Queensland Independent Schools BGA Block Grant Authority

Sustainability Special Purpose Funding Round

Model Code

Created for QIS BGA by MOTT MACDONALD

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1 Introduction

1.1 PURPOSE

This Sustainability Model Code has been developed to provide a template to assist Schools in satisfying the assessment requirements for the QIS BGA Sustainability Special Purpose Funding Round.

The methodology outlined in this code will guide Schools through the process of undertaking their **audit**, identifying **sustainability opportunities**, and then developing opportunities into **sustainability solutions** that can form the basis of a proposed **sustainability project**.

While each school will have varying sustainability ambitions and requirements, this code provides a blueprint of the minimum procedures and criteria that should be followed to demonstrate that a need has been established, and value-for-money outcomes have been achieved for proposed sustainability projects.

1.2 APPLICATION

Before submitting an application, your school must have completed an energy and/or water audit (as relevant to your application project). The audit can be performed in-house or by an external professional, such as a building services engineer or sustainability consultant.

This Model Code will be supported by QIS BGA's Sustainability Toolkit (due for release in early 2025) and should be used in conjunction with other resources developed to support the funding round, such as the Sustainability Planning & Eligibility Notes available on the QIS BGA website.

1.3 COMPLIANCE WITH AUTHORITY REQUIREMENTS

All proposed sustainability solutions (projects) to be funded under the Sustainability Special Purpose Funding Round must comply with the minimum requirements of all relevant Councils, Authorities, Codes, and Australian Standards.

1.4 INTENT OF FUNDING ROUND

The Special Purpose Funding Round intends to support schools in working toward their sustainability goals using a structured and outcomes-focused approach. This round is focused on **Energy & Carbon** and **Total Water Cycle** initiatives.

The intent of funding directed toward **Energy & Carbon** projects is to:

- Lower the need for electrical energy from the electricity grid.
- Lower the need for electricity use on the school site.
- Reduce carbon produced by the school.

Examples of eligible project infrastructure include LED lighting, solar systems, building management systems, and battery storage on site. Charging stations for electric vehicles, for example, would be ineligible, as they do not meet the intent of the funding criteria outcomes outlined above.

The intent of funding directed toward **Total Water Cycle** projects is to:

- Lower the need to source water from an external water provider.
- Increase capacity to harvest onsite water.
- Efficiently move water harvested on-site to locations of need (i.e. toilets, ovals).
- Recycle grey water for reuse.

Examples of eligible project infrastructure would include efficient water fittings, tanks, water recycling plants or filtration systems, and piping networks to link stored water to locations where supply is needed.

Beyond the scope of this Special Purpose Funding Round, Schools are encouraged to develop a holistic sustainability strategy to understand their opportunities and challenges across all areas of sustainability.

1.5 HOW TO USE THIS MODEL CODE

The purpose of this model code is to ensure that a thorough assessment of the school's energy and water consumption has been conducted and that a robust methodology has been used to establish sustainability opportunities and identify solutions. The School's External Project Supervisor must complete and endorse this model code, then once completed and endorsed, it will be submitted as supporting documentation for an application in the Sustainability Special Purpose Funding Round.

The following steps outline the process for completing this model code:

Step 1: Undertake a sustainability audit, ensuring the "Audit Requirement" and "Acceptable Solution" criteria are satisfied for areas where sustainability opportunities are likely to be considered for potential projects. (Refer to Section 2 for "Audit Requirement" and "Acceptable Solution" criteria.)

Step 2: Complete the relevant items in Section 2 of this code, noting that ONLY the sections applicable to YOUR funding application are required to be completed. This information should demonstrate how you have identified opportunities for sustainability.

Step 3: Complete the relevant table in Section 3 of this code, summarising the sustainability opportunities identified and the proposed solution to address them. Schools may need to collaborate with specialist consultants or industry professionals to consider and evaluate proposed solutions adequately.

Step 4: In section 7, the External Project Supervisor must complete the declaration, endorsing that sustainability solutions are well-designed, in accordance with industry best practices, and representing value for money.

To ensure quality products and services are obtained to deliver sustainability projects for the best possible price, a minimum of three quotations for the proposed sustainability solutions presented in this model code are required.

2 Audit Requirements and Acceptable Solutions

The following table should be completed by the school's external project supervisor (typically a project manager or architect) using information collected in your school audit. ONLY the sections applicable to YOUR funding application are required to be completed. This information should demonstrate how you have identified opportunities for sustainability projects.

