



Energy Efficiency and  
Conservation Authority  
Te Tari Tiaki Pūngao

**Solar Water Heating Programme**

**EECA Finance Assistance Schemes**

# ***Grants Scheme Protocols***

**July 2009**

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# Grants Scheme Protocols

## Purpose

This Protocols document sets out the principles, rules and requirements, and operational policy and processes for the 2009 Solar Water Heating Grants Scheme<sup>1</sup>.

It governs participation in the Grants Scheme to the extent that all participants must adhere to all of the relevant protocols in order for a grant to be paid. This protocol replaces the protocol issued December 2008.

The document is set out in sections so that key information can be grouped in one place. While not all sections are directly relevant to each participant, EECA recommends that you read and consider the document as a whole to ensure you understand how the scheme works and are aware of each participant's roles and responsibilities.

Please refer to the ENGERYWISE™ website [www.energywise.govt.nz/solar](http://www.energywise.govt.nz/solar) to ensure that you are reading the latest version of this document.

## Overview

The 2009 Grants Scheme is one of the components of the government programme to increase the uptake of solar water heating in New Zealand.

Under this scheme, EECA provides \$1000 for any customer who purchases and installs a published "packaged" solar water heating system that meets the eligibility criteria set out in these Protocols.

The Scheme began in June 2008, and was amended in September 2008, December 2008 and July 2009. Installations must meet the rules outlined in the protocol document for the time period in which the installation occurred.

The \$1000 grant will only be available for packaged systems that:

- have been accepted by EECA and published on the ENGERYWISE™ website;
- have been installed by participating installers as defined in this document; and
- have been installed in accordance with the terms of their building consent.

## Section 1: Timeframes

Grants can be paid for eligible packaged systems under the rules in this protocol provided the installation date is on or after 1 July 2009.

The Scheme is proposed to run until 30 June 2010; and continuance beyond that date will be subject to:

- A review of The Scheme in September 2009; and
- The availability of government funding; as well as

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<sup>1</sup> EECA has produced a separate Protocols document for the Loans Scheme.

- The results of audits of installations, undertaken at EECA's discretion but by arrangement with the customer, to ensure that installations have been completed to an acceptable standard and in line with the scheme rules.

## **Section 2: Participation**

Participation in the Grants Scheme is limited to:

- Suppliers of packaged systems
- Installers of packaged systems
- Customers purchasing packaged systems
- EECA

Participation in the Grants Scheme carries all the various responsibilities described in this document and in particular those that are set out in Section 10.

NB: For the avoidance of doubt, builders are not eligible to apply for grants under the Grants Scheme for solar water heating systems installed as part of their commercial operations; except for the installation of a solar water heating system onto a show home. For a builder to qualify for a grant the installation must be fully functioning and be on a show home that is open to the public for at least three months.

## **Section 3: Definition of Terms**

For the purposes of the Grants Scheme, this document uses the following terms and meanings:

**A Participating Supplier** (of packaged systems) means a natural person or persons or other legal entity who or which is ordinarily resident in New Zealand or ordinarily carries on business in New Zealand and;

- successfully applies to EECA for the acceptance of packaged systems for sale under the Grants Scheme, and as a result EECA publishes the systems on the ENGERYWISE™ website; and
- is able to provide evidence that all system components meet the product requirements specified in Annex Three.

**A Participating Installer** means the person that installs the components, such as solar panels, controller, etc. of a system. For the avoidance of doubt a person listed as a participating installer does not have to be the same person as the Registered Craftsman Plumber who signs the completed job off in compliance with the building consent process. An Installer must meet the following criteria:

- Has completed product-specific training by the supplier of the system; and
- Has successfully completed the Short Course Certificate in Solar Water Heating Installation, or the equivalent number reference of the National Certificate for Solar Water Heating Installation, or a NZQA approved equivalent course; and
- Has successfully registered with EECA and received an EECA installer identification number and agreed to operate by the rules outlined in this document.

