

SOLAR ENERGY FACILITIES Fact Sheet

Large-scale Solar Energy Facilities in Victoria



Victorian Renewable Energy Target

The Victorian Renewable Energy Target (VRET) will see 25 per cent of the State's electricity generation supplied from renewable sources by the year 2020, increasing to 50 per cent by 2030.

These targets will encourage investment in new energy projects, create jobs, lower electricity prices and secure Victoria's electricity supply.

Increasing renewable energy capacity will also reduce greenhouse gas emissions. Victoria aims to achieve 15 to 20 per cent reduction in emissions by 2020 (from 2005 levels) and net zero emissions by 2050.

Why large-scale solar energy generation?

Large-scale solar energy facilities deliver a clean source of energy generation and contribute to the reduction of greenhouse gas emissions.

Victoria's sunlight is ideal for producing energy. Even the least sunny parts of the state have levels of solar energy equal to or better than areas in Europe, such as Germany, where solar energy facilities operate.

The technology

Solar energy facilities in Victoria all use photovoltaic (PV) technology. These are panels of PV cells that convert sunlight directly into electricity, the same technology used in residential roof top systems.

The panels are set in formation or arrays and attached to fixed tilt mounts so they can follow the sun's movement. The arrays are connected to one or more power inverters which modify the direct current (DC) electricity generated by the panels into alternating current (AC) used in the electricity grid.

Other technologies include concentrating solar power (CSP) that uses heat from the sun to drive utility-scale, electric turbines. Solar farms can have a lifespan of up to 30 years.

Where are they situated?

Large-scale solar farms require access to electricity transmission or distribution networks and large expanses of flat and flood free land. They can be co-located with agriculture when panels are raised to allow sheep grazing and some types of horticulture.

The Solar Energy Facilities guideline are currently in draft form, this fact sheet will be updated to reflect the final guidelines in due course.

Environmental Impact

Noise emissions from a typical single-axis PV farm are very low. Minimal noise may come from the inverters or the rotating panels during sunlight hours. The panels are designed to absorb light, not reflect it. Potential glint and glare from panels is about the same or less than the light reflected from a body of water. A glint and glare assessment is a standard approach to managing any site based issues. Vegetated screening is appropriate where homes are next to solar energy facilities. Each solar facility has on-site fire management systems in case of fire, and an industry emergency management plan for potential hazards including approaching bushfires. Planning authorities will normally seek advice from fire authorities over reduced buffer distances for panel arrays and other electrical infrastructure.



How are solar projects assessed?

Decisions about large-scale solar developments are made by Local Government. Each project is assessed on its merits according to the Victorian Planning Provisions and other relevant planning requirements. A Cultural Heritage Management Plan (CHMP) is required when high impact activities are planned in an area of cultural heritage sensitivity, as defined by the *Aboriginal Heritage Regulations 2007*. In some circumstances a solar energy facility may trigger the need for an environmental impact assessment under the *Environment Effects Act 1978*.

The Department of Land, Water, Environment and Planning has prepared draft guidelines to support decision making about large-scale solar developments that are currently open for public comment.

What role can communities play?

Best practice community engagement from the renewable energy industry is outlined in the Victorian Government guide: ***Community Engagement and Benefit Sharing in Renewable Energy Development: A Guide for Renewable Energy Developers***.

Community input is a fundamental part of the Victorian Planning System. Project developers are encouraged to talk to Local Government and the community from the earliest stages of the planning process. Communities can also play an active role in determining how the benefits from a renewable energy development are distributed locally.

Case study: Bannerton solar farm

Situated 100 kilometres south-west of Mildura, the Bannerton Solar Farm has 320,000 solar panels that generate 110MW or enough energy to power 30,000 homes. Built on part of an almond farm, the solar farm covers 192ha of land unsuitable for planting trees. The construction phase created around 180 jobs and community benefits are continuing through a grants program for local community projects. The Bannerton solar farm is part of the Victorian Government Solar Trams initiative and will supply clean power to Melbourne's tram network.

For further information:

- <https://www.energy.vic.gov.au/renewable-energy/victorias-renewable-energy-targets>
- <https://www.energy.vic.gov.au/renewable-energy/solar-energy>
- https://www.energy.vic.gov.au/data/assets/pdf_file/0027/91377/Community-Engagement-and-Benefit-Sharing-in-Renewable-Energy-Development.pdf
- <https://www.cleanenergycouncil.org.au/cec.html>

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