and Operational Change:

- Installed 270 solar panels
- Installed water stations
- Single plastic free tuckshop

Student Clubs: Students and Staff working together to raise awareness, change practices and make positive changes within the school and community.

- Environment and Biodiversity
- Plastic Ocean
- Carbon Neutral
- Bee Club

Active Working Party (students and staff) making Sustainability a part of our everyday

- Meeting fortnightly to drives school agenda and priorities
- Aligns actions of student and staff clubs / teams
- Drives Global and Local awareness through the Annual Sustainable Calendar

Student Lead Projects

- Sustainability week and assembly
- Action over 30 activities that align with the Annual Sustainable Calendar
- Community planting and creek rejuvenation
- Reduce waste, recycling, composting, container exchange
- Wildlife preservation, bird baths, nesting boxes, wild life cameras, butterfly count
- Biodiversity Tour / Walk
- Lord Mayors Young environmental leaders' network

Community Partnerships Students and Staff working together on joint projects.

- Vera Street Community Gardens
- Local Community Neighbours Group
- Zero Positive for Schools
- TASS The Alliance for Sustainable Schools
- Lord Mayors Young environmental leaders' network
- Brisbane City Council

5.EMISSIONS SUMMARY

Emissions over time

Emissions since base year		
		Total tCO_2-e (without uplift)
Base year/Year 1:	2021	1,283.40
Year 2:	2022	1,063.72

Significant changes in emissions

Emission source name	Previous year emissions (t CO_2-e)	Current year emissions (t CO_2-e)	Detailed reason for change
No significant changes in emissions to disclose			

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

Certified brand name	Product/Service/Building/Precinct used
Pangolin Associates	This assessment and Climate Active submission was prepared with the assistance of Pangolin Associates and these services are also carbon neutral.
ELGAS	Stationary fuels

Emissions summary

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

Emission category	Sum of total emissions (t CO_2-e)
Accommodation and facilities	1.23
Cleaning and Chemicals	2.82
Climate Active Carbon Neutral Products and Services	0.00
Electricity	527.44
Food	8.59
ICT services and equipment	19.63
Office equipment & supplies	41.04
Postage, courier and freight	3.32
Products	0.82
Professional Services	71.75
Refrigerants	48.16
Stationary Energy (liquid fuels)	2.12
Transport (Air)	46.62
Transport (Land and Sea)	165.50
Waste	105.37
Water	14.84
Working from home	4.46
Total emissions	**1063.72**

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 **1064** t CO_2-e. The total number of eligible offsets used in this report is **1064**. Of the total eligible offsets used, 0 were previously banked and **1064** were newly purchased and retired. 0 are remaining and have been banked for future use.

Co-benefits

Renewable Solar Power Project by Shapoorji Pallonji

Community benefits

The construction and operations of the solar project sites, as well as more reliable power generation overall, creates direct and indirect employment opportunities and boosts economic activity at every level of the communities in the project regions.

The Shapoorji Pallonji investment into the communities also results in better education and improved infrastructure such as roads. At a granular level, the organisation provides updated technology such as LED lighting and computers for local schools.

The Shapoorji Pallonji project contributes to two UN Sustainable Development Goals. These goals are designed to achieve a better and more sustainable future for all people across the globe.

- SDG 7 – Affordable and clean energy
- SDG 13 – Climate Action

Eligible offsets retirement summary

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 (%)**
Renewable Solar Power Project by Shapoorji Pallonji	VCU	Verra	30/10/2023	13274-487139607-487140670-VCS-VCU-1491-VER-IN-1-1976-26062019-31122019-0	2019	0	1064	0	0	1064	100%
Total eligible offsets retired and used for this report										1064	
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)	1064	100%

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) summary

N/A

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

1. Large-scale Generation certificates (LGCs)*	N/A

* 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.

Project supported by LGC purchase	Project location	Eligible unit type	Registry	Surrender date	Accreditation code	Certificate serial number	Generation year	Fuel source	Quantity (MWh)
N/A									
Total LGCs surrendered this report and used in this report									

APPENDIX A: ADDITIONAL INFORMATION

N/A

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 summary

Market-based approach	Activity Data (kWh)	Emissions (kg CO_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)	0	0	0%
GreenPower	3,287	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)	127,287	0	19%
Residual Electricity	552,296	527,443	0%
Total renewable electricity (grid + non grid)	**130,573**	**0**	**19%**
Total grid electricity	**682,869**	**527,443**	**19%**
Total electricity (grid + non grid)	**682,869**	**527,443**	**19%**
Percentage of residual electricity consumption under operational control	100%		
Residual electricity consumption under operational control	**552,296**	**527,443**	
Scope 2	487,742	465,793	
Scope 3 (includes T&D emissions from consumption under operational control)	64,554	61,649	
Residual electricity consumption not under operational control	**0**	**0**	
Scope 3	0	0	.

Total renewables (grid and non-grid)	**19.12%**
Mandatory	**18.64%**
Voluntary	**0.48%**
Behind the meter	**0.00%**
Residual scope 2 emissions (t CO_2-e)	**465.79**
Residual scope 3 emissions (t CO_2-e)	**61.65**
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**465.79**
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**61.65**
Total emissions liability (t CO_2-e)	**527.44**

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

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	0	0	0	0	0	0
SA	0	0	0	0	0	0
VIC	0	0	0	0	0	0
QLD	682,869	682,869	498,495	102,430	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)	**682,869**	**682,869**	**498,495**	**102,430**	**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)	**682,869**					

Residual scope 2 emissions (t CO_2-e)	**498.49**
Residual scope 3 emissions (t CO^2-e)	**102.43**
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**498.49**
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**102.43**
Total emissions liability	**600.92**

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 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	Justification reason
N/A	

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:

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.

Excluded emissions sources summary

Emission sources tested for relevance	Size	Influence	Risk	Stakeholders	Outsourcing	Justification
Student Commute	N	N	N	N	N	Queensland Academy has no operational control over student travel modes and distances.

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