

Solar Panels for Government Funded Building Projects



What is the Purpose of this Document?

The purpose of this guide note is to draw attention to the South Australian Government policy requiring solar panels to be installed on government funded building construction projects.

On 15 December 2009, Government announced that '*Solar panels will be mandatory for all new and substantially refurbished government buildings from July 1 next year*'. This policy is consistent with a range of actions the Government is taking to move South Australia towards greater uptake of renewable energy.

Implications for Agencies

The implication for agencies is that:

- all new or substantially refurbished government owned buildings will have a minimum of 5kW capacity solar panel installation; and
- all new or substantially refurbished government owned residential buildings will have a minimum of 1.5kW of solar panel installation.

The requirement commenced from 1 July 2010 and is contributing to meeting South Australia's 33% renewable energy target by 2020.

Policy Requirements

Since the announcement, details of the implementation strategy and clarification of the policy criteria have been provided by the Department of Environment, Water and Natural Resources. Refer Attachment 1: Solar Panels for Government Funded Building Works Policy Framework.

The policy states that 'this policy is to apply to buildings for which construction starts on or after 1st July 2010'.

For technical on-site assistance regarding the installation of Photo Voltaic Solar Panel Systems, refer Attachment 2: Guide for the Installation of Photo Voltaic Solar Panel Systems in Government Funded Building Projects.

New Government Owned and Operated Buildings

For government owned and operated buildings, the policy mandates the installation of solar panels in all new buildings.

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Substantially Refurbished Government Owned and Operated Buildings

The mandated installation of solar panels in '*substantially refurbished government owned and operated buildings*' is subject to interpretation. The policy advises that, 'substantial refurbishments are defined as those that materially impact on the existing building structure and its services but exclude internal refits'.

From interpretation of the above definition, periodic maintenance replacement of individual items of major plant (e.g. air-conditioning, including boilers, chillers, lifts etc.), engineering services and equipment do not constitute refurbishment.

To clarify, the following advice is provided for the guidance of practitioners regarding the term 'substantially refurbished' and what constitutes refurbishment or alteration activity.

Interpretation of Policy for Substantially Refurbished Government Owned Buildings

Substantial refurbishment is refurbishment that materially impacts on the existing building structure and its services including:

- where the proposed refurbishment or alterations (together with any other refurbishments or alterations completed or permitted within the previous 3 years) represent more than half the original building volume; or
- where any part of the alteration is an extension to an existing building, its floor area is the greater of 25% of the floor area of the existing building or 1000m²

but excluding:

- internal refits; and
- individual items of engineering plant and services that are subject to periodic maintenance replacement.

Case for Exemptions

The policy recognises that there is a need to provide for exemptions. It makes specific reference to instances where exemptions may be granted e.g. existing overshadowing, increased risk of vandalism or limited structural integrity possibly experienced in refurbished heritage buildings.

The policy indicates that it will be up to project proponents to identify circumstances that justify an exemption. The responsibility of adjudicating such applications for exemption has been given to the Deputy Chief Executive, Department of Planning, Transport, and Infrastructure (DPTI) to assess on a case-by-case basis.

Small-scale Technology Certificates

Government is eligible to receive Small-scale Technology Certificates (STCs) under the Solar Credits Scheme. STCs are accrued as a result of generating renewable electricity from the solar systems. Any STCs issued for solar systems installed by Government may be retained by the relevant agency. This applies to solar systems installed to comply with the mandatory requirements under the policy, as well as systems installed as a voluntary initiative. It also applies to heat pumps and solar hot water systems.

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The agency may choose to claim and sell the STCs they are eligible for or allow their solar provider to claim the STCs in return for a discounted purchase/installation price. DPTI Asset Management has created a Renewable Energy Certificate Registry Account on behalf of Government. Agencies wishing to claim and sell STCs should contact DPTI regarding access to this account.

Contractor Requirements

Permission to Connect

The contractor/solar panel installer generally makes an application to SA Power Networks on behalf of the building owner for permission to connect the solar panels to the grid. This generally occurs at the time of procuring the solar panel system.

Conversion of Electricity Meter

Receipt of approval regarding permission to connect is sent to the electricity retailer who makes a formal request to SA Power Networks to change the building owner's meter to one capable of recording both electricity imports and exports.

Solar Feed-in Scheme

Small customer sites with a solar system up to 10 kVA (single phase) or 30 kVA (three phase) in capacity may be eligible for a minimum payment from Government's electricity retailer for any excess electricity they export to the grid (known as the R-FiT), irrespective of feed-in tariff category or whether they are otherwise ineligible or excluded from receiving a feed-in tariff. Further information about the R-FiT can be found at: <http://www.sa.gov.au/energy/solarfeedin>.

