Solar Hot Water Heaters

太阳能热水器

AS/NZS 2712

In order to encourage the use of alternative energy sources, the Australian Federal Government provides Renewable Energy Certificates (RECs) for installing solar hot water heaters. The Office of the Renewable Energy Regulator (ORER) manages this program. RECs are allocated based on the efficiency of the solar water heaters compared to traditional heating systems. A solar water heater is typically eligible for 10 to 64 RECs.

为了鼓励使用替代能源，澳大利亚联邦政府为安装太阳能热水器提供了可再生能源证（Renewable Energy Certificates），并由再生能源办公室管理。可再生能源证是根据太阳能热水器与传统加热系统比较后得出的效率来分配的，一个太阳能热水器通常能分配 10 到 64 个可再生能源证。

In order to apply for RECs, the solar water heater must be independently certified to AS/NZS 2712 – Solar and heat pump water heaters – Design and construction. SAI Global is an approved certifier for solar water heaters and our StandardsMark certification will meet the ORER regulatory requirements for RECs.

为了能够申请可再生能源证，太阳能热水器必须根据 AS/NZS 2712 标准（太阳能及热泵热水器 - 设计与建造）进行认证，而 SAI Global（SAI 国际集团）是已经被认可 的此类产品的认证机构，同时我们的 StandardsMark（标准标志）认证也完全符合再生能源办公室关于再生能源证的法律法规要求。

Initial Review

概 述

Manufacturers/importers need to review the scope of AS/NZS 2712 to establish if the product designs are covered by the scope, such as:

- Systems up to 700L capacity
- Systems with solar collectors of close coupled and remote tank with collector system(s)
- Flat plate and evacuated tube collectors using primarily metallic absorber plates
- Heat pump systems – air and solar sourced

生产商/进口上需要了解 AS/NZS 2712 标准所涵盖的范围，比如：

- 最大容量不超过 700 升的系统
- 紧凑型太阳能集热系统和分体式水箱及集热器系统
- 使用金属吸热片的平板及真空管集热器
- 热泵系统 – 空气与太阳能驱动

Regulatory Requirements

法规要求

Electrically Boosted Water Heaters

电启动热水器

If the water heater is electrically boosted and the storage tank is un-vented, it is a “declared article” and must be independently certified to AS/NZS 60335.1 and AS/NZS 60335.2.21. SAI Global is an approved certifier for electrical products and our Electrical Safety Type Examination will meet the electrical regulatory requirements.

如果热水器是电启动的，而且为密封储水罐，那么该产品为“declared article”中列名的产品，因此必须根据 AS/NZS 60335.1 和 AS/NZS 60335.2.21 标准进行电安全认证。SAI 国际集团是已经被认可 的电器产品认证机构，我们的电安全型式试验完全符合电器安全法规要求。

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Gas Boosted Water Heaters

燃气启动热水器

If the water heater is gas boosted it must be independently certified to AS 4552. SAI Global is an approved certifier for gas appliances and our Gas Safety Certification will meet the gas regulatory requirements.

如果热水器为燃气启动的，那么这类产品必须根据 AS 4552 标准进行认证。SAI 国际集团是已经被认可的燃气器具认证机构，我们的燃气安全认证完全符合燃气法规要求。

Plumbing Safety

水务安全

If the solar water heater is connected to the water supply, then plumbing regulatory (AS 5200.000) requirements apply for installation purposes. Solar hot water heaters must have independent WaterMark Level 1 certification to AS 3498 - Authorisation requirements for plumbing products – Water heaters and hot-water storage tanks. SAI Global is an approved certifier for plumbing products and our WaterMark certification will meet the plumbing regulatory requirements.

If electrical or gas certification requirements apply, these must be met prior to proceeding with the WaterMark certification.

如果太阳能热水器是接驳在供水管路中，则需要符合水务法规（ATS 5200.000）的要求。太阳能热水器必须根据 AS 3498 标准进行 Watermark Level 1 认证，认证必须包含热水器部分和热水存储部分。SAI 国际集团是已经被认可水务安全认证机构，我们的 Watermark 认证完全符合水务法规的要求。

SAI Global is the only organisation able to provide StandardsMark, WaterMark, Gas Safety and Electrical approval for your solar hot water heaters.

SAI 国际集团是唯一集 Standardsmark（标准标志）、Watermark（水标志）、Gas Safety（燃气安全）和Electrical Safety (电器安全)于一身的认证机构。

System Performance

系统性能

Thermal Performance

热性能

A number of standards are referenced for the solar hot water system evaluation in terms of performance against contemporary systems as outlined in the Renewable Energy Certificate Calculation Methodology. The eligibility for RECs is based on performance evaluated against AS/NZS 4234 – Solar water heaters – Domestic and heat pump – Calculation of energy consumption. Further information is available on the Office of the Renewable Energy Regulator (ORER) website: www.orer.gov.au

根据现行的再生能源证计算方法中列出的产品及系统，太阳能热水系统性能的评估引用了多个相关标准。其中，再生能源证资格是根据AS/NZS 4234 标准做产品性能评估的。AS/NZS 4234 标准包含了太阳能热水器、家用热泵和能源消耗的计算。如果需要了解更为详细的信息，请访问再生能源办公室网站：www.orer.gov.au

No Load System

空载系统

Solar water heater systems are required to demonstrate stability and the potential for 'water dumping' during extended periods of no water draw off. A test method

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has been established for both vented and un-vented systems.

