

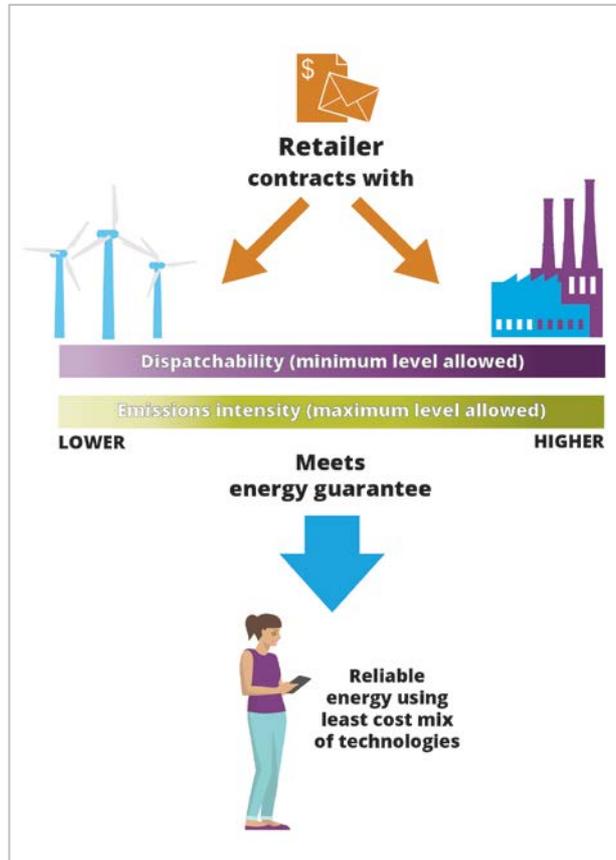


NATIONAL ENERGY GUARANTEE

Questions and answers

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1. What is the national energy guarantee?

The national energy guarantee (NEG) is a way to retain existing resources and encourage new investment in the power system to meet specified emissions standards and to operate reliably. To deliver this transition, the NEG requires retailers to contract with or invest in a portfolio of supply, demand and storage resources to meet the requisite reliability needs of the system whilst meeting their emission level obligations.

By utilising the contractual arrangements between retailers and generators, the NEG builds on existing financing and risk management tools in the electricity sector. The contracts that underpin the guarantee provide generators and demand response providers with a steady stream of income to support their future operations and investments, and encourage them to be available to the system when needed.

Importantly, for investor certainty, the guarantee integrates energy and emissions policy. Both energy and emissions targets are reflected in a single energy price. That energy price will signal how much electricity the market needs and when it is needed, while also reflecting the cost of meeting Australia's emissions reduction targets.

2. How would it work?

Reliability guarantee

In consultation with market participants, AEMO will identify the operating requirements necessary to maintain a reliable system. The Reliability Panel at the AEMC will consider these requirements and other matters and set a standard. AEMO will then determine the regional requirements to ensure the standard is met.

AEMO will also forecast whether a particular region has sufficient capability to meet the requisite requirements and identify where there appears to be existing or developing reliability needs in a region and when those needs may develop. These forecasts will be done on a rolling basis to give market participants an opportunity to respond with new investment as necessary.

Emissions guarantee

The Commonwealth government will set the required emissions target at a level consistent with Australia's international emissions reduction commitments. It will be a system-wide target for the electricity sector, and translated into an average level to be met by retailers in the national electricity market (NEM) over a particular period such as 12 months.

3. How is the guarantee any different to what happens now?

As outlined in AEMO's recent advice, there is an increasing concern that the market is not currently providing the incentives needed to drive investment in new flexible, dispatchable resources or maintain existing dispatchable resources. This will become a bigger issue in the future if there is no clear and nationally agreed standard to guide investment decisions.

Investors in new energy resources would choose a combination of the least expensive resource and least risky resource to meet consumer power needs. As the costs of variable wind and solar resources continue to fall, investors will naturally choose these resources over more expensive alternatives.

However, while wind and solar resources can provide a cheap source of energy when they are available, they are by their very nature variable because they are dependent on the weather and time of day. Consequently, they must be complemented by resources that can be turned off or on in a particular time period and for a particular duration to make certain that supply and demand on the system always match.

Currently, most of the new investment in generation is being guided by the renewable energy target (RET) and financed by certificates received through that scheme. The energy guarantee replaces the RET with a mechanism that values resources on their ability to meet both the desired emission levels and the required system reliability.

The national energy guarantee uses contracts - a tool already used by retailers and generators - so it does not require a fundamental change to how participants transact for resources in the NEM.

4. When would it start?

Following detailed design work:

- the reliability guarantee would start in 2019
- the emissions guarantee would start in 2020, replacing the RET.

5. What is the process going forward?

As a next step, the Commonwealth government has asked the Energy Security Board (ESB) to provide a report to the COAG Energy Council on the guarantee, including modelling on the power mix and price outcomes that are expected under the guarantee.

This will be provided to the COAG Energy Council for its meeting in November 2017. Terms of Reference have been published on the COAG Energy Council website. The ESB is working with key stakeholders to test modelling assumptions and scenarios.

The COAG Energy Council will discuss the national energy guarantee at its November meeting and decide whether to proceed to the detailed design phase. Broad consultation with state governments, industry, consumers and other stakeholders would occur during the detailed design phase.

