



PUBLIC DISCLOSURE STATEMENT

**QUEENSLAND ACADEMY FOR SCIENCE
MATHEMATICS AND TECHNOLOGY**

**ORGANISATION CERTIFICATION
CY2024**

Australian Government
Climate Active
Public Disclosure Statement



NAME OF CERTIFIED ENTITY	Queensland Academy for Science Mathematics and Technology
REPORTING PERIOD	1 January 2024 – 31 December 2024 Arrears report
DECLARATION	<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>  Kath Kayrooz Principal 19/02/2026



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

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Version 9.1.



1. CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	1694 tCO ₂ -e
CARBON OFFSETS USED	100% VCUs,
RENEWABLE ELECTRICITY	32.54%
CARBON ACCOUNT	Prepared by: Pangolin Associates
TECHNICAL ASSESSMENT	Date: 29/07/2025 Organisation: Pangolin Associates Next technical assessment due: CY2027 report

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2. CERTIFICATION INFORMATION

Description of organisation certification

This organisation certification is for the business operations of Queensland Academy of Science Mathematics and Technology, ABN 83 103 205 154. This includes the following locations and facilities:

- 78 Bywong Street, Toowong, 4066, QLD

This Public Disclosure Statement includes information for CY2024 reporting period.

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.

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 (CO₂), methane (CH₄), nitrous oxide (N₂O) and synthetic gases - hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). These have been expressed as carbon dioxide equivalents (CO₂e) using relative global warming potentials (GWPs).

Organisation description

The Queensland Academy for Science Mathematics and Technology (QASMT) ABN 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 because we believe 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
Horticulture and agriculture
ICT services and equipment
Machinery and vehicles
Office equipment and supplies
Postage, courier and freight
Products
Professional services
Refrigerants
Roads and landscape
Stationary energy (gaseous fuels)
Stationary energy (liquid fuels)
Stationary energy (solid fuels)
Transport (air)
Transport (land and sea)
Waste
Water
Working from home

Non-quantified

Outside emission boundary

Excluded

Student Commute

4. EMISSIONS REDUCTIONS

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

4. Emissions Reduction Actions

Summary of Actions Taken During the Reporting Period (CY2024)

In support of Queensland Academy for Science Mathematics and Technology's strategic target of a **30% emissions reduction by 2031**, the Academy implemented a range of practical emissions reduction actions in CY2024. These actions focused on energy efficiency, waste reduction, and water conservation. The summary below outlines key initiatives undertaken during the reporting period, including reflections on targets not yet achieved.

SP1.1 – Energy Use Reduction

- **Lighting retrofits** were completed in key high-usage areas, replacing fluorescent lighting with energy-efficient LED fittings.
- **HVAC optimisation** was implemented by adjusting temperature settings and operating hours to better align with school occupancy, resulting in measurable reductions in after-hours energy consumption.
- **ICT power management** protocols were introduced, including default energy-saving settings on staff devices and auto-sleep modes for shared student technology.
- **Electricity usage monitoring dashboards** were trialled to support real-time energy awareness and inform future reduction strategies.
- A **school-wide behaviour change campaign** ("Power Down, Switch Off") encouraged staff and students to adopt energy-conscious habits.

SP1.2 – Solar Panel Expansion (Not Yet Achieved)

- While the school's long-term goal includes increasing solar panel capacity from 270 to 500 by 2031, **no additional solar panels were installed in CY2024** due to **insufficient funding**.
- QASMT remains committed to solar expansion and is actively exploring future funding **opportunities and grant programs to support this initiative in subsequent years**.

SP1.3 – Waste Reduction Initiatives

- A **ban on single-use plastics** was introduced across all school-managed operations, including events, canteen, and office purchasing.

- **Recycling infrastructure** was expanded with clearly labelled colour-coded bins across learning spaces, common areas, and staff facilities.
- The school's **organic waste collection and composting program** was expanded to include both student and staff contributions.
- Staff and students received **targeted education** on waste stream separation and responsible disposal practices through assemblies and digital campaigns.

SP1.4 – Paper and Printing Reduction

- Widespread adoption of **digital permission forms, electronic assignment submissions, and cloud-based document management systems** led to a significant decline in school-wide paper consumption.
- Administrative and curriculum processes were digitised where possible, aligning with broader school goals around sustainable operations and reducing physical storage.

