PUBLIC DISCLOSURE STATEMENT

QUEENSLAND ACADEMY FOR SCIENCE MATHEMATICS AND TECHNOLOGY

ORGANISATION CERTIFICATION

CY2023

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY	Queensland Academy for Science Mathematics and Technology
REPORTING PERIOD	1 January 2023 – 31 December 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.* 
	Kath Kayrooz Principal 13/12/2024

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

Version August 2023.

1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	1,231.5 tCO_2-e
CARBON OFFSETS USED	100% VCUs
RENEWABLE ELECTRICITY	34.1%
CARBON ACCOUNT	Prepared by: Pangolin Associates
TECHNICAL ASSESSMENT	Date: 05/10/2022 Organisation: Pangolin Associates Next technical assessment due: CY2025 report

Contents

2. CERTIFICATION INFORMATION

Description of organisation certification

This inventory has been prepared for the calendar year from 1 January 2023 to 31 December 2023 and covers the Australian business operations of Queensland Academy of Science Mathematics and Technology (ABN 83 103 205 154).

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.

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

Construction materials and services

Electricity

Food

ICT services and equipment

Postage, courier and freight

Products

Professional services

Refrigerants

Stationary energy (liquid fuels)

Transport (air)

Transport (land and sea)

Waste

Water

Working from home

Office equipment and supplies

Non-quantified

N/A

Outside emission boundary

Excluded

Student Commute

4.EMISSIONS REDUCTIONS

Emissions reduction strategy

Emissions Reduction Strategy
Sustainability Objectives for Queensland Academy for Science Mathematics and Technology

Goal: Carbon Neutral School

The Queensland Academy for Science Mathematics and Technology (QASMT) aims to achieve a 30% reduction in total emissions by 2031, using a baseline year of CY2021, with an interim target of 15% reduction by 2026.

Emission Reduction Strategy

To meet these targets, we will undertake the following initiatives:

1. Energy Reduction

- **Annual Energy Reduction**: Achieve a 15% reduction in energy consumption by 2026, with an annual decrease target of 3%.
- **Solar Panel Expansion**: Increase the number of solar panels from the current 270 to 500 by the year 2031.
- **Consumption Analysis & Strategy Implementation**: Regularly assess energy use to identify and apply measures that reduce emissions, including optimizing lighting, heating, cooling, and IT systems.
- **Sustainable Commute Promotion**: Encourage staff and students to use public transport or engage in walking and cycling for their commutes.

2. Waste Reduction

- **General Waste Reduction**: Achieve a 15% reduction in general waste by the year 2026, with an annual decrease target of 3%.
- **Enhanced Recycling Efforts**: Expand recycling to cover all types of materials, including office waste.
- **Waste Stream Education**: Reinforce the use of color-coded bins to educate staff and students on correct waste segregation.
- **Single-Use Plastic Policy**: Commit to eliminating the purchase of single-use plastic within the school.
- **Organic Waste Reduction**: Promote composting initiatives to decrease organic waste.
- **Paper Reduction Initiatives**:
    - Develop and maintain a digital library.
    - Adopt electronic textbooks.
    - Utilize electronic permission forms for student activities.
    - Enable electronic assignment submissions.
    - Implement electronic scanning and storage for school documents, including curriculum and business operations.

3. Water Use Reduction

- **Annual Water Reduction**: Achieve a 5% reduction in water consumption by 2026, with an annual decrease target of 1%.
- **Water Harvesting**: Investigate and improve water harvesting systems to increase capacity.
- **Grey Water Reuse**: Explore the feasibility of capturing and reusing grey water.
- **Infrastructure Upgrades**: Maintain and enhance current facilities to support water conservation efforts.

These strategies are designed to ensure QASMT progresses toward its sustainability objectives and maintains a leading role in environmental responsibility

Emissions reduction actions

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

School Target: Reduce total emissions by 30% by 2031 from a CY2021 baseline, with a 2026 target of 15%. Annual targets will be 3% reduction in total emissions per year. Targets achieved.

	Year	tCO2 Emissions	Annual Target	Target Achieved
Base year/ Year 1:	2021	1,283.40	N/A	N/A
Year 2:	2022	1063.72	3%	17%
Year 3:	2023	1231.48	3%	4%

School Infrastructure and Operational Change:

- Waste management review to improve recycling
- 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
- Carbon Neutral Action Team

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
- Lord Mayors Young environmental leaders' network

Community Partnerships Students and Staff working together on joint projects.