**A Customer** means any individual, family trust or legal entity that purchases a Registered Packaged System and has it installed by a participating Installer on a house or other building owned or leased by the Customer.

**A Packaged System** is a solar water heating system that has a fixed configuration and components that are designed and sold as a complete unit, and is represented by a single product identification number.

**A Registered Packaged System** is a packaged system that is published by EECA on the ENGERYWISE™ website for participation in the Grants scheme.

Note: Variations to the Registered Packaged System are allowed to best suit site conditions, see the EECA Packaged System Variation Rules in Annex Three for more details.

**A Retrofit System** is a system made up of all the components of a Registered Packaged System minus the hot water tank that is connected to an existing, previously installed hot water tank.

Note: When a Retrofit system is installed, the completed solar water heating system must be similar to the Registered Packaged System, as defined in the EECA Packaged System Variation Rules, to be eligible for a grant.

**Total Installed Cost** means the total cost of the completed installation of the packaged system including the packaged system itself plus all building consent costs and all other ancillary costs to the customer such as GST, contractors, etc.

**Installed Date** means the date all components are installed and the system is fully commissioned.

#### **Section 4: Packaged System Registration**

Packaged systems must be accepted and published by EECA on the ENGERYWISE™ website in order to participate in the Grants Scheme.

To register packaged systems, Suppliers must provide EECA with a completed Packaged System Registration Form for each packaged system they wish EECA to accept and publish on the ENGERYWISE™ website as acceptable for sale to consumers.

Packaged System Registration Forms are available from EECA or can be downloaded from the ENGERYWISE™ website. The forms are comprehensive and require careful and accurate completion.

The registration process requires that Suppliers provide information about each packaged system, including:

- information on Standards compliance as specified in the Product Requirements for Registered Packaged Systems; and
- the warranty period for the system components and the installation of each packaged system; and
- that the Packaged System has controlled supplementary heating.

Send completed registration forms along with any required documentation to:

- Email - [SolarSystemAdmin@eeca.govt.nz](mailto:SolarSystemAdmin@eeca.govt.nz)
- Fax - 04 499 5330 Attn: Solar Packaged System Administrator
- Post - Energy Efficiency and Conservation Authority  
PO Box 388  
Wellington 6140  
Attn: Solar Packaged System Administrator

After EECA has received a correctly completed Packaged System Registration Form with the required Standards compliance evidence, it allocates an EECA Packaged System Number for each packaged system.

The packaged system's associated model number, technical description, EECA Packaged System Number, warranty and energy performance information will be published on the ENGERYWISE™ website.

By publishing the information on the ENGERYWISE™ website EECA is not assuming any liability or responsibility to users of the website or any other party, whether contractual, tortious or otherwise, for any of the information contained on the website or its accuracy.

## **Section 5: Installation Requirements**

Installations of Registered Packaged Systems and Retrofit Systems under The Scheme must be undertaken and completed in accordance with the following requirements:

- New Zealand Building Act and Building Code
- Other relevant Government and Local Body legislation, regulations and bylaws
- A Building Consent specific to the installation to be claimed for
- Relevant professional codes of practice and conduct
- The manufacturer's instructions
- Any other special licences issued, or conditions imposed by any party to the installation
- The contents of this Grants Scheme Protocols document.

In addition, Installers must exercise and display a degree of skill, knowledge and diligence and a duty of care and service commensurate with their training qualification.

## **Section 6: Eligibility for Grant**

Under The Scheme, EECA will make grant payments directly to customers. The grant will only be paid, however, if all of the following criteria are met:

- The Customer has purchased a Registered Packaged System or Retrofit System or acceptable variation as defined in the EECA packaged system variation rules; and
- A Building Consent has been issued for the installation of that system; and
- The Registered Packaged System or Retrofit System has been installed by a Participating Installer as defined in Section 3 above; and
- The Customer and the Participating Installer have completed a Grant Claim Form; and
- The Customer sends that form and a copy of the purchase and installation invoice(s) for that system to EECA within three months of the installation date; and
- The installation date is after 1 July 2009; and
- The system is installed and commissioned before the Grant Claim Form is submitted to EECA; and
- EECA accepts the information provided on the Grant Claim Form.

