



## FACT SHEET

# Solar energy generation



*Western Australians are installing rooftop solar panels at record rates, leading the uptake of greater levels of renewable energy on our grid.*

### What is solar energy?

Solar panels harness energy from the sun and convert it into electricity. Most solar generation uses photovoltaic (PV) technology, where cells in the panels convert sunlight directly into electricity.

Solar systems generally consist of the panels, which feed electricity to an inverter in the form of direct current (DC) electricity. The inverter then converts this to alternating current (AC) electricity so it can be used by our devices and supply power to the grid.

Solar energy generation can be provided by large scale solar farms as well as by homes and businesses with rooftop solar systems.

### Benefits of solar energy

Solar energy provides a low-emissions alternative to traditional coal and gas-powered generation. Like other types of renewable generation, solar does not require the burning of fuel.

Household solar can lower electricity bills for many customers and reduce reliance on energy from traditional generation sources.

### Solar energy in Western Australia

Western Australia has abundant solar resources, with the sun shining almost all year round.

Over one in three households in Western Australia have solar panels installed, and rooftop solar generation is already providing up to 64% of our electricity needs in the middle of the day. This volume of distributed solar replaces the need for solar farms seen in other energy systems.

### Managing solar risks to our grid

Growing levels of solar generation is presenting risks to the operation of our power system.

More rooftop solar generation, and the use of that energy during the middle of the day, is leading to low demand from the grid. During periods of extremely low demand, the stability of our power system is put at risk.

Also, cloud bands can result in very large, sudden fluctuations in generation and demand, challenging the management of the grid.

To achieve greater levels of clean renewable energy, while managing these risks, we need a mix of investment and technology.

The State Government is supporting investment in other technologies, such as wind and storage, to diversify the sources of renewable energy that will benefit all customers.