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
ENERGY & CARBON							
1.0	**Lighting**						
1.1	Internal lighting	Internal	Understanding of internal light fittings.	An audit of all internal spaces has been conducted and an inventory of all light fittings has been developed.			
1.1 Example	*Internal lighting*	*Internal*	*Understanding of internal light fittings.*	*An audit of all internal spaces has been conducted and an inventory of all light fittings has been developed.*	*Y*	*All classrooms in buildings 4 and 8 still contain T5 light tubes*	*Lighting replacement of all T5 light tubes with LED fittings*
1.2	Internal lighting controls	Internal	Understanding of internal lighting controls.	An audit of all internal spaces has been conducted and an inventory of all lighting controls has been developed.			
1.3	Lux readings	Internal	Australian Standards for lighting levels.	Measurements of lighting levels in each internal space and compared to suitable lighting levels for the space use.			

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
1.4	External lighting	External	Understanding of external light fittings.	An audit of all external spaces has been conducted and an inventory of all light fittings has been developed.			
2.0	**Thermal Comfort**						
2.1	Heating and cooling areas	Internal	Understanding of conditioned and unconditioned spaces.	A site plan which indicates all spaces that are air conditioned.			
2.2	Internal HVAC controls	Internal	Understanding of internal Heating Ventilation and Air Conditioning (HVAC) controls.	An audit of all internal spaces has been conducted and an inventory of all HVAC controls has been developed.			
2.3	Heating and cooling	Internal	Understanding internal temperatures.	Measurement of temperatures.			
2.3 Example	*Heating and cooling*	*Internal*	*Understanding internal temperatures.*	*Measurement of temperatures.*	*Y*	*An infrared thermometer was used to measure temperatures in all buildings. Summer temperatures in building 5 and 6 were found to be 19C throughout the room and occupants were wearing winter jackets.*	*Review temperature controls and increase temperatures.*
2.4	Temperature Control Set points	Internal	Set points have been reviewed.	Check set-point temperatures for air conditioning control and adjust to reduce loads where possible.			

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
2.5	Efficient energy use signage	Internal	Instructions to users.	Signage encourages efficient use of air conditioning and lighting at controls.			
2.6	Fans and mechanical ventilation	Internal	Provision of alternate comfort controls.	An audit has recorded the location of all fans and mechanical ventilation.			
3.0	**Appliances**						
3.1	Appliances – efficiency ratings	Internal	Understand energy efficiency ratings of appliances.	An audit has been conducted to understand all appliances and where possible, has recorded their energy efficiency ratings.			
3.1 Example	*Appliances – efficiency ratings*	*Internal*	*Understand energy efficiency ratings of appliances.*	*An audit has been conducted to understand all appliances and where possible, has recorded their energy efficiency ratings.*	*Y*	*The fridge in the staffroom was found to be 1 Star energy efficiency, while 5 Star options are available. The fridge is over 12 years old.*	*Replace fridge with higher efficiency option.*
3.2	Appliances - control	Internal	Understand energy use of appliances.	An audit has been conducted to review energy use of appliances including estimates of how often they are used.			
4.0	**Building Envelope**						
4.1	Windows and doors – leakage	Internal	Understand air leakage.	An audit has been conducted to review all doors and windows and estimate air leakage.			

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
4.1 Example	*Windows and doors – leakage*	*Internal*	*Understand air leakage*	*An audit has been conducted to review all doors and windows and estimate air leakage.*	*Y*	*Strips of paper held near the windows in building 3 could be seen to move from breezes leaking through the side of the glazing.*	*Options to install window seals around frames or replace windows to be priced.*
4.2	Windows - glazing	Internal	Understand window performance.	Audit/ plans showing glazing properties for all windows (estimates can be used when details are not available).			
4.3	Windows - opening	Internal	Understand ventilation options.	Audit/ plans showing fixed and openable windows and indicating openable areas.			
4.4	Window furnishing	Internal	Review window furnishings.	Audit/ plans showing window furnishing and noting type and control.			
4.5	Shading and overhangs	External	Review shading and overhangs.	Audit/ plans showing shading and overhangs for each window and area.			
4.6	Insulation- walls	Internal	Understand building insulation.	Audit/ plans noting insulation in walls. Where information is not available this can be noted.			
4.7	Insulation – ceilings, roof and floors	Internal	Understand building insulation.	Audit/ plans noting insulation in ceilings, roofs and floors. Where information is not available this can be noted.			
5.0	**Energy Metering and BMS**						

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
5.1	Energy metering	Internal	Is there an energy metering system?	A description of the energy metering system including areas that it covers (if applicable).			
5.1 Example	*Energy metering*	*Internal*	*Is there an energy metering system?*	*A description of the energy metering system including areas that it covers (if applicable).*	*Y*	*Only buildings 8 and 9 are sub-metered providing lighting and HVAC energy consumption for each floor.*	*Sub-metering across the campus linked to a BMS system would allow a good understanding of energy consumption.*
5.2	BMS	Internal	Is a Building Management System (BMS) installed?	A description of the BMS system including areas that it covers (if applicable).			
5.3	BMS use	Internal	How well is the BMS system used.	A description of how the BMS system is used / monitored / updated.			
6.0	**Renewable Energy**						
6.1	Solar	External	Understanding renewable energy on-site.	Plans and description of size and type of solar panels on-site (if applicable).			
6.2	Wind	External	Understanding renewable energy on-site.	Plans and description of size and type of wind turbines on-site (if applicable).			
6.3	Other renewables	External	Understanding renewable energy on-site.	Plans and description of size and type of other renewables on-site (if applicable).			