Grant Claim Forms are available from EECA or can be downloaded from the ENGERYWISE™ website. The form is simple but requires careful and accurate completion by the Customer and the Installer.

## **Section 7: Publication**

EECA will publish information about the 2009 Grants Scheme, primarily on the ENGERYWISE™ website and elsewhere as decided from time to time. The information to be published will include:

- The names and contact details of Suppliers; and
- The names and contact details of Registered Installers; and
- The key details about each packaged system.

The ENGERYWISE™ website is updated regularly to ensure that information about each new packaged system accepted by EECA is published in a timely fashion.

## **Section 8: Responsibilities**

Participants in the 2009 Grants Scheme have the following specific responsibilities in addition to those set out in other parts of this document.

### **Participating Suppliers:**

- If requested, make available for inspection, review, evaluation and assessment to EECA or its agents: All relevant modelling data, information, simulation (deck) files, and results, for all systems nominated to EECA for inclusion in the programme. EECA reserves the right not to accept modelling results that do not comply with the programme requirements or the requirements of the Standard AS/NZS 4234:2008.
- Keep Installers informed about the Grants Scheme and their Registered Packaged Systems.
- Ensure Installers understand their obligations under applicable legislation and their responsibilities in the Grants Scheme.
- Strictly adhere to the "promotion" wording in Section 12 of this document.
- Provide quarterly statistical reports as set out in Appendix Two.

### **Participating Installers:**

- Ensure that Customers are aware of the Grants Scheme eligibility criteria.
- Strictly adhere to the "promotion" wording in Section 12 of this document.
- Facilitate the Building Consent application or ensure that the customer has obtained a valid Building Consent for the installation.
- Ensure no installation work commences before the Building Consent is issued.
- Complete installation work in accordance with the New Zealand Building Code and the terms of the Building Consent.
- Complete the Grant Claim Form with the Customer and provide the EECA packaged system number.
- Provide system instructions, warranty and performance information to customers.
- Undertake customer enquiry and follow-up service.
- Adhere to Occupational Health and Safety requirements.

### **Customers:**

- Decision-making in relation to the purchase of a Registered Packaged System or Retrofit System.
- Understand the eligibility criteria for a Grant.
- Ensure a Building Consent is applied for and no installation work is started until a Building Consent is issued.
- Complete Grant Claim Form with the Installer.
- Send the Grant Claim Form to EECA with invoice to verify installation within three months.

## **Section 9: EECA's Role in the Grants Scheme**

EECA will undertake the following roles under The Scheme:

- Processing of scheme applications and Packaged System Registration Forms from Suppliers

- Assessing Grant Claim Forms and making payments for eligible grants
- Monitor scheme funding
- Undertake and/or arrange for audits of installations
- Provide information

**Note:** EECA's role does not include involvement in any contractual arrangements between Suppliers, Installers and Customers.

## **Section 10: Other Important Information**

The following information is relevant to particular aspects of the Grants Scheme and is supplementary to details provided above.

### **Other installation information:**

The installation may involve trades people such as plumbers, builders and electricians. If the Installer is not qualified they must engage a suitably qualified person to do that item of work (for example, a Licensed Plumber or Electrician).

### **Building Consent process:**

Except in some instances, such as replacing an existing solar water heating system, a Building Consent is required by law for the installation of any solar water heating system - whether it is a packaged or retrofit system. Obtaining a Building Consent is the legal responsibility of the property owner (Customer) but may be applied for by the Installer on behalf of the Customer.

