



Coastwatchers

Eurobodalla's environment group

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Experts Review the Findings of the 'Independent Review into the Future Security of the National Electricity Market'

(The Finkel Report)

The final report entitled "Independent Review into the Future Stability of the National Electricity Market", was handed to the Commonwealth Government in the last week. The Review known as the Finkel Report was prepared by the Review Panel of 5 experts and chaired by the Chief Scientist Professor Alan Finkel.



The following reviews of the Report were presented in *the Conversation* on 9 July 2017.

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Review 1.

"Security and reliability are first"

Hugh Saddler, Honorary Associate Professor, Australian National University

With so much focus on the design of a mechanism to support a shift towards lower-emissions generation, it is easy to forget that the primary purpose of the Review, commissioned following the "system black" event in South Australia on September 28, 2016, was "to develop a national reform blueprint to maintain energy security and reliability". It is thus appropriate that security and reliability are the first topics to be addressed in the main body of the report.

System security is defined as the ability of the system to tolerate disturbances. Maintaining security requires the system to be able to prevent very high rates of change of frequency. At present the system has no explicit mechanism for doing this, but relies implicitly on the inertia provided, effectively as a free service, by existing large thermal generators.

The report recommends a series of regulatory energy security obligations to provide this service by various additional means, falling on the transmission network service providers in each of the five NEM regions (states), and also on all new generators connecting to the system.

System reliability is defined as the ability of the system to meet consumer demand at all times. In the old system, this is achieved by “dispatchable” generators, meaning coal and gas generators that can vary their output as required to meet demand.

In the new system, with large amounts of variable wind and solar generation, other supply sources are needed to meet demand at times of low wind speed and/or lack of sun – that is, to act as complements to wind and solar. Existing hydro and open-cycle gas turbine generators are ideally suited to this task, but with the growth in wind and solar generation, this capacity will very soon be insufficient for the task across the NEM (and is already insufficient in SA).

The Report recommends what it calls a Generator Reliability Obligation, which would be triggered whenever the proportion of dispatchable generation (which could include batteries and other forms of storage) in a region is falling towards a predetermined minimum acceptable level. The obligation would fall on all new renewable generators wishing to connect thereafter and, in the words of the Report “would not need to be located on site, and could utilise economies of scale” through multiple renewable generation projects “pairing” with “one new large-scale battery of gas fired generation project for example”.



If implemented, this recommendation would seem certain to greatly complicate, slow down and add to the administrative overhead cost of building new renewable generation. It would involve putting together a consortium of multiple parties with potentially differing objectives and who would otherwise be competing with one another in the wholesale electricity market.

A far better approach would be to recognise that dispatchable generation provides a distinct and more valuable product than non-dispatchable generation. There should be a separate market mechanism, possibly based on a contracting approach, to provide this service. If well designed, this would automatically ensure that economies of scale, as may be realised by pumped hydro storage, for example, would be captured. This approach would be far more economically efficient, and thus less costly to electricity consumers, than the messy processes required under the Report’s obligation approach.

Review 2

“Energy efficiency is effectively handballed to governments”

Alan Pears, Senior Industry Fellow, RMIT University

The Review’s approach to the demand side is very focused. Demand response, the capacity to reduce demand at times of extreme pressure on the supply system, is addressed thoroughly. The past under-utilisation of this approach is acknowledged, and the actions of the Australian Energy Market Operator (AEMO) intended to capture some of its potential in time for next summer are outlined.

However, the deep cultural problems within the Australian Energy Markets Commission regarding demand response are not tackled. Instead, the AEMC is asked (yet again) to develop facilitation mechanisms in the wholesale market by mid-2018.



Energy efficiency is effectively handballed to governments. After making some positive comments about its valuable roles, recommendation 6.10 states that governments “should accelerate the roll out of broader energy efficiency measures to complement the reforms recommended in this Review”.

This is a disappointing outcome, given the enormous untapped potential of energy markets to drive effective energy efficiency improvement. But it clearly shows governments that they have to drive energy-efficiency initiatives unless they instruct energy market participants to act.

