

National Energy Guarantee

A balancing act between emissions and reliability



Introduction

The Government announced details this week of its proposed energy policy – the National Energy Guarantee (NEG). Whilst not pursuing the Clean Energy Target (CET) recommended by the Finkel review, the policy seeks to focus on the immediate concern of reliability, whilst giving due consideration to Australia’s commitments under the Paris Agreement.

The two limbs of the guarantee are:

- A *reliability guarantee* ‘to ensure energy is always available’.
- An *emissions guarantee* ‘to contribute to Australia’s international commitments’.

It is proposed that the policy will be finalised in 2018, with the reliability guarantee expected to become effective by the end of 2019 and the emissions guarantee expected to become effective by the end of 2020. Federal legislation is not required. It is expected that the States will be consulted at the COAG Energy Council meeting in November 2017, to seek approval for the policy.

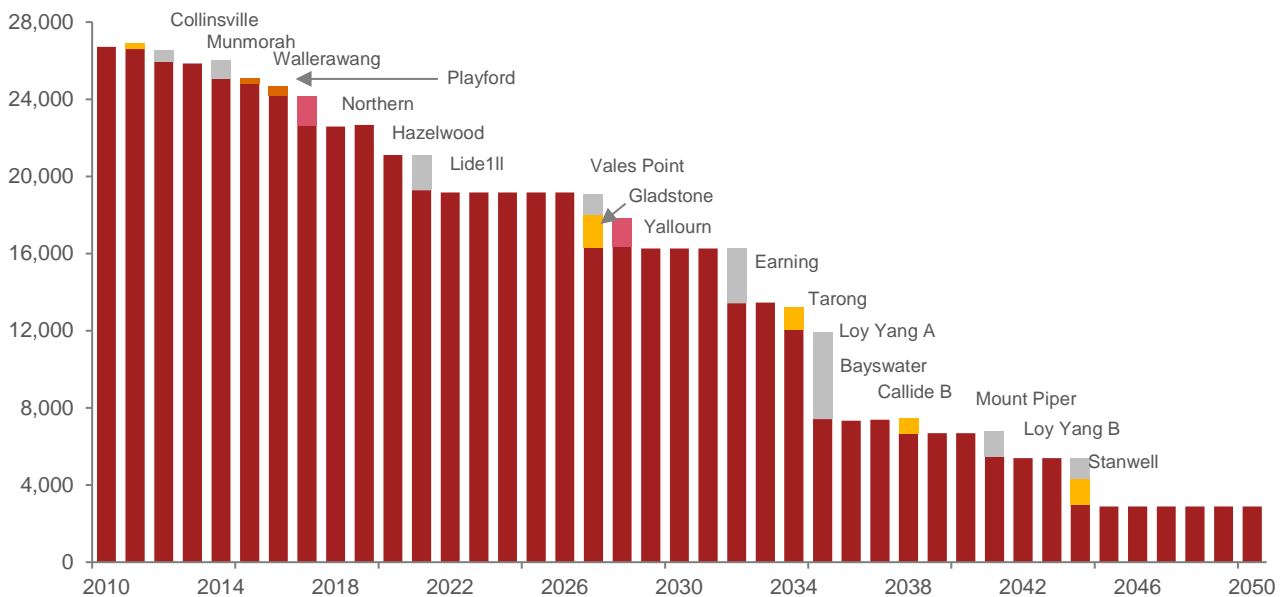
These guarantees will be placed upon retailers who will be required to purchase a specified proportion of their energy needs from dispatchable sources (for example, coal, gas, batteries and pumped hydro), whilst simultaneously requiring that a specific emissions threshold is maintained (and therefore requiring energy from renewable sources). Importantly, it will be the decision of retailers to decide the energy mix that they procure, provided that the guarantees are met.

At this stage, neither of the guarantee targets have been provided. Therefore, it is not currently possible to understand what this will mean in practice and the resultant impact on energy generation mix. This paper seeks to explore some of the issues and possible consequences.

Reliability

Recent events have heightened concerns around the reliability of electricity to ensure the ‘lights don’t go out’. The Australian Energy Market Operator’s (AEMO) 2017 Statement of Opportunities modelling demonstrates “reserves have reduced to the extent that there is heightened risk of significant unserved energy over the next 10 years, compared with recent levels”. In particular, it is recognised that the age of Australia’s coal generation fleet is expected to result in the closure of plant over the next decade.

Coal fired generators in the National Electricity Market at 50 years



Source: AEC

A reliability guarantee, together with the Finkel recommendation which requires existing plants to give three years notice prior to closure, appears a sensible measure to provide the necessary mechanisms that investment in replacement dispatchable generation assets will be made in sufficient time to meet demand. It is worth noting however, that approvals and permitting for traditional generation plants often takes much longer than three years, while large scale renewables have much shorter approval periods.