EECA recommends that the Installer obtains the Building Consent on behalf of the customer as the Installer is able to efficiently provide information to the Building Consent Authority, thus keeping consenting processes and costs to a minimum.

### **Is more information about the scheme and solar water heating available?**

- Yes; EECA has produced brochures about the grants scheme and general information about solar water heating. These are available on the ENGERYWISE™ website or directly from EECA.

In addition:

- EECA operates a call centre that provides information about the solar water heating programme. The number is 0800 762 7837.

## **Section 11: Applications to participate in the Grants Scheme**

Interested Suppliers and Installers are required to make a formal application to join the Grants Scheme.

Suppliers and Installers can apply by completing the Application Form – Grant and Loan Schemes. This is available from EECA or it can be downloaded from the ENGERYWISE™ website. The form is simple but requires careful and accurate completion.

The Application Form requires a Supplier or an Installer to make a declaration confirming that they will comply with the principles, rules and processes contained in this document.

Customers who purchase and install a Packaged or Retrofit System should complete a Grant Claim Form to claim the \$1000 grant, and send it to EECA within three months after the installation is completed and operating.

## **Section 12: Promotion of the Grants Scheme**

As part of the Government's solar water heating programme, EECA will, at its discretion, promote the Grants Scheme and the benefits of solar water heating.

If Suppliers and Installers wish to promote their participation in the Grants scheme and the availability of grants for registered packaged systems they can use only the following wording:

“Participant in the Government's Solar Water Heating Grants Scheme,  
which is delivered by EECA”

or

“Participant in the Government's Solar Water Heating Grants and Loans  
Scheme, which is delivered by EECA”

In addition, Suppliers' and Installers' promotional material must not imply or state that EECA is providing the packaged systems, or that EECA endorses the Packaged or Retrofit Systems or the Supplier or Installer.

EECA may give permission to Suppliers and Installers to use an ENGERYWISE™ label, on application to EECA. If approval is given, the approval notice will specify when that label can be used and how it must be used.

Suppliers and Installers may not use the EECA logo.

In any promotion, Suppliers must separately identify Registered Packaged Systems available under the Grants Scheme from other non-registered systems.