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
6.4	Off-site	External	Understanding if external renewables or green power is imported or purchased for the school.	Details of any external renewable power imported or purchased for the site.			
6.5	Batteries	External	Understanding energy storage on-site.	Plans and description of size and type of batteries on-site (if applicable).			
6.6	Other energy storage	External	Understanding energy storage on-site.	Plans and description of size and type of other energy storage on-site (if applicable).			
TOTAL WATER CYCLE							
7.0	**Taps**						
7.1	Water uses - taps	Internal	Record of all taps on the premises.	Audit/ plan showing all taps at the school			
7.2	Water efficiency - taps	Internal	Understand water efficiency of taps.	Check of WELS ratings of taps (where information is not available estimates can be provided). Note any fitted flow restrictors.			
7.2 Example	*Water efficiency - taps*	*Internal*	*Understand water efficiency of taps.*	*Check of WELS ratings of taps (where information is not available estimates can be provided).* *Note any fitted flow restrictors.*	*Y*	*A number of taps have been installed across the school. As-built information showed WELS ratings of 3 Star for the most recent taps installed in the staff kitchen.*	*All water taps to be replaced with minimum 5 Star WELS rated taps.*

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
7.3	Repair/ maintenance - taps	Internal	Understand maintenance of taps.	Record of maintenance schedule of all taps.			
7.4	Signage - taps	Internal	Encouraging efficient use.	Record of all taps that have signage nearby encouraging efficient water use.			
7.5	Water uses - taps	External	Record of all taps on the premises.	Audit/ plan showing all taps at the school.			
7.6	Water efficiency – yaps (incl bubblers)	External	Understand water efficiency of taps.	Check of WELS ratings of taps (where information is not available estimates can be provided). Note any fitted flow restrictors.			
7.7	Repair/ maintenance – taps (incl bubblers)	External	Understand maintenance of taps.	Record of maintenance schedule of all taps.			
7.8	Signage – taps (incl bubblers)	External	Encouraging efficient use.	Record of all taps that have signage nearby encouraging efficient water use.			
8.0	**Showers**						
8.1	Water uses - showers	Internal/ external	Record of all showers on the premises.	Audit/ plan showing all showers at the school.			

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
8.2	Water efficiency - showers	Internal/ external	Understand water efficiency of showers.	Check of WELS ratings of showers (where information is not available estimates can be provided). Note any fitted flow restrictors.			
8.3	Repair/ maintenance - showers	Internal/ external	Understand maintenance of showers.	Record of maintenance schedule of all showers.			
8.4	Signage - showers	Internal/ external	Encouraging efficient use.	Record of all showers that have signage nearby encouraging efficient water use.			
9.0	**Sanitation**						
9.1	Water uses - toilets	Internal	Record of all toilets on the premises.	Audit/ plan showing all toilets at the school.			
9.2	Water efficiency - toilets	Internal	Understand water efficiency of toilets.	Check of WELS ratings of toilets (where information is not available estimates can be provided). Note dual flush.			
9.2 Example	*Water efficiency - toilets*	*Internal*	*Understand water efficiency of toilets.*	*Check of WELS ratings of toilets (where information is not available estimates can be provided).* *Note dual flush.*	*Y*	*All toilets were audited, and most were found to be 3 Star or unknown.*	*Future briefs for school upgrades or new build will require all toilets to be minimum 4 Stars*

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
9.3	Repair/ maintenance - toilets	Internal	Understand maintenance of toilets.	Record of maintenance schedule of all toilets.			
9.4	Water uses - urinals	Internal	Record of all urinals on the premises.	Audit/ plan showing all urinals at the school.			
9.5	Water efficiency - urinals	Internal	Understand water efficiency of urinals.	Check of WELS ratings of urinals (where information is not available estimates can be provided). Note any water saving features.			
9.6	Repair/ maintenance - urinals	Internal	Understand maintenance of urinals.	Record of maintenance schedule of all urinals.			
10	Water Storage and Reuse						
10.1	Rainwater storage and use	Internal/ External	Understand rainwater system	Document any rainwater use including collection, storage, Treatment and use.			
10.1 Example	*Rainwater storage and use*	*Internal/ External*	*Understand rainwater system*	*Document any rainwater use including collection, storage, Treatment and use.*	*Y*	*A 20kL rainwater tank is used to collect water off the gym which is used for irrigation.*	*A 50kL tank could be added to meet further irrigation demand for the sports oval.*
10.2	Grey water	Internal	Understand grey water system	Document any grey water reuse including collection, treatment, storage and use.			