Theoretically, any retailer would seek to introduce new reliable power into its portfolio at the lowest possible cost. This should drive the lowest possible prices for consumers. The threshold at which the reliability obligation is set will influence retailer behaviour.

Investment in new plant is a long term strategic decision. Technology costs are expected to decrease significantly, and it may be preferable for investors to defer investment decisions to build or enter into long term contracts. Therefore, if the reliability target is not substantially above retailers' existing contractual positions, gentailers (retailers that own generation assets) may be able to sweat their existing portfolio of assets harder to meet near term obligations rather than stimulating new investment. This will necessarily favour the existing generation mix. We expect that this will be dealt with through the development of specifics on how the mechanisms will work.

Conversely, overly risk adverse reliability guarantee targets may lead to excessive obligations placed upon retailers, and inadvertently drive up costs for consumers. Similarly, uncertainty in demand caused by unforeseen events, say from the closure of an energy intensive business (for example a smelter), or uncertainty of individual retailers retaining commercial customers over the long term, may result in retailers preferring to write shorter term contracts. In turn, this may impede the finance-ability of the investment in the new generation. We note that other Finkel recommendations to be adopted are expected to facilitate improved forecasting. The risk of changes in demand and reliability guarantee levels to stimulate supply should be ameliorated at least to a certain extent.

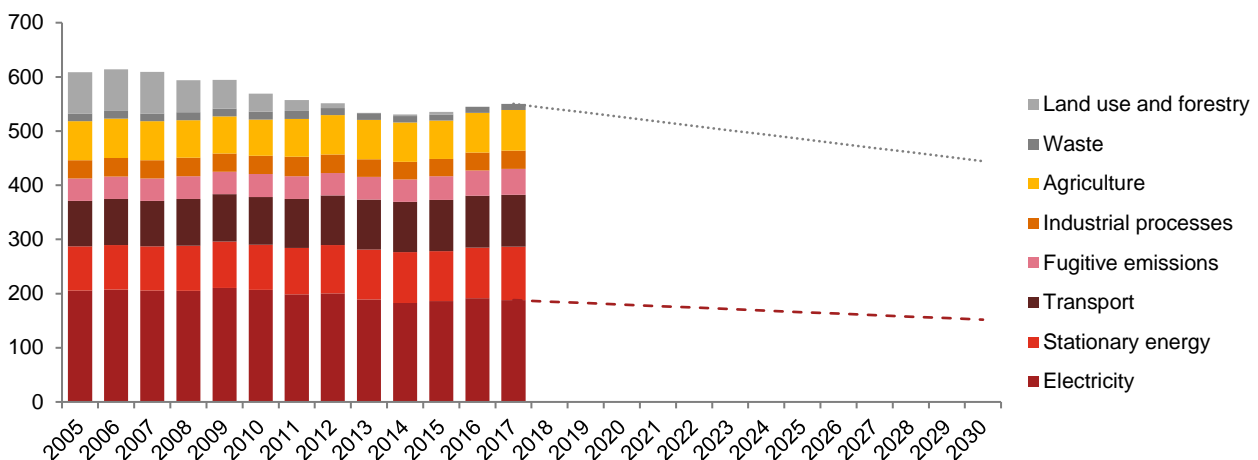
The implementation of a reliability standard on retailers has the potential to open up new markets, including a potential generation capacity reserve market, particularly for generation assets that can be despatched at short notice to meet peak demand, but are otherwise used relatively infrequently; and markets for frequency control, network support and demand management. Markets such as these have been developed in other jurisdictions around the world with varied success. There are opportunities for Australia to take an informed approach to developing these markets.

Emissions

It is a little unclear how the emissions guarantee will work – whether the target will require retailers to acquire a percentage of their portfolio from renewable energy sources; or whether the portfolio as a whole must have a carbon intensity below an agreed threshold. Either way, the emissions guarantee should continue to encourage continued investment in renewable energy.

As with the reliability guarantee, the key question will be the threshold at which the target is set. Under the Paris Agreement, Australia has committed to reduce its carbon emissions by 26-28 per cent below 2005 levels by 2030. The energy sector is a key contributor accounting for approximately one third of the country's emissions. The diagram below demonstrates the emission reduction required by the sector on a pro rata basis.