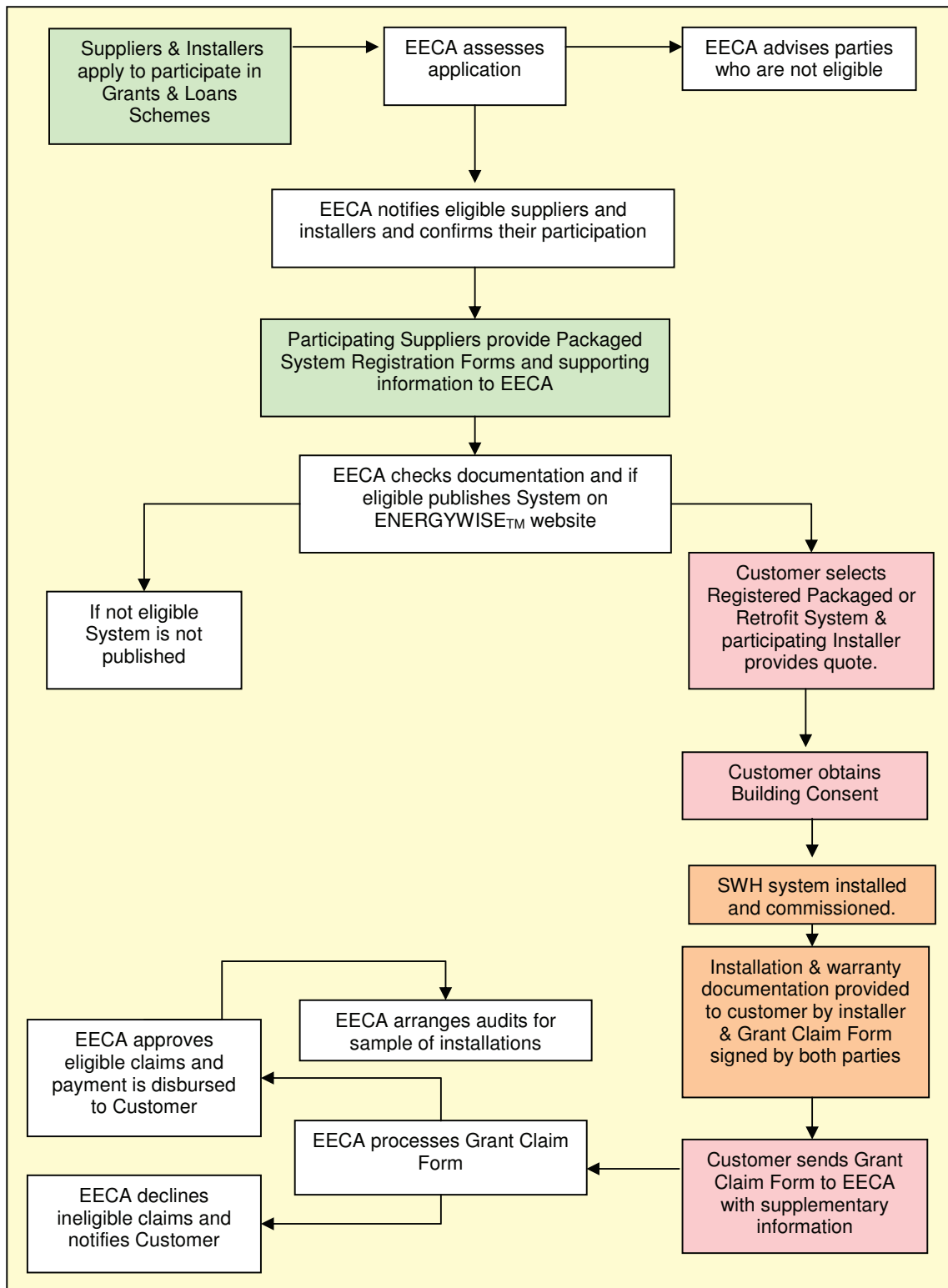
Suppliers and Installers must identify that they are participants in the Grants Scheme only for those packaged systems that are identified as being registered under the scheme.

### **Section 13: Disqualification**

EECA reserves the right to disqualify any Participating Supplier or Participating Installer from the Grants Scheme or remove packaged systems from the ENGERYWISE™ website if that Supplier or Installer does any of the following:

- Breaches this protocol
- Fails to complete any installation of any of its packaged systems under the Grants Scheme within a twelve month period.

## Appendix One – Flow Diagram of the Grants Scheme



## Appendix Two - Submission of Sales Data

Participating Suppliers are to supply total SWH installation sales figures to EECA on a quarterly basis. This information will be confidential to EECA and will be aggregated by EECA for statistical purposes only.

Each quarterly report should include at least:

1. Total monthly installations of all SWH systems (including both the number of systems installed and m<sup>2</sup> of collector area).
2. For each month's total installations of SWH, how many were commercial sized SWH installations with at least 10m<sup>2</sup> of collector area. (Including both number of installations and m<sup>2</sup> of collector area installed).

Quarters are defined as follows.

Quarter 1: January - March

Quarter 2: April - June

Quarter 3: July - September

Quarter 4: October - December

Quarterly reports are due to EECA within 1 calendar month of the end of the quarter the information relates to.

### Sample installation report

Date:

Name: (of Supplier)

Address: (of Supplier)

Phone number: (of Supplier)

### Total Installation sales data for Quarter 1: January - March

January	X SWH systems installed	a total of X m <sup>2</sup> collector panel
February	X SWH systems installed	a total of X m <sup>2</sup> collector panel
March	X SWH systems installed	a total of X m <sup>2</sup> collector panel

The above data includes the following commercial sized installation (over 10m<sup>2</sup> of collector panel).

