

REMOTE AREA ENERGY SUPPLY (RAES) CONNECTING CUSTOMER OWNED SOLAR PV SYSTEMS

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Under the Remote Area Energy Supply (RAES) scheme the South Australian Government is committed to providing safe, reliable, sustainable and cost effective power supply to consumers in towns and communities included in the scheme.

In order to maintain the cost effectiveness of the RAES scheme for residential and commercial customers, a significant subsidy is provided to enable RAES tariffs to be aligned with the average on-grid National Electricity Market equivalent tariff in South Australia. The considerable gap between the cost of supply and average tariffs is borne by the South Australian Government, with only State and Federal government customers paying the full cost of electricity supply under the RAES scheme.

In light of this significant subsidy to residential and business customers, since November 2018 a Demand Based Standby Connection tariff has applied to customers that install RAES approved private solar photovoltaic systems and remain connected to the RAES grid, reflecting that there is a holding cost associated with maintaining peak generation. Full details of the RAES tariffs can be obtained at www.energymining.sa.gov.au/raes

Connecting distributed solar PV systems to RAES micro-grids could potentially lead to both technical and financial risks for the RAES scheme including:

- Large swings in solar photovoltaic (PV) generation associated with changes in cloud cover can result in generator surges, leading to generator damage or failure. This could leave locations without RAES generated power supply for extended periods.
- Allowing distributed solar PV systems to feed into the RAES micro-grids can lead to increased voltages across the grid, which would pose a risk to distribution equipment and could lead to distribution system outages or shutdown.

Due to these risks, the South Australian Government does not allow the connection of customer solar PV systems in RAES micro-grid locations without prior written approval from the Department for Energy and Mining.

In addition, a number of limitations are placed on RAES connected customer solar PV installations to protect the technical integrity of the RAES system:

- customer generated electricity cannot be permitted to feed back in to the RAES grids, and as such no feed in tariffs or offsets will be available to customers.

- consistent with the SA Power Networks Technical Standard (TS129), a **maximum total system** capacity of
 - 10kW for single phase connections
 - 5 kW is allowed on a single phase SWER line
 - 10 kW per phase on standard three phase distribution lines, 30kW total.
- There is no allowance for system capacities above this regardless of switching arrangements of additional systems behind the meter
- It is a requirement on the smaller RAES grids, and a recommendation across all RAES sites, that grid connected customer PV systems incorporate a battery that enables a system ramp-down period of 720 seconds and a system ramp-up period of 360 seconds.

RAES customers may submit a proposal regarding solar PV connection, however connection will not be considered unless the customer can demonstrate that the proposal will not impact on the stability of the existing grid or the security of electricity supply to all customers.

As a minimum, customer proposals should include:

- RAES customer number (located on your bill)
- Address of installation
- Make, model, capacity (kW) and detailed technical specifications of the proposed panels
- Make, model, capacity (kW) and detailed technical specifications of the proposed inverter
- Make, model, capacity (kW) and detailed technical specifications of the proposed battery
- Name, business address and qualifications of installer

RAES Solar PV enquiries should be directed to dem.raes@sa.gov.au in the first instance.

RAES customers may choose to completely disconnect from the RAES grid and install a stand-alone energy system to supply their home or business.

Customers wishing to disconnect from the RAES grid can obtain the necessary form at www.energymining.sa.gov.au/raes or www.cowellelectric.com.au