Emission by sector (Mt CO₂-e)

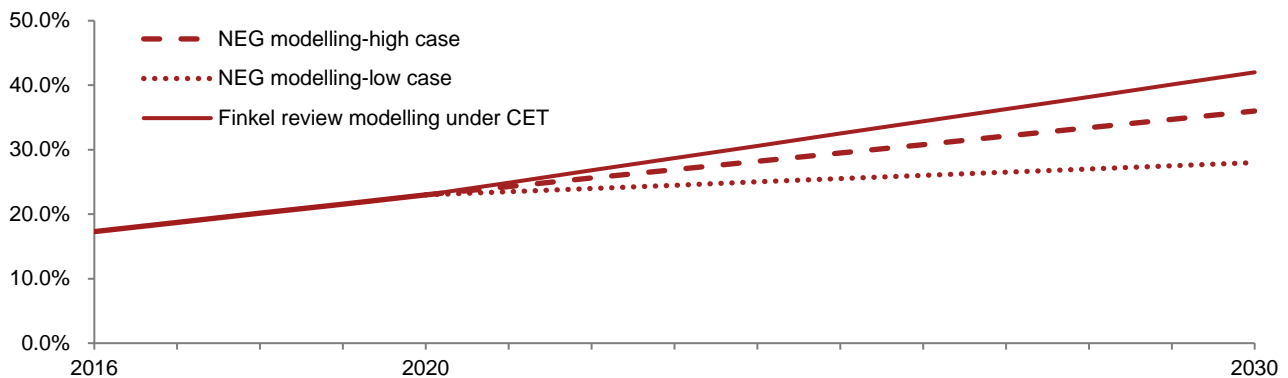


The emissions guarantee could be achieved by:

- reducing the amount of fossil fuel generation, although as noted above, there are minimal coal generators due to reach 50 years of age and expected to close prior to 2030; or
- increasing the volume from lower emissions (renewable) sources and reducing (but not closing) more emission intensive supply.

The number of renewable projects under construction, or that have reached financial close and are due to begin construction shortly, are such that the RET target is expected to be achieved prior to 2020, and contribute approximately 23 per cent of generation output in the National Energy Market (NEM). There is conjecture as to the percentage of additional renewable energy that will be required to achieve the target. Government modelling for the NEG policy announcement suggests a 28-36 per cent mix, compared to 42 per cent as suggested in the modelling for the Finkel review under a CET policy. There is also debate on the slope of the reductions curve through to 2030, and whether it should be linear or effectively 'backloaded'. This is an important policy question yet to be answered.

Renewable contribution of NEM annual electricity generation



Technology and capital costs of renewable projects have fallen dramatically, such that they now need minimal subsidies outside of the Renewable Energy Target. However, to enable a project to be successfully debt financed, it still requires certainty usually obtained via a long term offtake contract. If the emissions guarantee is not sufficiently above the 2020 renewables penetration level, retailers will not be incentivised to write new long term offtake contracts, potentially stalling future renewable energy generation investment.

This could place a greater need on other sectors, especially transport and agriculture, to contribute towards meeting Australia's Paris Agreement obligations. The shift of meeting the Paris Agreement emissions reduction objectives in other sectors outside energy requires consideration of how this will be measured and implemented. As has been debated often, reducing emissions in other industries is seen as more complex to achieve.

This could present challenges within the automotive industry for greater emissions standards, but equally could benefit the sector if incentives are provided to fast track the take up of electric vehicles. It could also negatively impact the economic viability of some industries that are already exposed to competitive pressures globally.

Concluding observations

The conceptual rationale for the NEG is sound. However, releasing the details of the NEG, and particularly the guarantee thresholds, needs to be expedited so the market can assess the resultant impacts.

Imposing more complex regulations on established energy retailers can risk stifling innovation, and act as a barrier to new entrants to the electricity retail market (and other markets). This has been the experience in the banking sector and, given the market structure within the energy market, this is not an insignificant risk. The visible solidarity of the Energy Security Board (ESB) and the three main energy sector regulatory bodies this week is a promising sign that regulation will be efficient. Involving industry, including large and small players, will be important to developing the right set of market mechanisms to bring the NEG to life.

We witnessed the lack of investment that occurred over the 2012 – 2015 period of the Renewable Energy Target, when no bi-partisan agreement existed, and the subsequent growth in renewable investment from mid-2015 when a mutual target was agreed. We strongly encourage both sides of Government to establish a long term mutually agreeable policy which will ultimately be needed to establish the necessary settings for long term investments.

Contacts



**Andy
Welsh**

Partner, Financial
Advisory

Tel: +61 (3) 8603 2704
Mobile: +61 438 165 536
Email: andy.welsh@pwc.com



**Chris
McLean**

Partner, Financial
Advisory

Tel: +61 (2) 8266 1839
Mobile: +61 414 614 381
Email: chris.mclean@pwc.com



**Mark
Coughlin**

Partner,
Consulting

Tel: +61 (3) 8603 0009
Mobile: +61 417 200 632
Email: mark.coughlin@pwc.com

www.pwc.com.au

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