January	X Commercial SWH systems	a total of X m <sup>2</sup> collector panel
February	X Commercial SWH systems	a total of X m <sup>2</sup> collector panel
March	X Commercial SWH systems	a total of X m <sup>2</sup> collector panel

## **Appendix Three – Product Requirements for Registered Packaged Systems**

### ***PRODUCT DESIGN AND CONSTRUCTION REQUIREMENTS***

#### **Product Standards**

For residential sized solar water heating systems (up to 700L) to be eligible for finance assistance under the government SWH grant and loans schemes, the system must meet one of the following standards:

- AS/NZS 2712:2007 Solar and heat pump water heating – Design and construction, or
- AS/NZS 2712:2002 Solar and heat pump water heating – Design and construction

Note: At present the Department of Building and Housing has initiated a project to review the current guidance to Building Consent Authorities with regards to solar installations. This may include a revision of the acceptable solution for solar, as per industry requests. It is our intention that the product standards required for systems to be eligible for a grant under the Grants and Loans schemes will align with the building code solar water heating acceptable solution once this review has been completed.

The supplier must provide a copy of the compliance schedule and test report carried out by an Approved test facility<sup>2</sup> with the packaged system registration form as specified below.

The model numbers submitted on the packaged system registration form must be traceable to the model numbers on the test report or compliance certificate.

### ***PERFORMANCE MODELLING REQUIREMENTS***

#### **Introduction**

The methodology to be used to calculate the annual energy savings of solar water heaters with a storage capacity of up to and including 700L is specified in AS/NZS 4234:2008.

This part of the Protocols document outlines the process of calculating the energy performance of package systems and “families” of package systems for the government Grants and Loans schemes and is as per AS/NZS 4234:2008 - heated water systems - calculation of energy consumption, unless otherwise stated.

Modelling must be carried out by an Approved modelling facility<sup>3</sup>.

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<sup>2</sup> See DEFINITIONS section of this Appendix for a list of Approved test facilities

<sup>3</sup> See DEFINITIONS section of this Appendix for a list of Approved modelling facilities

## **Modelling Report Format**

A full modelling report must be provided in a format consistent with that provided in the standard AS/NZS4234:2008. A copy of the proposed report format should be submitted to EECA for approval prior to an application being made.

Modelling reports must state the Legionella control the system uses in terms of the Building Code G12/AS2 clause 3.5, which can be downloaded from the DBH website.

<http://www.dbh.govt.nz/UserFiles/File/Publications/Building/Compliance-documents/clause-G12-water-supplies.pdf>

If the system does not comply with one of these clauses please describe how the system is controlled to protect the user from Legionella bacteria.

## **Annual Performance Calculation Method**

### **Background to Modelling Method**

AS/NZS 4234:2008 calculates the annual energy savings for a solar water heater by subtracting the boost energy required by the solar water heater to deliver a prescribed load from the energy consumption of an electric or gas reference water heater that is delivering the same load. This needs to be calculated for each of two climate zones, (Zone 5 and 6).

The boost energy required by the system to deliver a prescribed load profile (the 'total annual auxiliary boost energy') is calculated in accordance with Standard AS/NZS 4234:2008 using the TRNSYS thermal modelling software.

### **Scope**

For solar water heaters, AS/NZS 4234:2008 is limited to systems capable of being separated into a solar collector component and a storage vessel component. At present there is not a suitable performance test for integrated solar water heating systems.

### **Thermal performance of collector**

The thermal performance of the collector is a critical input into the modelling process and is determined by testing<sup>4</sup> to the following standard;

- AS/NZS 2535.1:2007 Test methods for solar collectors, Part 1: Thermal performance of glazed liquid heating collectors including pressure drop.

