



The Standing Committee on the Environment and Energy  
Australian Parliament House  
Canberra  
ACT 2600

Submitted by email to [moderngrid@aph.gov.au](mailto:moderngrid@aph.gov.au)

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### **Inquiry into modernising Australia's electricity grid**

The Australian Energy Council (the Energy Council) welcomes the opportunity to make a submission to the House of Representatives Standing Committee on the Environment and Energy (the Committee) on its inquiry into modernising Australia's electricity grid (the Inquiry).

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

#### **What is modernisation?**

Modernisation is not a relevant goal in and of itself. Some of Australia's oldest electricity generation plant is hydro plant dating back to the 1950s or earlier, which as zero emission flexible plant, remains a valuable part of our electricity grid. Regardless, a transition is occurring, driven by technology, consumer choice and policy settings.

As the committee notes in its discussion paper, what is relevant is security, reliability, sustainability and affordability. Recent threats to each of these goals have been driven by *how* we have set the rules for the electricity system, rather than because the transition is happening too fast or too slow per se.

#### **The price of uncertainty**

It is almost always the case that the cheapest infrastructure is the one that already exists. Accordingly, new investment in infrastructure to help us maintain security and reliability as we decarbonise will be higher cost. The electricity industry is the most capital-intensive industry in the world, and this intensity only increases as we switch out fossil fuel plant for renewable plant. So the risk profile of the sector is a critical element in the overall cost of the system – arguably the biggest cost. With the right policy and governance settings, the cost of the transition should be manageable. Conversely, policy uncertainty can cause higher cost through increased risk premiums in this capital-intensive infrastructure. As we noted in our submission to the Independent Review into the Future Security of the National Electricity Market, a high level estimate of the cost of this uncertainty is that it is already equivalent to a carbon price of \$50<sup>1</sup>.

By far the biggest contribution the committee can make to the transition, then, is to promote a bipartisan approach to national emissions reduction policy so that the energy supply industry can see some stability and begin to invest with confidence again.

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<sup>1</sup> <https://www.energycouncil.com.au/media/7356/17-03-03-aec-finkel-submission.pdf>

## **The drivers of the transition**

### *Technology*

Technology costs are changing rapidly, in particular for a number of distributed energy resources. The fall in solar PV costs has already seen world-leading rates of take-up in Australia. Battery technologies – of which there are several - are declining in cost (which in turn improves the viability of electric vehicles) and progress is being made on other forms of storage, including compressed air and hydrogen. Electronic sensor and communication technologies are also getting cheaper, improving the economic case for numerous applications on the grid that will empower consumers and assist grid operators by improving the flow and analysis of real-time information on grid operation and performance and customer usage.

These and any other technologies should be allowed to enter the market and take-up be governed by their underlying economics, what value they can offer to the grid and by customer choices. It is neither necessary nor desirable for government to decide that certain technologies are “better” than others and need to be forced in by regulation or distorting subsidies. There are legitimate debates to be had as to whether the existing policy and regulatory frameworks genuinely represent a level playing field and these will be ongoing, but there are few if any serious barriers to entry for new technology.

Distributed energy resources (DER) can add value to the grid in many ways. They can better match demand to supply in the wholesale market - which will be increasingly value as more variable generation (wind, solar) comes online; they can help network owners avoid or defer infrastructure upgrades and they can provide grid stability services. The use of DER can be co-optimised across these different uses. The value will be best harnessed by making these resources controllable (unlike the majority of rooftop PV) so they can dynamically respond to the needs of the grid. While it is unlikely that the customers who own the DER, especially small customers, will seek to directly manage this co-optimisation, the locus of control sits with the customer – i.e. other parties who see value in controlling the DER will have to buy that control from the customer.

### *Customer choice*

The increasing financial viability of distributed resources – those that can be owned and operated by customers themselves, such as rooftop PV and household-scale batteries is increasing customers' engagement with their energy supply. The level of engagement should not be overstated – most customers prefer a simple bill proposition and for their retailer to do the hard work of managing the risk of fluctuating wholesale prices. Technology will be most attractive when it is offered on a “set-and-forget” basis that does not require constant attention from customers.