Review 3.

“It follows the wrong path on greenhouse emissions”

David Karoly, Professor of Atmospheric Science, University of Melbourne and Member, Climate Change Authority

The Finkel Review says many sensible things about ways to improve the

security and reliability of Australia’s electricity sector. However, it follows completely the wrong path in what it says about lower greenhouse emissions from the electricity sector and Australia’s commitments under the Paris Agreement. This is disappointing, as Alan Finkel is Australia’s Chief Scientist and a member of the Climate Change Authority.

All economy-wide modelling shows that the electricity sector must do a larger share of future emissions reductions than other sectors, because there are easier and cheaper solutions for reducing emissions in that sector. However, this review’s vision is for “emissions reduced by 28% below 2005 levels by 2030” – exactly the same as Australia’s target under the Paris Agreement. It should be much more.

Australia’s commitments under the Paris Agreement are “to undertake ambitious efforts” to limit global warming “to well below 2°C above pre-industrial levels”. The [Targets Report](#) from the Climate Change Authority in 2015 showed that this means Australia and the electricity sector must aim for zero emissions before 2050, not in the second half of the century, as suggested in the Finkel Review.

Chief Scientist Alan Finkel’s long-awaited [review of the National Electricity Market](#), released today, will make a significant difference to Australia’s electricity system in three key areas: reliability (making sure the system generates enough power to meet demand), security (making sure the system doesn’t break), and governance (making sure the electricity market can run effectively).

Reliability

The review recommends a **Clean Energy Target (CET)**, which will provide subsidies to new low-emissions generation. The actual choice of scheme is less important than its durability. If

broad political agreement can be reached on this target, it can provide the policy certainty that industry crucially needs to build new generation capacity and meet electricity demand.

Finkel also proposes a **Generator Reliability Obligation**, which places a limit on further wind and solar power in regions that already have a high proportion of intermittent generation. New intermittent generators will have to provide backup for some of their supply, in the form of new storage or contracts with new dispatchable generators such as gas. The aim is to ensure that federal and state subsidies for renewables do not push too much intermittent generation into the market without adequate backup.



Large generators will also need to provide a **reasonable notice of closure**—the review suggests a period of three years – before leaving the market. The aim here is to ensure the market has enough time to respond by installing new generation.

Finally, the review floats the possibility of further changes to ensure reliability, potentially a **day-ahead** market to lock in supply ahead of time, or a **strategic reserve** – a mechanism by which the market operator can sign contracts requiring generators to sit idle unless needed in an emergency.

The market operator (AEMO) can already do this, and the report is silent on how a strategic reserve would be different or whether it is definitely needed.

Security

To secure the electricity system, Finkel calls for existing standards to be tightened and new mechanisms to be introduced.

Transmission companies will be required to provide and maintain a **prescribed level of inertia** in the system – high levels of inertia can prevent rapid changes in frequency that harm the system. Fossil fuel generators may be required to change their settings to control the frequency in the system, whereas new generators, including renewables, will be required to provide **fast frequency-response services** to help avoid frequency fluctuations that can damage the grid.

While technical in their nature, these measures will reduce the likelihood of instability in the system and provide extra tools to fix it if instability arises.

Finkel also makes recommendations to bolster the emergency management plan for the 2017-18 summer and to encourage consumers – both residential and business – to reduce their demand at peak times. The review strongly encourages the development of **“demand response” schemes** to give consumers incentives to switch off and help smooth the load at peak times.

Governance

The biggest change to how the market will be run is the proposed creation of an **Energy Security Board (ESB)**. The ESB will comprise an independent chair and vice-chair, as well as the heads of the three governing bodies: the AEMC, AEMO and the market regulator (the AER). At a minimum, the ESB will be responsible for implementing many of the Finkel Review recommendations,

although the panel leaves scope for it to do much more.

Finkel recommends a **comprehensive review of the rules** governing the electricity market. It also argues for increased accountability for market bodies and the COAG Energy Council, through enhanced performance indicators and a beefed-up process for determining and monitoring priorities for the energy sector.

