

## Clouds clear for solar power

**For a country with so much sunlight, some might think Australia has been slow to adapt its electricity generation mix to include solar power. One of the main reasons for this is solar intermittency.**



Credit: Nick Pitsas/scienceimage

We can't control when the sun shines or when a cloud passes by. This effect – solar intermittency – adds an additional level of complexity for the electricity market and network in the already delicate balancing act involved in managing the electricity grid.

However, CSIRO and partners now better understand what it will take to manage solar intermittency so it is no longer a barrier to the uptake of large scale solar energy.

In a year-long, world-first study funded by the Australian Solar Institute, CSIRO, together with the Australian Energy Market Operator and the Energy Networks Association, has investigated the concerns around solar intermittency and its impact on electricity systems.

During the project it was found that in some cases local utilities do limit solar power generation because they fear that adding solar power to the grid will make it harder to manage their electricity system.

The report, '[Solar intermittency: Australia's clean energy challenge](#)', is now available and demonstrates that there are no insurmountable barriers to increasing the use of large scale solar energy in the national grid.

The key findings include:

1. We can 'fix' intermittency. With knowledge and tools, such as solar forecasting and energy management, CSIRO can provide the information required to manage solar intermittency.

2. We need a customised approach. There is no global consensus on managing solar intermittency. It is not uniform and different sites, regions and countries require individual solutions. Local research and demonstration pilots are required. Australia has a unique electricity network and we need unique solutions.
3. We need a highly flexible electricity grid. If large amounts of solar energy are to be used as a power source in the future, the electricity grid has to be designed or adapted for renewable energy sources, while keeping network costs low.

From this study, CSIRO now has the foundation research required to help Australia's electricity and solar industries cost effectively manage solar intermittency.

Source: CSIRO

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