

Effective integration of distributed energy resources (DER) and flexible demand

The Energy Security Board's (ESB) work on distributed energy resources (DER) and flexible demand will have significant implications for the future of the NEM.

Among other benefits, this work will ensure consumers can make the most from Australia's world-leading rooftop solar uptake, with more than one in four households having rooftop solar installed.

The DER Implementation Plan is key to the ESB's work in this space and outlines a path forward for reforms that will support the grid and deliver better outcomes for customers.

What are the emergency backstop measures?

- Australia's rooftop solar uptake is the highest in the world and one in four homes have installed solar.
- While this is great news for many consumers, it can create challenges for operating the grid due to surging rooftop solar output during the middle of the day.
- A certain level of minimum system demand is needed to securely operate the grid and mitigate against the risk of blackouts.
- In South Australia, emergency backstop measures are already in place to temporarily switch off rooftop solar generation. These measures are a last resort.
- This reform will ensure all states and territories in the NEM adopt some form of backstop measure of their choice. The most appropriate backstops may differ by region, depending on the existing infrastructure and technology, and the size and likelihood of the risks.
- This is intended to be a temporary solution that prevents system security issues in the near term.

What is the Distributed Energy Resource (DER) Implementation Plan?

- Australians have embraced distributed small-scale energy resources, such as rooftop solar and home batteries, and one in four homes now have solar.
- These resources have drastically changed the dynamic of how the market works, from a few large generators sending power to households in the 1990s, to now, where households are generating their own power and exporting the surplus back to the grid.
- The DER Implementation Plan outlines a three year roadmap to effectively integrate DER and set out the roles of different market participants and market bodies. The intention is that:
 - Consumers are rewarded for their flexible demand and generation, have options for how they want to engage with the energy market, and are protected by a fit-for-purpose consumer protections framework.
 - The energy market supports innovation, the integration of new business models and has a more efficient supply and demand balance.
 - Networks are able to accommodate the continued uptake of DER and two-way flows and are able to manage the security of the network in a cost-effective way.
 - The system operator has the visibility and tools it needs to continue to operate a safe, secure and reliable system.