What happens next?

The report makes a range of other recommendations designed to ensure better service for energy consumers, more transparency in gas markets, and improved planning and coordination of electricity networks.

The Finkel Review successfully addresses the main issues confronting the electricity sector today. At the very least, it is a step towards a more reliable and secure system.

The devil, as always, will be in the detail. Much will depend on how the recommendations are implemented. Australian households and business can only hope that the new Energy Security Board and the nation's political leaders will see this through.

Coastwatchers AGM Preliminary Date - Saturday 23 September 2017

For those members who plan ahead, the Executive is planning to hold the Annual General Meeting this year on Saturday 23 September at 2.00pm at the Tomakin Community Hall. This will be finalised at the next Committee meeting on Wednesday 5 July 2017.

The Committee is also considering holding a Special General Meeting after the AGM to formally adopt the new

NSW Model Rules, which NSW Fair Trading introduced in August 2016.

Scientists Warn Greater Glider is Near Extinction

Written by Adam Morton, The Age, 2 June 2017

Those who know the greater glider have a vivid way of describing its like a flying possum crossed with a Koala.

About the size of a garden variety possum, but with a looped tail of up to 60 centimetres long and membranes that extend from its elbows to its ankles, it is Australia's largest marsupial.

Scientists say it may not continue to be: it is headed for extinction. Two decades ago greater gliders were abundant up the east coast, but a combination of land clearing, logging and a rising threat of bushfires linked to climate change has triggered an 80% population crash.

Though they glide up to 100 metres, greater gliders are docile animals. They typically spend their lives within an area of three or four hectares – about the size of a couple of football fields. When danger arrives, as it did catastrophically



in the (Victorian) central highland on Black Sunday, they have little capacity to cope.

In April (2017), the Victorian government's independent scientific advisory committee, recommended that the animal be listed as a Threatened species. It followed the Federal Government last year listing it as vulnerable.



Distribution of the Greater Glider

But documents released in response to a freedom of information request show that the Victorian government's advice went further. In November (2016) the committee found that the threat facing the glider warranted an immediate suspension of logging in parts of the Strathbogie Ranges north-east of Melbourne. Its formal advice released to the Goongerah Environment Centre and seen by Fairfax Media, says "the glider is in a demonstrable state of decline which is likely to result in extinction."

Noting gliders generally died if all or most of their home range was cleared, and the Strathbogie Ranges were an important conservation site as populations there were relatively stable, the committee recommended an interim suspension to timber harvesting. The advice was rejected by the Department of Environment, Land, Water and Planning.

The document showed it advised Environment Minister Lily D'Ambrasio that she nor the department secretary

had the power to stop legal forestry. Instead it recommended considering recommending "feasible low impact changes" in consultation with the state timber agency VicForests. It is understood the logging went ahead.

Goongerah Environment Centre campaigner Ed Hill said the advice meant the department was telling the government that it should listen to foresters over scientists.

"There I really a pro-logging culture in the department that is completely out of step with its responsibility to protect out threatened wildlife," Mr Hill said.

Environmental Justice Australia lawyer Danya Jacobs said she believed the departmental advice was wrong – that the government did have the power to intervene to protect the glider.

She said there were three potential legal avenues, including issuing an interim conservation order under the Flora and Fauna Guarantee Act. "it's outrageous for the department to pretend the Minister's hands are tied," she said.

Ms D'Ambrasio said the government was listening to the experts, and that no timber harvesting was currently taking place in the Strathbogie Ranges. "We will work with the department and VicForests to investigate reasons for the greater gliders decline and ensure that appropriate protections are in place , she said.

Mr Hill said protection efforts should focus on the central highlands and east Gippsland, where populations were weak and logging continued. He said it was perverse that, under current regulations, logging could be stopped if 11 gliders were found in an east Gippsland forest. "if are there are fewer of them – if you find 10 – apparently it is OK to kill them," he said.