Finding the best way to attract customers to choose how they obtain their energy services in a way that adds value to the system will be an iterative process. This means it will happen most effectively in a competitive environment, where retailers and other parties develop and market different service offerings (these could be tariffs for grid electricity, distributed resources or a package of the two), keeping those that work and discarding those that don't. Customer protections are important, but should be no more onerous than necessary, as over-regulation constrains innovation.

Digital meters with communications capability (often called “smart meters”) are key to empowering consumers to make effective choices. They also enable cost-reflective network tariffs and settlement of energy costs on actual load profiles. Both of these are important in creating the incentives for retailers and others to offer innovative products and services that add value to the grid. Victoria already has meters installed, but the mandatory nature of the rollout, together with lack of follow-through from government to fully promote and enable their benefits, alienated customers. Accordingly, the market-led rollout in other jurisdictions will be a more effective way to spread digital meters throughout the NEM.

### *Policy settings*

Policy settings can drive efficient or inefficient outcomes. The former can be achieved through:

- the use of competition where practicable to deliver and value energy services;
- utilising price signals to encourage efficient investment and operational decisions
- proportionate regulation where necessary
- establishing appropriate technology standards, where possible based on international standards
- the integration of energy and emissions reduction policy;
- stable, nationally consistent, technology-neutral and outcomes-based policy.

In this regard there is plenty of room for improvement. For example renewables subsidy schemes are less efficient than policies that specifically target emissions reduction (and will still support renewables deployment). These schemes have also to date been poorly integrated with energy policy, resulting in system security issues as most acutely experienced in South Australia. Equity concerns that arise are most effectively dealt with as welfare issues. Noting this, the industry is always willing to work with government on the best ways to assist the most vulnerable customers.

### **Detailed policy issues and other policy processes**

There is a wide range of reviews, inquiries, rule change processes and regulatory determinations in train. The Energy Council has identified 25 extant reviews. Many of these cover similar ground to the Committee's Inquiry and we have made detailed submissions to many of them. Links to our submissions are listed below should the Committee wish to delve into further detail:

#### *Independent Review into the Future Security of the National Electricity Market*

<https://www.energycouncil.com.au/media/7356/17-03-03-aec-finkel-submission.pdf>

#### *System security*

AEMC system security review

<https://www.energycouncil.com.au/media/7794/17-04-20-aec-system-security-market-frameworks-final.pdf>

Other rule changes and reviews

<https://www.energycouncil.com.au/media/7394/17-03-10-aec-submission-aemo-mass-issues-paper.pdf>

<https://www.energycouncil.com.au/media/7147/17-02-16-aec-submission-to-emergency-frequency-control-schemes-draft-determination.pdf>

<https://www.energycouncil.com.au/media/6951/17-02-01-aec-submission-escosa-licence-inquiry-issues-paper.pdf>

*Market design*

<http://www.aemc.gov.au/getattachment/0fbbc0b3-bffe-431b-9dfa-effdc106dbb7/Australian-Energy-Council.aspx>

*Network regulatory issues*

Our rule change on contestability of energy services

<http://www.aemc.gov.au/getattachment/505baeff-61b7-4ac9-abb6-d9a389b844d1/Rule-change-request.aspx>

<https://www.energycouncil.com.au/media/7148/17-02-14-final-contestability-of-energy-services-response-to-aemc.pdf>

Distribution market model

<https://www.energycouncil.com.au/media/6865/17-01-19-aec-submission-distribution-market-model-approach-paper.pdf>

Regulatory investment tests

<https://www.energycouncil.com.au/media/7293/17-02-27-aec-submission-electranet-rit-t-pscr.pdf>

<https://www.energycouncil.com.au/media/6556/16-11-24-aec-aemc-national-electricity-amendment.pdf>

All of these submissions are in the public domain so we would of course be happy for the Committee to table any of them.

The sheer number of these processes and their often overlapping coverage point to an ongoing challenge in governments delivering co-ordinated and clear governance arrangements for the sector.

Any questions about our submission should be addressed to \_\_\_\_\_ by email to \_\_\_\_\_  
by telephone on \_\_\_\_\_.

Yours sincerely,

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