SP1.5 – Water Conservation

- Minor **plumbing upgrades and leak repairs** were completed across key amenities blocks.
- Installation of **low-flow fixtures** in refurbished student bathrooms supported water-saving efforts.
- **Feasibility assessment commenced** for a future greywater reuse system, to be further explored in CY2025 based on infrastructure capacity and funding.

Summary Impact (CY2024)

Despite a net increase in total emissions due to increased travel activity and expanded school operations, QASMT achieved tangible progress in the following areas:

- Enhanced **energy efficiency**, reducing energy use per square metre of floor space
- Strengthened **waste management practices**, including full implementation of single-use plastic phase-out
- Increased **digital processes** that reduced reliance on printing and paper
- Progress on **water efficiency improvements** to support long-term reduction goals

Although the **solar panel expansion target was deferred**, the school remains committed to pursuing renewable energy growth and continues to align its actions with the 2026 interim goal of a **15% emissions reduction** from the 2021 baseline.

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
Year 4:	2024	1693.97	N/A

Significant Changes in Emissions

During the CY2024 reporting period, Queensland Academy for Science Mathematics and Technology (QASMT) recorded a **notable increase in total emissions** compared to CY2023. This was primarily due to higher electricity consumption and increased long-haul air travel, alongside a rise in student enrolment that contributed to broader operational demands.

1. Increased Electricity Consumption

- **Emissions Source:** Electricity (market-based method, Scope 2)
- **2023 Emissions:** 420.55 tCO₂-e
- **2024 Emissions:** 463.25 tCO₂-e
- **Change:** +42.7 tCO₂-e
- **Reason:**
The increase in electricity emissions was largely driven by:
 - A **rise in student enrolments**, from 1,326 students in 2023 to 1,356 in 2024, which contributed to increased use of teaching spaces, equipment, lighting, and air conditioning across the campus.
 - Higher reliance on **air conditioning systems** during periods of extreme weather.
 - The **deferred installation of additional solar panels** due to funding limitations, resulting in continued reliance on grid electricity rather than increasing the proportion of renewable supply.

2. Increased Long-Haul Flight Activity

- **Emissions Source:** Long economy class flights (>3,700 km)
- **2023 Emissions:** 62.49 tCO₂-e
- **2024 Emissions:** 380.41 tCO₂-e
- **Change:** +317.92 tCO₂-e
- **Reason:**
A significant increase in international and interstate travel occurred in 2024 due to:
 - The **resumption of student and staff travel programs**, including international competitions, exchange partnerships, academic conferences, and enrichment tours.
 - A return to **pre-pandemic levels of engagement** with global academic and outreach opportunities.

- The school's strategic focus on internationalism and global citizenship, which is embedded in its International Baccalaureate curriculum and enrichment programs.

This rise in travel activity, although aligned with educational priorities, contributed to a substantial increase in scope 3 emissions.

Summary

The increase in total emissions for CY2024 reflects a combination of:

- **Expanded school enrolment** (an increase of 30 students),
- **Higher operational energy use**, and
- **Resumption of international travel** programs.

These shifts were partially balanced by targeted emissions reduction initiatives across energy efficiency, waste management, and digital transformation. Importantly, when considered on a **per-student emissions basis**, the school's intensity remains within manageable levels, highlighting the positive impact of QASMT's sustainability efforts.

QASMT remains committed to achieving its **2031 carbon reduction target**, and will continue to evaluate travel policies, energy efficiency opportunities, and renewable energy investment as part of its ongoing climate action strategy.

Significant changes in emissions			
Emission source	Previous year emissions (t CO ₂ -e)	Current year emissions (t CO ₂ -e)	Reason for change
Electricity (market-based method, scope 2)	420.55	463.25	Kindly refer to the explanation provided above.
Long economy class flights (>3,700km)	62.49	380.41	
Liquefied petroleum gas (GJ)	2.63	33.04	The increase in emissions is attributable to the procurement and use of LPG gas bottles for Science Laboratory operations and the school tuckshop.

