



**Sustainability Special Purpose Funding Round**

**Model Code**

Created for QIS BGA by 

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# Introduction

## Purpose

This Sustainability Model Code has been developed to 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, 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.

## 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.

## EXTERNAL PROJECT SUPERVISOR

This Model Code must be completed by the External Project Supervisor, including completion of the declaration in Section 6. The external project supervisor is required to be either:

* A qualified architect who is registered with the Board of Architects of Queensland; or
* A qualified professional engineer (RPEQ); or
* A project manager/project management firm that holds a licence issued by the Queensland Building and Construction Commission.

They must also be independent of those carrying out the work (i.e. not affiliated with the Contractor organisation).

## How to use this Model Code

This Model Code is to be read in conjunction with the Planning & Eligibility Notes available on the [QIS BGA website](https://www.bga.qld.edu.au/funding-programs/special-purpose-programs).

The purpose of this model code is to ensure that a relevant and accurate assessment of the school’s energy and/or water consumption has been conducted and that a robust methodology has been used to establish sustainability opportunities and identify solutions.

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

**Step 1**: Undertake a sustainability audit, ensuring the “Acceptable Solution” criteria are satisfied for your proposed project.

**Step 2**: Complete the relevant line items in Section 2 as applicable to the proposed project.

**Step 3**: Complete the relevant table in Section 3, summarising the sustainability opportunity being addressed and the proposed solution.

**Step 4**: Complete Section 4 (References), Section 5 (Document Reference List), and Section 6 (Declaration).

**Step 5**: Submit the endorsed model code as supporting documentation for a sustainability application.

## 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.

# 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. |  |  |  |
| 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. |  |  |  |
| 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. |  |  |  |
| 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** |  |  |  |  |
| 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 of renewable energy on-site. | Plans and description of solar panels on-site (if applicable), and establishment of baseline consumption e.g. “Monitoring example” worksheet in audit tool. |  |  |  |
| 6.2 | Wind | External | Understanding renewable energy on-site. | Plans and description of size and type of wind turbines on-site (if applicable), and establishment of baseline consumption e.g. “Monitoring example” worksheet in audit tool. |  |  |  |
| 6.3 | Other renewables | External | Understanding renewable energy on-site. | Plans and description of size and type of other renewables on-site (if applicable), and establishment of baseline consumption e.g. “Monitoring example” worksheet in audit tool. |  |  |  |
| 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, and establishment of baseline consumption e.g. “Monitoring example” worksheet in audit tool. |  |  |  |
| 6.5 | Batteries | External | Understanding of energy storage on-site. | Plans and description of size and type of batteries on-site (if applicable), and establishment of baseline consumption e.g. “Monitoring example” worksheet in audit tool. |  |  |  |
| 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), and establishment of baseline consumption e.g. “Monitoring example” worksheet in audit tool. |  |  |  |
| **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.* |
| 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 – taps (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. |  |  |  |
| 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. |  |  |  |
| 9.2Example | *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* |
| 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 locations, storage capacity, treatment and end 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. |  |  |  |
| 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 |  |  |  |

# 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 |
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| **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* |
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# 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.

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| --- | --- | --- | --- |
| CONSULTANT NAME | COMPANY | DISCIPLINE | QUALIFICATION |
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# 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).

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| --- | --- | --- | --- |
| TITLE | AUTHORING COMPANY / CONSULTANT  | REVISION | DATE |
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# 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 \* |
|  |  |  |  |  |
|  |  |  |  | *\* Refer to the minimum qualification requirements in Section 1.3 ‘EXTERNAL PROJECT SUPERVISOR’* |