The need for a Clean Energy Target

BRIEFING PAPER

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EXECUTIVE SUMMARY

Australia is in the midst of an energy transformation. The cost of renewable energy has fallen dramatically in recent years, making it now the lowest cost form of new electricity generation in Australia.

This cost reduction combined with the support of the current 2020 Renewable Energy Target (RET) is delivering over $7.5 billion worth of new large scale wind and solar project this year alone.

The 2020 RET is now comfortably within reach. **But if renewable energy is so successful, why does it still need government support beyond 2020?**

Continued deployment of new clean energy projects is essential to ensure energy security as aging coal-fired generation continues to close, and with gas-fired electricity prohibitively expensive.

The Renewable Energy Target has played a crucial role in supporting the business case for renewable energy and ensuring sufficient revenue to commercialise new renewable energy projects. The 2020 RET is likely to be fully subscribed in coming months, with diminishing incentives for new projects beyond 2020.

While wholesale energy prices have recently increased substantially, it remains unclear what the long term trend for wholesale energy prices will be. Clearly, if they remain at a higher level (and above the cost of new renewable energy generation) for the long term, and in particular over the full commercial life – approximately 15 to 20 years – of a renewable energy project, then it could be expected that new investments in renewable energy generation would continue to come forward without the need for additional policy support for renewable energy. However, long term market confidence and certainty of forward market prices is very difficult to predict.

Without long term policy certainty and stability the clean energy sector is therefore facing an investment ‘cliff’, which is likely to dramatically reduce investment in new renewable energy projects.

While a mechanism that places a value on carbon (such as a carbon tax or an Emissions Intensity Scheme) would improve the cost competitiveness of new renewable energy projects, some form of policy support is essential to provide certainty for continued new investment after 2020.

There are numerous policy mechanisms that have the potential to achieve this, including an extended RET or a Clean Energy Target (CET).

THE NEED FOR CONTINUED POLICY SUPPORT

Background

Australia's existing fleet of power generators are old and getting older. It is estimated that more than half of Australia's existing coal-fired power plants are at or beyond their planned operating life[1]. These generators will need to be replaced in the next two decades. Obviously the nature of that new generation and how it is integrated will be crucial for the future of Australia's electricity sector and consumers. For new generation investment, there are three fundamental and recent factors at play:

- New coal generation is un-investable.
- Gas generation is currently priced out of the electricity market.
- Renewable energy generation can deliver the lowest cost new generation.

Australia's commitment to the Paris climate agreement and carbon reduction target of 26-28 per cent by 2030 is the second major driver of the need to transition from carbon intensive electricity generation to zero and low emissions technology.

The success of renewable energy

There are currently unprecedented levels of new investment with over 3700 MW of capacity in large wind and solar worth over $7.6 b under construction or committed to commence construction, during 2017 alone. This activity is primarily driven by the RET, with strong support from state and territory government initiatives, the Australian Renewable Energy Agency and the Clean Energy Finance Corporation.

In parallel, increasing wholesale energy prices and declining cost of renewables continue to improve the commercial business case for new investment in much needed generation. The extraordinary cost reductions achieved by renewable energy in recent years means the lowest cost solution available today and into the future is renewable energy. The key challenge now is how to ensure continued and steady deployment of least cost renewable energy projects that also contribute positively to energy security. The greatest risk to energy security is the failure to bring forward enough new generation to replace the retiring plant around the country.

The RET has clearly played a crucial role in providing long term investment confidence and to bridge the financial differential between wholesale energy prices and the cost to deploy new renewable energy projects.

This differential has reduced over past years as:

[1] https://www.cleanenergycouncil.org.au/policy-advocacy/energy-transformation/energy-security.html

- The wholesale cost of electricity has increased as a result of tightening supply and an increasing contribution of electricity generation from gas, which has increased in cost. The cost of electricity generation from gas sets the marginal wholesale market price in many regions of Australia.
- The cost of new renewable energy projects has reduced. For example the cost of large scale solar has fallen from around $180 MW/h in 2013 to materially below $100 MW/h in 2017.

While wholesale energy prices have recently increased substantially, it remains unclear what the long-term trend for wholesale energy prices will be. Clearly, if they remain at a higher level (and above the cost of new renewable energy generation) for the long term, and in particular over the full commercial life – approximately 15 to 20 years – of a renewable energy project, then it could be expected that new investments in renewable energy generation would continue to come forward without the need for additional policy support for renewable energy. However, long term market confidence and certainty of forward market prices is very difficult to predict and subject to a range of factors including:

- Energy demand particularly in light of changes to the structure of the Australian economy, including the future of Australia's manufacturing base.
- Supply and demand dynamics in the wholesale energy market particularly in light of the continued expected closure of existing coal fired generation.
- Expected continued shift toward electrification both in response to higher gas prices and structural shift towards electric vehicles and other new technologies.
- Continued policy uncertainty and limited political bipartisanship that could continue to distort investment decisions.

Given these market dynamics and uncertainty, there remains a clear need for investment certainty and therefore clear policy beyond 2020 when the current RET policy peaks.

The role of long term energy and carbon policy

A carbon price mechanism such as an EIS can be designed in a way that it can both provide a price signal to phase out coal generation and incentivise the deployment of new clean energy. However such a policy faces a number of key challenges in incentivising new investment in clean energy such as:

- The continued lack of bipartisan support in carbon policy and the potential for continued instability in carbon policy settings.
- Uncertainty about the enduring impact of any carbon price signals particularly on the wholesale electricity market, and therefore the extent to which this would (alone) underpin the business case for new investment (as noted above).

Until these issues are settled, an additional and enduring policy for new clean energy investment will be required if Australia is to ensure private sector investment in clean energy.

Policy options to bring clean energy forward

With the current RET now comfortably within reach, there is a clear risk of investment stalling in new clean energy projects which risks a loss of capability at the time when Australia should be aiming for sustained reduction in electricity sector emissions and lower prices. While we acknowledge the initiatives being pursued by various state governments will mitigate some aspects of a substantial stalling of activity, a strong, national policy framework is likely to be more effective in delivering a transformation in the electricity sector at minimum cost. The clean energy sector's preference remains for a strong, stable and enduring clean energy policy from the federal government.

One of the demonstrated strengths of a RET or CET policy is the market nature of the mechanism which means if indeed the wholesale energy price remains above the cost to deploy new renewable energy projects for a sustained period of time, then market dynamics will naturally phase down the incentive provided by (and eventually need for) such policies.

It worth noting that the current RET has a proven architecture, strong public support and a familiarity to all parts of the sector. A policy mechanism that builds on this framework will be the optimum solution to ensure sustained and stable new private sector investment in energy heading into and beyond 2020. The Finkel Review's Clean Energy Target recommendation will deliver this outcome at the lowest cost to consumers.