

Fact Sheet: Emergency solar management

To maintain the stability of the electricity system and support the continued installation of rooftop solar, the WA State Government is introducing emergency solar management – the capability to remotely turn off (and on again) new and upgraded residential rooftop solar systems.

In response to the new WA State Government policy, technical requirements for connecting and operating distributed energy systems that involve a small renewable energy system (like rooftop solar systems) to Western Power's network are changing.

What are the new requirements?

From 14 February 2022, all new and upgraded residential rooftop solar systems with an inverter capacity of 5kVA or less must have the capability to be remotely turned off in an emergency solar event where a:

1. Synergy Distributed Energy Buyback Scheme application is received on or after 14 February 2022; or,
2. Synergy Distributed Energy Buyback Scheme application is received before 14 February 2022 and the rooftop solar system it relates to is installed on or after 14 March 2022.

Where new or an upgrade to an existing rooftop system involves the installation of a battery, it may need to meet the requirements for emergency solar management. Battery installations from 14 February 2022 will also be required to meet *Western Power's Basic Embedded Generation Connection Technical Requirements*.

Rooftop solar systems that have an inverter capacity larger than 5kVA will be subject to new export limits under Western Power's Basic Embedded Generation Connection Technical Requirements. Export limits for these systems will be set to 1.5kW initially unless a solar purchase agreement (off-take agreement) exists between Synergy and the customer.

Why do rooftop solar systems need to be turned off?

Distributed rooftop solar is an important source of low cost and low emission power. To allow WA's electricity grid to support a larger amount of renewable generation, new measures are needed to ensure system security.

Large amounts of rooftop solar generation are making the electricity system more vulnerable and increasing the risk of electricity supply interruptions. As a last resort measure, emergency solar management could assist in managing the current risks to the electricity system and support the continued rate of rooftop solar installations as we transition to a more sustainable energy future.



How will emergency solar management be applied in WA?

- The new requirements **only apply to new or upgraded rooftop solar system on or after 14 February 2022**, or where a Synergy Distributed Energy Buyback (DEBS) application is received prior to 14 February 2022 and the installation or upgrade is not completed prior to 14 March 2022.
- Synergy residential customers with **existing rooftop solar systems will not be affected** unless their system is upgraded on or after 14 February 2022.
- Emergency solar management is proposed **only to be used in emergencies** – which is expected to be infrequently and only for short periods to prevent the loss of electricity supply within the grid during these times.
- **Households will only be impacted as a last resort** – all other options to protect the electricity system, including turning off large scale generators, are proposed to be exhausted first.
- Emergency solar management **does not interrupt electricity supply from the network** – only rooftop solar generation is turned off. Customers will continue to receive electricity from the grid if their rooftop solar system is remotely managed.
- Emergency solar management is intended to **support more renewable generation to be installed overall** – by managing infrequent periods of high risk, customers will be able to continue to install rooftop solar systems.
- As part of the [Energy Transformation Strategy](#), the WA State Government is already undertaking a number of other actions intended to improve the resilience of the electricity system in response to low load and to **reduce the need for emergency solar management as a last resort measure in the future.**



How will rooftop solar systems be remotely managed and turned off?

There are currently two ways to remotely manage and turn off residential rooftop solar systems with an inverter capacity of 5kVA or less. It is the solar installer's responsibility to discuss the requirements of each remote management solution and advise their customers of the most suitable solution for their premises.

API cloud solution

The API cloud solution uses a software integration - an API (Application Programming Interface) - to remotely manage rooftop solar systems. In required circumstances, the API will send an instruction to the inverter to turn off.

The API cloud solution requires:

- ▶ **An API cloud solution-compatible inverter**

The brand and model of inverter will determine if it can be connected via the API cloud solution. To check if an inverter is compatible, you can reference the [Supported Devices List](#).

- ▶ **Consistent internet service**

- It is the solar installer's responsibility to advise the customer that this solution involves remote control of their inverter when required via their internet connection.
- It is the customer's responsibility to maintain a consistent internet service. Note that if the customer's internet connection changes (for example, they update their Wi-Fi password) the inverter may need to be reconnected to the internet.

- ▶ **The inverter to be commissioned on to the inverter manufacturer's portal**

Guidelines on how to do this are generally available via the website of the inverter OEM (Original Equipment Manufacturer).



Manage customer inverter using household internet through a cloud API

Metering solution

Meter control should only be selected where API cloud control is not suitable or available. A meter control method uses Advanced Metering Infrastructure, commonly known as AMI, to remotely manage the inverter. A request to turn off the inverter is sent through Western Power's secure communications network and the meter manages the circuit to which the inverter is connected.

In selecting meter control method wiring and components will need to be provided in addition to installation requirements for the solar system. These detailed requirements are set out in Western Power's Basic EG Connection Technical Requirements, with installation arrangements for various meter control method scenarios outlined in Western Power's Distribution Customer Connection requirements.

It is recommended that a site inspection is performed by a licensed electrical contractor, before the meter control method is selected, to ensure additional costs are avoided.