	ITEM	ELEMENT	AUDIT REQUIREMENT	ACCEPTABLE SOLUTION	SATISFIED (Y, N, N/A)	COMMENT	SUSTAINABILITY OPPORTUNITY
10.3	Black water	Internal	Understand black water system	Document any black water reuse including collection, treatment, storage and use.			
10.4	Storm water	Internal/ Externa	Understand storm water system	Document any storm water reuse including collection, treatment, storage and use.			
11.0	**Irrigation**						
11.1	Irrigation requirements	External	Understand water needed for irrigation purposes	Estimates of irrigations requirements (annual estimate)			
11.2	Irrigation systems	External	Understand irrigation systems	Detail of irrigation systems including controls and maintenance.			
12.0	**Swimming pool**						
12.1	Swimming pool water use	Internal/ External	Understand water used for swimming pool	Details of pool filtration and water use including controls and maintenance.			
13.0	**All other water uses**						
13.1	Other water uses			Detail all other water uses			

3 Identified Sustainability Opportunities and Proposed Solutions

In the following table, please provide a summary of the areas where you have identified sustainability opportunities, and your proposed solution/s to address these. Best estimates are sufficient when detailed information is not attainable.

	REF NUMBER (FROM SECTION 3)	CATEGORY	ISSUE	SUSTAINABILITY OPPORTUNITY	PROPOSED SOLUTION	ESTIMATE OF ENERGY/ WATER SAVING	CONFIRM THAT THE SOLUTION IS WELL DESIGNED AND REPRESENTS VALUE FOR MONEY	3 QUOTES OBTAINED
ENERGY & CARBON								
Example a	6.1	Solar	No solar system on site.	Installation of a solar system can utilise renewable energy to reduce demand for electricity from the grid.	A 100kW solar system is proposed.	150,000kWh per annum	An RPEQ was used to specify size of the solution to balance efficiency in power generated with usage/peak demand.	Y
Example b	7.6	Batteries	The school has installed a 50kW solar system but no energy storage system.	By installing a battery so the school can utilise renewable energy to cover our night time and early morning energy loads.	A 75kWh battery storage system is proposed.	60,000kWh	An RPEQ was used to design the solution. The proposed solution was estimated to be 6% more energy efficient than other solutions.	Y

	REF NUMBER (FROM SECTION 3)	CATEGORY	ISSUE	SUSTAINABILITY OPPORTUNITY	PROPOSED SOLUTION	ESTIMATE OF ENERGY/ WATER SAVING	CONFIRM THAT THE SOLUTION IS WELL DESIGNED AND REPRESENTS VALUE FOR MONEY	3 QUOTES OBTAINED
TOTAL WATER CYCLE								
Example c	*11.1*	*Rainwater tanks*	*The school water use for our 2 ovals is 530,000 litres per week.*	*By installing a rainwater tank, we will reduce our water consumption for field irrigation.*	*A 200kL tank is proposed with plumbing to the irrigation system.*	*2ML*	*An RPEQ was used to design the solution. A review of annual rainfall demonstrated that the proposed size was the most suitable solution.*	*Y*

4 References

Please list each consultant/company that has been involved in the work that has informed this application.

NOTE: Contractor's who have provided quotations do not need to be listed in this section.

CONSULTANT NAME	COMPANY	DISCIPLINE	QUALIFICATION

5 Document Reference List

Please list documents that were referenced or developed to inform this submission (e.g. design drawings or performance specification produced by specialist consultant).

TITLE	AUTHORING COMPANY / CONSULTANT	REVISION	DATE

6 Endorsement

Declaration and endorsement of Sustainability Funding Model Code Report by External Project Supervisor.

Being duly authorised and having relevant experience and expertise, I declare that:

- ***The proposed projects will achieve outcomes in line with the intent of the Sustainability Special Purpose Funding Round as specified Section 1.4 of this code;***
- ***The proposed project/s reflect with the solution/s outlined in Section 3, and are well-designed and represent value for money;***
- ***The market quotations supporting this model code are fair and competitive and in line with sound, building industry best practices;***

REVISION ID	DATE	ENDORSED BY (NAME)	SIGNATURE	QUALIFICATION/S