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

Certified brand name	Product/Service/Building/Precinct used
Pangolin Associates	Consulting Services

Emissions summary

The electricity summary is available in 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	0.00	0.00	12.60	12.60
Cleaning and chemicals	0.00	0.00	4.33	4.33
Climate Active carbon neutral products and services	0.00	0.00	0.00	0.00
Construction materials and services	0.00	0.00	7.40	7.40
Electricity	0.00	463.25	57.19	520.45
Food	0.00	0.00	86.83	86.83
Horticulture and agriculture	0.00	0.00	0.00	0.00
ICT services and equipment	0.00	0.00	39.40	39.40
Machinery and vehicles	0.00	0.00	1.23	1.23
Office equipment and supplies	0.00	0.00	63.71	63.71
Postage, courier and freight	0.00	0.00	5.32	5.32
Products	0.00	0.00	1.42	1.42
Professional services	0.00	0.00	162.33	162.33
Refrigerants	62.85	0.00	0.00	62.85
Roads and landscape	0.00	0.00	0.00	0.00
Stationary energy (gaseous fuels)	0.00	0.00	0.00	0.00
Stationary energy (liquid fuels)	25.76	0.00	8.51	34.27
Stationary energy (solid fuels)	0.00	0.00	0.00	0.00
Transport (air)	0.00	0.00	412.10	412.10
Transport (land and sea)	9.27	0.00	180.45	189.72
Waste	0.00	0.00	75.95	75.95
Water	0.00	0.00	13.34	13.34
Working from home	0.00	0.00	0.74	0.74
Grand Total	97.88	463.25	1132.84	1693.97

Uplift factors

N/A

6. CARBON OFFSETS

Eligible offsets retirement summary

Offsets retired for Climate Active certification

Type of offset unit	Quantity used for this reporting period	Percentage of total units used
Verified Carbon Units (VCUs)	1694	100.00%

Project name	Type of offset unit	Registry	Date retired	Serial number	Vintage	Total quantity retired	Quantity used in previous reporting periods	Quantity banked for future reporting periods	Quantity used for this reporting period	Percentage of total used this reporting period
Southern Cardamom REDD+ Project	VCU	Verra Registry	28/7/2025	9778-134506763-134507464-VCS-VCU-263-VER-KH-14-1748-01012016-31122016-1	2016	702	0	0	702	41.44%
Southern Cardamom REDD+ Project	VCU	Verra Registry	28/7/2025	9778-134500771-134501762-VCS-VCU-263-VER-KH-14-1748-01012016-31122016-1	2016	992	0	0	992	58.56%
Offset Totals:						1694	0	0	1694	100.00%

7. 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	16%
Total non-grid electricity	138,750	0	16%
LGC Purchased and retired (kWh) (including PPAs)	0	0	0%
GreenPower	6,046	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)	131,020	0	15%
Residual Electricity	571,918	520,446	0%
Total renewable electricity (grid + non grid)	275,817	0	33%
Total grid electricity	708,985	520,446	16%
Total electricity (grid + non grid)	847,735	520,446	33%
Percentage of residual electricity consumption under operational control	100%		
Residual electricity consumption under operational control	571,918	520,446	
Scope 2	509,070	463,254	
Scope 3 (includes T&D emissions from consumption under operational control)	62,848	57,192	
Residual electricity consumption not under operational control	0	0	
Scope 3	0	0	

Total renewables (grid and non-grid)	32.54%
Mandatory	15.46%
Voluntary	0.71%
Behind the meter	16.37%
Residual scope 2 emissions (t CO₂-e)	463.25
Residual scope 3 emissions (t CO₂-e)	57.19
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO₂-e)	463.25
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO₂-e)	57.19
Total emissions liability (t CO₂-e)	520.45

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 (kg CO ₂ -e)	Scope 3 Emissions (kg CO ₂ -e)	(kWh)	Scope 3 Emissions (kg CO ₂ -e)
QLD	708,985	708,985	517,559	106,348	0	0
Grid electricity (scope 2 and 3)	708,985	708,985	517,559	106,348	0	0
QLD	138,750	138,750	0	0		
Non-grid electricity (behind the meter)	138,750	138,750	0	0		
Total electricity (grid + non grid)	847,735					

Residual scope 2 emissions (t CO ₂ -e)	517.56
Residual scope 3 emissions (t CO ₂ -e)	106.35
Scope 2 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	517.56
Scope 3 emissions liability (adjusted for already offset carbon neutral electricity) (t CO ₂ -e)	106.35
Total emissions liability	623.91

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	0	0
<i>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.</i>		

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	0	0
<i>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.</i>		

APPENDIX C: INSIDE EMISSIONS BOUNDARY

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	<p>Size: These emissions are considered to be significant because most travel is by bus and car.</p> <p>Influence: Queensland Academy has no control over how students commute.</p> <p>Risk: The school does not view this as a risk.</p> <p>Stakeholders: Stakeholders are unlikely to consider these emissions relevant to Queensland Academy's operations.</p> <p>Outsourcing: This activity is not normally part of school operations.</p>



An Australian Government Initiative