Note: EECA will also accept the collector thermal performance sourced from overseas standards that are technically equivalent to AS/NZS 2535.1:2007. The accepted alternative test reports are:

- EN 12975-2:2006 part 6: Thermal performance testing of liquid heating collectors.
- ISO 9806-1:1994 Test methods for solar collectors - Part 1: Thermal performance of glazed liquid heating collectors including pressure drop.

To gain approval for alternative test reports, please submit a comparison report between the proposed test method and AS/NZS 2535.1:2007 to EECA.

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<sup>4</sup> Test reports to determine the thermal performance of the collector must be carried out by an Approved test facility.

As is required by the AS/NZS 4234:2008 standard, EECA continues to expect that the standard used to determine the collectors thermal performance and the date and name of the testing laboratory is stated on the AS/NZS 4234:2008 modelling report.

#### **Tank heat loss (Gas Storage)**

- AS 4552:2005 - Gas fired water heaters for hot water supply and/or central heating

#### **Tank heat loss (electric storage)**

- AS/NZS 4692.1:2005 - Electric water heaters - Energy consumption, performance and general requirements, or
- NZS 4602:1988 - Low pressure copper thermal storage electric water heaters, or
- NZS 4606.1:1989 - Storage water heaters - General requirements, or
- AS 1056.1- 1991- Storage water heaters - General requirements.

#### **Clarification of AS/NZS 4234:2008**

##### ***ONE-SHOT BOOSTING***

One-shot boosting is a manual control that allows a default boost mode (such as off-peak boosting) to be overridden so that the user can satisfy a short term high demand for hot water.

For one-shot boosting to be included in the modelling it must automatically reset to normal controller operation, it can only be used once per day, and the minimum delivery temperature criteria must still be met.

AS/NZS 4234:2008 Appendix E7.2 describes one-shot boosting and how it should be used in the modelling.

Note: when a system is audited by EECA, confirmation of the one-shot control will be investigated relevant to the package system modelling report.

#### **Climate Data:**

The climate data required for Zone 5 and Zone 6 is available from EECA.

#### ***DEFINITIONS***

##### **Approved Test Facility**

An Approved Test Facility is a test facility that:

- Is covered by the ILAC (International Laboratory Accreditation Cooperation) agreement to test to the applicable standard; or
- EECA has stated its acceptance of test reports from the facility for the applicable standard (see EECA for details on how to become approved).

For a list of countries signed up to the International Laboratory Accreditation Cooperation agreement and their respective national testing organization please refer to the IANZ (International Accreditation New Zealand) website [www.ianz.govt.nz](http://www.ianz.govt.nz)

Note: Test facilities that may be able to test to the required standards include;

**Applied Research Services (ARS): (EECA Approved)**

PO Box 687, Nelson, New Zealand

Ph: 64 03 5477347

Fax: 64 3 5472909

Website: [www.appliedresearch.co.nz](http://www.appliedresearch.co.nz)

**Fraunhofer – Institute for Solar Energy Systems (ISE)**

Heidenhofstr. 2, D-79110 Freiburg, Germany

Ph: +49 (761) 4588 5354

Website: [www.ise.fhg.de](http://www.ise.fhg.de)

**Institut für Solarenergieforschung Hameln/Emmerthal (ISFH)**

Am Ohrberg 1, D-31860 Emmerthal, Germany

Ph: +49-5151-999-522

Website: [www.isfh.de](http://www.isfh.de)

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Fax: (+61 3) 9646 4370

Website: [www.vipac.com.au](http://www.vipac.com.au)

### **Approved Modelling Facility**

An Approved Modelling Facility is a modelling facility that:

- Is covered by the ILAC (International Laboratory Accreditation Cooperation) agreement to model to the applicable standard; or
- accepted by ORER (Office of the Renewable Energy Regulator) and must be verified via third party endorsement (contact EECA for details on becoming approved); or
- has been approved by EECA (contact EECA for details on how to become approved).