6. Is it a clean energy target / subsidy / emissions trading scheme / carbon tax?

It is not a carbon tax. No revenue is collected. The guarantee is designed so that both reliability and emissions are reflected in a single energy price. This makes sense to investors. The result will be investment in a combination of generation technologies, storage and demand response when and where it is needed to meet consumer demand and keep the lights on, while reducing emissions.

It is not a subsidy. The guarantee encourages investment in a least cost portfolio of energy technologies (including demand response) that is both dispatchable and low-emitting. By being technology neutral, it allows the market to pick the most appropriate mix to meet the reliability and emissions outcomes.

It is not a trading scheme. There is no trading of permits or certificates. Power retailers already buy electricity from each other to meet certain requirements, and the guarantee utilises existing arrangements - it is not a separate trading scheme.

It is not a generator reliability obligation which would place the reliability requirement only on new generators. The guarantee will place a reliability requirement on all retailers to have enough dispatchable capacity to be available in all regions, thereby meeting the same objective of the generator reliability obligation but in a fairer and lower cost way.

The guarantee is consistent with the policy design principles for a well-integrated emissions reduction policy. It is:

- technology neutral to allow for the greatest number of technology options in the market, to increase competition between generation sources, and minimise costs
- flexible enough to adapt to whatever supply and demand conditions the future might bring
- designed to be sustainable so investors in all kinds of generation are confident that policy objectives can be met.

7. Will electricity bills go up or down, and by how much?

The ESB's initial advice estimated that a policy approach like the guarantee could lead to a reduction in residential bills in the order of \$100-115 per annum over the 2020-2030 period based on wholesale prices declining by around 20-25% per annum over the same period.

This was initial advice, and was provided to governments to give an idea of the potential savings that could be achieved under the guarantee and inform early policy discussions. The estimates are based on work over the last two years on various different mechanisms and scenarios, including the AEMC's advice on the Integration of energy and emissions reduction policy (December 2016) and the AEMC/Climate Change Authority joint advice (June 2017).

The ESB has now been asked to model the power mix and price outcomes that are expected under the guarantee. This modelling will inform discussions at the COAG Energy Council meeting in November 2017.

Modelling is useful to gain a better understanding of how a mechanism works, how it might respond under different scenarios, the relationships between different inputs and the directional changes of things like price and the amount of renewables. The qualitative understanding gained through modelling exercises to establish whether a mechanism is likely to achieve the desired outcomes is more important than the quantitative outcomes, which will ultimately reflect the assumptions of the model.

The ESB's advice that prices are expected to go down under the guarantee is based on these three factors:

- A national policy, implemented through national energy laws and rules will provide investment confidence. More investment means more supply putting downward pressure on prices.
- The guarantee uses existing market mechanisms and allows the market to utilise all options to pick the most efficient mix of technologies delivering the required outcomes at lowest cost.
- Contracting will increase competition at retail and generation level and should also lead to lower, less volatile prices.

The guarantee is also designed to adapt to changes in the market. For example, if advances in technology make renewables cheaper, then retailers won't need to pay as much to meet their emissions guarantee and can pass on these savings to consumers. Or if peak energy demand is lower than forecast, retailers won't need to buy as much dispatchable energy.

8. How much renewable energy will there be under the energy guarantee?

The ESB's initial advice estimated that the guarantee could lead to renewable energy generation in the order of 28-36% renewables (including hydro and solar PV).

This is not a target, nor a limit on the amount of renewables that could result over time. The ultimate mix of variable and dispatchable generation will be determined by the market, which will be incentivised to deliver the lowest cost combination of technologies to meet the emissions levels required while maintaining reliability.

The guarantee is technology neutral. A range of technologies, not just renewables, can be used to meet the emissions levels set by the government including demand response, batteries and gas generation. And renewable technologies that are 'on demand' such as hydro, solar or wind with batteries, and in the future solar-thermal, will also contribute to meeting the reliability guarantee. It is expected that the largest increase in the generation mix will be in energy that is both dispatchable and low emissions, such as solar thermal technologies, hydro and batteries charged by renewables.

Ahead of the COAG Energy Council meeting in November 2017, the ESB has been asked to model the power mix and price outcomes that are expected under the guarantee, consistent with the Commonwealth government's Paris commitment for emissions reductions of 26-28% below 2005 levels by 2030.

9. Will customers end up paying for unnecessary investment under the national energy guarantee?

A reliable supply of electricity is important to everyone: electricity interruptions can be costly, but it can also be disproportionately expensive to try to avoid them completely and no system can ever be 100% reliable. The reliability guarantee will be set in a way to balance the need for there to be sufficient generation or demand response available while keeping costs reasonable for electricity customers. And if there is no reliability issue in a particular state then the reliability obligation won't be imposed. This is not about paying for generation capacity that isn't required.

The AEMC's Reliability Panel will be involved in setting the reliability levels under the guarantee, reflecting the trade-off between cost and reliability, as they do when setting the Reliability Standard. The Panel reviews the standard every four years.

10. Can the reliability guarantee be implemented without the emissions guarantee (or vice versa)?

To achieve the reliability outcomes and emissions targets, both elements need to be implemented. By combining the two elements of the guarantee, the reliability and emissions targets are reflected in a single energy price that guides investment in the lowest cost resources. It's important that the two obligations are linked so that if the sun isn't shining or the wind isn't blowing, there is a requirement to make sure that power is nevertheless available.