There are instances where meter control will not be suitable or feasible:

- Unfeasible or older style switchboards.
- The switchboards in apartment and unit blocks might present implementation issues if additional space is required to fit new wiring and components in a switchboard shared with other consumers.
- Remote switchboards.



Remotely turn off the customer inverter via an AMI meter

If neither solution is applicable

Export limiting will be an option available for residential customers who cannot meet the API cloud or metering solution requirements but still wish to install a rooftop solar system. Please note that residential customers who choose this option are not eligible for DEBS and would not be affected by an emergency solar management event. The export limit will be 1.5kW under [Western Power's Basic Embedded Generation Connection Technical Requirements](#).

Establishing the right solution for your customers

The brand and model of inverter will determine whether it can be connected via the API cloud solution (which also requires a household internet connection). The metering solution also has specific requirements.

It is the solar installer's responsibility to discuss the requirements of each remote management solution and advise their customers of the most suitable solution for their premises. A pre-application checklist to support the assessment of the most suitable remote management solution will be available on the Synergy website in early February 2022.

Key benefits of the API cloud solution are that it:

1. Utilises the existing capabilities of many inverters, thereby reducing or eliminating the need for any additional hardware or cost to the end customer; and
2. Provides a pathway for homes with distributed energy resources, like rooftop solar systems to potentially participate in virtual power plants and / or flexible export opportunities in the future.



What are my obligations as a solar installer in respect of emergency solar management?

As a solar installer, you will play an important role in the adoption of new technology. You must ensure new and upgraded systems meet the Western Power Basic Embedded Generation (EG) Connection Technical Requirements. Please refer to the [Western Power Technical Guidance for Solar Installers](#).

Solar installers will continue to be responsible and the first point of contact for customers for any technical issues regarding their rooftop solar systems and any warranty claims regarding their rooftop solar systems and inverters under the Australian Consumer Law.



Before supply and installation

- Solar installers, supported by OEMs (Original Equipment Manufacturers), need to ensure solutions presented to the customer are compatible with the new emergency solar management requirements and able to be remotely turned off under the measures implemented by the WA State Government.
- It is the solar installer's responsibility to discuss the requirements of each remote management solution and advise their customers on the most suitable remote management solution. A pre-application checklist to support the assessment of the most suitable remote management solution will be available on the Synergy website in early February.
- Please note there may be additional procedural and technical requirements mandated by Western Power or the WA State Government as a condition of connection approval.



During Synergy Distributed Energy Buyback Scheme (DEBS) application

(when applying on behalf of your customer)

- The existing online application process will continue to be used.
- As part of the DEBS application process, you will need to:
 - Nominate your preferred emergency solar management solution (i.e. API cloud solution or Western Power metering solution). DEBS applications will not be accepted without an emergency solar management nomination. If the remote management solution changes, you must submit a new application. If you are uncertain, we recommend you delay completing the DEBS application.
 - Acknowledge that you understand that failure to comply with emergency solar management requirements may impact the customer's ability to connect and operate their solar system.
 - Acknowledge that you understand that export limiting will apply if the system has an inverter capacity greater than 5kVA.
 - Confirm that you have the authority to complete the application on the customer's behalf.
- The system installed must be capable of remote management by the solution specified in the DEBS application. If the remote management solution specified is incorrect, a new application will be required.
- If the inverter capacity of the new/upgraded system is greater than 5kVA,
 - the customer will not be eligible for DEBS.
 - the system will be subject to an export limit of 1.5kW unless a solar purchase (off-take) agreement exists between the customer and Synergy.
- Export limiting will be an option available for residential customers with a new/upgraded system under 5kVA who can't meet the API cloud or metering solution requirements but still wishes to install a rooftop solar system. Please note that residential customers who choose this option are **not eligible for DEBS** and the system will be subject to an export limit of 1.5kW. They would not be affected by an emergency solar management event.



At installation

- The system installed must be capable of remote management by the solution specified in the DEBS application. If the remote management solution specified is incorrect, a new application will be required.
- In line with current standards, installers will need to continue to ensure the system is installed correctly.
- Where the API cloud solution is used to meet the emergency solar management requirements, solar installers are required to ensure the customer's inverter is commissioned on to the inverter manufacturer's web portal.



After installation

- Details of the system installed will need to be provided to Western Power through the embedded generation application close-out form.
- For residential rooftop solar systems using the API cloud solution, Synergy will periodically test that the onsite hardware can be remotely controlled. This is to ensure that appropriate actions can be taken in an emergency solar management event.
In other words, Synergy will check that the customer's inverter is:
 - connected to the internet; and
 - commissioned on to the inverter manufacturer's portal.
- Solar installers will continue to be responsible and the first point of contact for customers for any warranty claims regarding their rooftop solar systems and inverters under the Australian Consumer Law.

Synergy is committed to working together with the solar industry, particularly installers, to better understand what the new emergency solar management requirements will mean for installers and how we can help support a successful transition.