References and Further Information

- Solar Panels Rollout for Government Buildings News Release
[http://www.renewablessa.sa.gov.au/files/copenhagen-solar-panels-\(2\).pdf](http://www.renewablessa.sa.gov.au/files/copenhagen-solar-panels-(2).pdf)
- Department of Environment, Water and Natural Resources
<http://www.environment.sa.gov.au/Home>
- SA Power Networks
http://www.sapowernetworks.com.au/centric/corporate/contact_us.jsp
- Renewables SA
<http://www.renewablessa.sa.gov.au/investor-information/case-studies/solar-panels-for-government-buildings>

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Solar Panels for Government Funded Building Works Policy Framework

Timing

This policy is to apply to buildings for which construction starts on or after 1 July 2010.

Rationale

The inclusion of solar panels in government funded projects forms part of a long-standing Government of South Australia strategy to promote and support solar panel use in South Australia and make solar panels a more common feature of the urban landscape.

Requirements

It is a requirement of this policy framework that solar panels be installed in all new and substantially refurbished government owned and operated buildings. As a minimum, a 1.5 kW system is to be installed in each residential building and a 5 kW system in all other buildings.

Substantial refurbishments are defined as those that materially impact on the existing building structure and its services but exclude internal building refits. This policy does not apply to Housing SA residential projects, Government business enterprises or statutory authorities.

The minimum capacities referred to above indicate total system capacities and can be delivered in innovative ways by using smaller individual systems integrated into the building fabric as skylights, glazing, window louvers or spandrel panels, if this is more appropriate. As this is a minimum requirement, proponents are free to increase the system capacity if this better matches building proportions or power requirements.

It is a requirement of this policy that the principles of the South Australian Industry Participation Policy be considered with this government procurement.

Approval Process

Deputy Chief Executive, DPTI has responsibility for assessing proposals that are non-compliant with this policy framework. The Deputy CE approval is required for projects to proceed without solar panels.

In seeking Deputy CE approval to proceed without the installation of solar panels, the proponent is required to provide an in depth analysis demonstrating the specific circumstances that negatively impact on the viability of the installation. Examples of typical installations where exemptions from this policy may be granted include existing overshadowing, increased risk of vandalism or limited structural integrity possibly experienced in refurbished heritage buildings.

Guide for the Installation of Photo Voltaic Solar Panel Systems in Government Funded Building Projects

General

- Minimum 5kW as per the Premier's Solar Panels Rollout for Government Buildings News Release dated 15 December 2009.
- Mono-crystalline or poly-crystalline panels to be used as they have a higher conversion percentage. For projects of architectural significance, alternatives are considered e.g. thin film.
- Mounting brackets are to be included in all quotations for 30 degree mounting, except projects of architectural significance.
- Connection is to be back to the local distribution board.
- Site meter is to be upgraded to an import/export meter.

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Relevant Standards and Guidelines

- AS/NZS 3000:2007 Electrical installations (known as the Australian/New Zealand Wiring Rules)
- AS/NZS 3008.1.1:2009 Electrical installations - Selection of cables, Part 1.1: Cables for alternating voltages up to and including 0.6/1 kV - Typical Australian installation conditions
- AS 4777:2005 Grid connection of energy systems via inverters (Parts 1, 2 and 3)
- AS/NZS 5033:2012 Installation and safety requirements for photovoltaic (PV) arrays
- AS/NZS 1170.2:2011 Structural design actions, Part 2 Wind actions
- Any other standard called upon by the above listed or other relevant standards
- Clean Energy Council design and installation guidelines

PV Solar Panel Modules

Photovoltaic modules and inverters must comply with IEC61730 Photovoltaic (PV) module safety qualification and either:

- IEC61215 Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval; or
- IEC61646 Thin-film terrestrial photovoltaic (PV) modules – Design qualification and type approval as detailed in AS/NZS 5033:2012 Installation and safety requirements for photovoltaic (PV) arrays.

Compliant modules and inverters are listed on the [Clean Energy Council](#) website.

Installation of New Systems

System installation must also meet all relevant codes of practice, building codes, local government and legislative requirements.

Upgrade to Existing Systems

For upgrades to existing systems, the entire system must comply with all current safety and installation requirements. For schools with existing PV systems, monitoring of the new system is to be integrated with monitoring of those systems. Please note that this installation guide refers to current requirements. They are subject to change as government policy development in this area is refined.