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

5. EMISSIONS SUMMARY

Emissions over time

Emissions since base year			
		Total tCO_2-e (without uplift)	**Total tCO_2-e** (with uplift)
Base year/ Year 1:	2021	1,283.40	N/A
Year 2:	2022	1063.72	N/A
Year 3:	2023	1231.48	N/A

Significant changes in emissions

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	Service

Emissions summary

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

Emission category	Scope 1 emissions (tCO_2-e)	Scope 2 emissions (tCO_2-e)	Scope 3 emissions (tCO_2-e)	Total emissions (t CO_2-e)
Accommodation and facilities	0.0	0.0	1.3	1.3
Cleaning and chemicals	0.0	0.0	6.6	6.6
Climate Active carbon neutral products and services	0.0	0.0	0.0	0.0
Construction materials and services	0.0	0.0	44.6	44.6
Electricity	0.0	420.5	51.9	472.5
Food	0.0	0.0	69.8	69.8
ICT services and equipment	0.0	0.0	37.4	37.4
Postage, courier and freight	0.0	0.0	4.9	4.9
Products	0.0	0.0	1.6	1.6
Professional services	0.0	0.0	125.2	125.2
Refrigerants	48.0	0.0	0.0	48.0
Stationary energy (liquid fuels)	2.0	0.0	0.7	2.6
Transport (air)	0.0	0.0	74.0	74.0
Transport (land and sea)	7.7	0.0	182.9	190.6
Waste	0.0	0.0	82.8	82.8
Water	0.0	0.0	11.7	11.7
Working from home	0.0	0.0	0.8	0.8
Office equipment and supplies	0.0	0.0	57.2	57.2
Total emissions (tCO_2-e)	**57.7**	**420.5**	**753.2**	**1231.5**

Uplift factors

N/A

6. CARBON OFFSETS

Eligible offsets retirement summary

Offsets retired for Climate Active certification

Type of offset units	Eligible quantity (used for this reporting period)	Percentage of total
Verified Carbon Units (VCUs)	1,232	100%

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 (%)
150 MW grid connected Wind Power based electricity generation project in Gujarat, India	VCU	Verra	31/07/2024	9085-66683324-66684556-VCS-VCU-1491-VER-IN-1-292-01012017-31122017-0	2017	0	1,233	0	1	1,232	100%
Total eligible offsets retired and used for this report										1,232	
Total eligible offsets retired this report and banked for use in future reports									1		

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) summary

N/A

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	138,750	0	18%
Total non-grid electricity	**138,750**	**0**	**18%**
LGC Purchased and retired (kWh) (including PPAs)	0	0	0%
GreenPower	7,224	0	1%
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)	123,160	0	16%
Residual Electricity	519,192	472,465	0%
Total renewable electricity (grid + non grid)	**269,134**	**0**	**34%**
Total grid electricity	**649,576**	**472,465**	**17%**
Total electricity (grid + non grid)	**788,326**	**472,465**	**34%**
Percentage of residual electricity consumption under operational control	100%		
Residual electricity consumption under operational control	**519,192**	**472,465**	
Scope 2	462,138	420,546	
Scope 3 (includes T&D emissions from consumption under operational control)	57,054	51,919	
Residual electricity consumption not under operational control	**0**	**0**	
Scope 3	0	0	

Total renewables (grid and non-grid)	**34.14%**
Mandatory	**15.62%**
Voluntary	**0.92%**
Behind the meter	**17.60%**
Residual scope 2 emissions (t CO_2-e)	**420.55**
Residual scope 3 emissions (t CO_2-e)	**51.92**
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**420.55**
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**51.92**
Total emissions liability (t CO_2-e)	**472.46**

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	649,576	649,576	474,190	97,436	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)	**649,576**	**649,576**	**474,190**	**97,436**	**0**	**0**
ACT	0	0	0	0		
NSW	0	0	0	0		
SA	0	0	0	0		
VIC	0	0	0	0		
QLD	138,750	138,750	0	0		
NT	0	0	0	0		
WA	0	0	0	0		
TAS	0	0	0	0		
Non-grid electricity (behind the meter)	**138,750**	**138,750**	**0**	**0**		
Total electricity (grid + non grid)	**788,326**					

Residual scope 2 emissions (t CO_2-e)	**474.19**
Residual scope 3 emissions (t CO_2-e)	**97.44**
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**474.19**
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO_2-e)	**97.44**
Total emissions liability	**571.63**

Operations in Climate Active buildings and precincts

Operations in Climate Active buildings and precincts	Electricity consumed in Climate Active certified building/precinct (kWh)	Emissions (kg CO_2-e)
N/A	-	-

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 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 electricity product used	Electricity claimed from Climate Active electricity products (kWh)	Emissions (kg CO_2-e)
N/A	-	-

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	Y	N	N	N	N	Queensland Academy has no operational control over student travel modes and distances.

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