太阳能热水器在无水的空载情况下必须有保持稳定工作的能力，并且已经为此建立了相关测试方法（密封系统和非密封系统）。

Additional Requirements

额外要求

In addition to the regulatory requirements, AS/NZS 2712 has specific materials and performance requirements.

除了法律法规的要求以外，AS/NZS 2712 标准还要求了材料和性能要求。

Collector

集热器

A number of requirements are called up that deal with the design, materials of construction and performance of the collector. Performance tests evaluate the structural soundness of the collector under normal and abnormal conditions (stagnation). The thermal efficiency of the collector is evaluated (AS 2535.1) and the loss of this efficiency after stagnation.

对于集热器的设计、材料和性能，该标准制定了相关的要求。性能测试用来评估集热器在正常和非正常条件下的系统牢固性能。集热器热效率测试（AS 2535.1）用来评估集热器的热效率以及性能测试以后的热效率损失。

Container

储水罐

The container, where applicable, is generally required to satisfy AS/NZS 4692.1 for the design, materials of construction and performance. This includes a pulsation test to evaluate the ability of the storage container to withstand pressure cycling (250,000 cycles).

在适用的情况下，储水罐通常需要满足 AS/NZS 2692.1 标准中关于设计、材料和性能的要求，其中包括用来评估储水罐承受压力变化的压力脉冲试验（250,000 次）。

Heat Pump Modules

热泵模块

The heat pump module must demonstrate electrical safety compliance with AS/NZS 3350.2.40. The component design must meet AS 1677 requirements.

热泵模块必须满足 AS/NZS 3350.2.40 中要求的电安全性能；模块设计必须满足 AS 1677 的要求。

Application Process

申请流程

Step 1: Companies applying for certification are invited to complete the StandardsMark Application Form and submit it with the application fee to SAI Global.
The StandardsMark application form is available via
http://www.saiglobal.com/Assurance/ProductCertification/DownloadingDocuments/default.htm

第一步：填写Standardsmark（标准标志）申请表并将申请表和申请费一并提交SAI Global。申请表可以通过下面的链接下载：
http://www.saiglobal.com/Assurance/ProductCertification/DownloadingDocuments/default.htm

The application fee is dependent on the manufacturing location, as it includes the initial audit and costs associated with travel, accommodation, audit time and expenses. We will allocate a Client Manager to take you through the certification process.

申请费根据生产地点的不同而有所不同，因为申请费中包含了初审费用已经与之相关的差旅、住宿等费用。我们将为您指定一个客户经理来帮助您完成这个过程。

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Step 2: SAI Global provides a client confidential online access via
http://standardsmark.saiglobal.com/certifiedproducts/
for the submission of the supporting documentation to the application, such as:

- A complete listing of solar water heater systems within this application (a template is available online for this information).
- A sample bill of materials, assembly drawings of each different solar water heater type and the completion of the data input sheet for each model for system evaluation to AS 4234.
- A Quality Plan Summary of the manufacturing process and indication of audit readiness of the manufacturing site.
- Any previous reports of testing conducted of the solar water heater systems or components.
- Information on any current regulatory approvals i.e. Certificates of Approval or Suitability.

第二步：客户可以通过SAI国际集团提供的安全链接
http://standardsmark.saiglobal.com/certifiedproducts/
提交申请所需的相关文档，比如：

- 需要认证的太阳能热水器系统列表（客户可以在网站上找到此文档的模板）。
- 用以生产太阳能热水器的材料单，不同型号产品的总装图和 AS 4232 要求的完整数据表。
- 生产过程的质量计划概要（QPS）以及工厂是否已经可以接受的审核的说明。
- 之前所做的关于太阳能热水器及其组件的测试报告。
- 已经得到的法规方面认可的信息，比如许可证书或适用证书。

Step 3: The Client Manager will review the submitted documentation and provide feedback on the documentation, the proposed audit dates, testing plan including sample selection, recognised laboratories and the next steps in certification process.

第三步：客户经理将对提交的文档进行评估并提供反馈，并同时提供预计的审核日期、测试计划（包括样品选择）、认可实验室和认证过程的剩余步骤。

Client will submit a product marking proposal that incorporates the requirements of AS/NZS 2712, the licence number and the StandardsMark logo. The StandardsMark logo and rules on how to display the Mark are available via
http://www.saiglobal.com/Assurance/quicklinks/downloadlogos/

客户需要提交贴标方案，贴标方案需要符合AS/NZS 2712 的要求并包含证书号和StandardsMark（标准标志）的图标。StandardsMark（标准标志）图标的要求和规则可以通过下面的链接查询：
http://www.saiglobal.com/Assurance/quicklinks/downloadlogos/

Finalisation: Upon successful completion of the type testing and the factory assessment, a licence is granted to affix the StandardsMark on listed certified compliant products. The certification details will become available on the SAI Global Certified Products Database. The StandardsMark program requires ongoing audits.

完成：当成功完成型式试验和工厂检查后，所列出的产品将被允许加贴 StandardsMark（标准标志）的标志。认证内容将被加入到 SAI 国际集团的已获得认可产品数据库中。StandardsMark（标准标志认证）需要持续的审核。

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Submission to ORER: On completion of successful certification, the client submits a RECs application.

提交再生能源办公室：当成功完成认证后，客户就可以想再生能源办公室提交再生能源证的申请了。

For more information, please contact SAI at **product@saiglobal.com**

如需更详细的信息，通过**product@saiglobal.com**联系SAI国际集团，中国用户请联系**enquiries@cqc-sai.com**，华赛天成管理技术有限公司。