Note: The current approved modelling facilities include:

#### **Project Solar**

64 Potts Road,  
Whitford, Auckland.  
Ph: +64 9 534 5970 (LL)  
Ph: +64 21 345 979 (MOB)  
E-mail: [projectsolar@xtra.co.nz](mailto:projectsolar@xtra.co.nz)

#### **School of Mechanical and Manufacturing Engineering**

The University of New South Wales  
PO Box 6516  
UNSW SYDNEY NSW 1466  
Ph: +61 2 9385 4101  
Email: [Mechlab@unsw.edu.au](mailto:Mechlab@unsw.edu.au)  
Website: [www.mech.unsw.edu.au/content/labs\\_computing/Mechlab.cfm?ss=5](http://www.mech.unsw.edu.au/content/labs_computing/Mechlab.cfm?ss=5)

#### **KDVP Lab Testing Services**

Karl Von Der Putten  
Mobile: +61 0402902029  
Email: [Karlvdv@netspace.net.au](mailto:Karlvdv@netspace.net.au)

#### **Logit**

John Walker  
Ph: 03 337 0307  
Mobile: 021 257 6830  
Email: [john.walker@logit.co.nz](mailto:john.walker@logit.co.nz)  
[www.logit.co.nz](http://www.logit.co.nz)

## **A Packaged System**

Packaged or factory made solar water heating systems are batch products with one trade name, sold as complete and ready to install kits, with fixed configurations. Systems of this category are considered as a single product and assessed as a whole. If a packaged system is modified by changing its configuration or by changing one or more components, the modified system is considered a new system.

## **EECA Packaged System Variation Rules**

### ***Background***

To provide some flexibility to the packaged system definition and to bring the packaged system rules into line with the retrofit rules. The following rules have been developed to define the allowable variations to installed packaged systems.

These rules account for variations in packaged systems due to slight differences in tank configurations. For example, if the system is mains, medium or low pressure, one AS/NZS 4234:2008 modelling report can be supplied to cover these variations.

How do the EECA packaged systems rules work?

1. The supplier registers a package system with EECA which is published on the ENGERYWISE™ website and becomes a registered packaged system and is given an EECA packaged system number.
2. The Installer installs the same registered packaged system or a very similar system (as defined by the EECA Packaged system variation rules below).
3. The customer then applies for a grant using the EECA packaged system number.

### ***EECA packaged system variation rules:***

An EECA Packaged system number must be provided on the Grant Claim Form to receive a government solar water heating grant. The system installed must meet the following criteria when compared to the system specified by the EECA packaged system number provided on the Grant Claim Form:

- have exactly the same size, type and number of collector/s
- be controlled as described in the AS/NZS 4234:2008 modelling report, including the same Legionella control
- have an equivalent pump to the one specified, that is controlled in the same way (eg if a variable speed pump is used in the registered packaged system it must be a variable speed pump used in the installed system)
- have a tank volume within 17% of the tank size specified in the registered packaged system
- have a tank that is registered on the [www.energyrating.gov.au](http://www.energyrating.gov.au) website (not required when retrofitting to an existing tank)
- the tank must have the electrical element/s, thermostats and sensors in the same relative position
- have the same circulation system as the registered packaged system (for example open loop or closed loop, 5 way valve or solar connections)

- for closed loop systems the heat exchanger must be the same type, be in a similar location in the tank and be a similar size to that used in the registered packaged system and
- have the same means of frost protection

Note: When a system is audited by EECA, confirmation that the installation complies with the EECA packaged system variation rules will be investigated. Breaches of the Protocol rules with regard to the packaged system configuration may result in Supplier or Installer disqualification from the government Grants and Loans Schemes. Please refer to Section 13 for further details.

Note: The specification of each registered packaged system is provided on the [www.energywise.govt.nz/solar](http://www.energywise.govt.nz/solar) website under the technical page for each registered packaged system.

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