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Finkel – is it Future Ready?

The Finkel Review was published on Friday 9 June. It is intended to be a blueprint for the future security of the National Electricity Market. Attention has focussed on the politically sensitive proposal for a Clean Energy Target (CET), but Finkel is about much more than that.

In our update, we have insights from across our team in Australia and globally providing you with a well-rounded commentary on the Finkel Review.

Introduction

The Finkel Report seems to be built around two core beliefs:

- No more "dumb" renewables; and

- Markets work.

I too believe that renewable energy generators must be system-aligned. The technology for accurate weather forecasting is already available and well-designed wind and solar projects can provide a range of services to the grid, not just power when it happens to be windy or sunny.

Finkel's energy security recommendations will result in Australia being a global leader in energy storage. However, physical storage at the individual asset level may not be the most economic option and cost effective firming services can be offered by new and existing large scale pumped storage hydro and other flexgen providers.

The proposed CET builds upon existing structures in Australia - the NEM and RET. The report does not advocate or consider in detail different models for the wholesale and domestic energy markets.

Markets can work - where the market structure fosters and encourages competition. The NEM and other liberalised electricity markets globally were designed to create a competitive environment. Currently there are low levels of liquidity in many parts of the market and high barriers to entry in others. It is very difficult to run an independent supply business when you face the risk of spikes in wholesale prices way up to $14,000 MWh.

The generation side of the equation is going to become more competitive quickly - with literally hundreds of large scale solar projects in development. We have already seen some projects move ahead without long term offtake arrangements but this comes at a price. Investors prefer certainty over market mechanisms especially when your competitors are vertically integrated players. This feature has been recognised in other markets and they have moved to alternative mechanisms such as auctions to reduce the cost of capital for new generation.

-- Simon Currie, Partner and Global Head of Energy

Attention has focussed on the politically sensitive proposal for a Clean Energy Target (CET). This is intended to incentivise low(er) carbon energy generation without upsetting proponents of fossil fuel generation. But Finkel's implications are much broader than the CET. They extend to advanced planning of the electricity sector, consideration of how to integrate intermittent renewable generation, the opportunities created by new technology and regulatory reform.

Australia is far from the only jurisdiction to be confronting similar challenges, though last year's outages in South Australia certainly put things into stark relief. The EU announced its "Winter Package" in late 2016. It has had a fully-fledged cap and trade system and renewable energy target (backed up by a long-term emissions reduction target) for many years. Nevertheless, the hundreds of pages of the Winter Package's text considered similar issues to Finkel, on a Europe-wide scale. The UK (still part of the EU for little while longer!) has now completed its (somewhat misnamed) "Electricity Market Reform" programme.
This reformed subsidies for large scale low carbon generators, introduced a capacity market and implemented an emissions performance standard, which prevents unabated coal plants from being built. The UK's capacity market was, in turn, based on a US-based model.

An underlying theme, not just for Australia, is what Nationally Determined Contributions (essentially, emissions reduction commitments) will look like under the Paris Agreement, and how they will be beefed up over time to reach the long-term goal of limiting global temperature rises to 1.5/2 degrees above pre-industrial levels.

Suffice to say that policymakers, not just in Australia, have their work cut out.

CET

The CET is not a particularly innovative proposal. It builds heavily on the existing RET certificate regime, which is similar to countless certificate schemes across the world. Low(er) emissions generators would receive certificates for electricity produced. An artificial market for these certificates is created by obliging retailers to buy certificates.

Perhaps surprisingly for some, CET eligibility would be determined by a technology-neutral emissions intensity threshold, with reference to carbon intensity in Kgs of carbon per MWh of generation. Finkel does not recommend a particular threshold. That hot potato will be left to the Government. As retailers will pass the cost of compliance on to consumers, it may seem counter-intuitive that low carbon generation will be incentivised, while high emissions technologies will continue to be able to be brought on grid. The report recommends that, at a minimum, the electricity sector should have a trajectory consistent with a direct application of the national target of 26 to 28 per cent reduction on 2005 levels by 2030, in accordance with Australia's obligations under the Paris Agreement.

Finkel has specifically noted that he was not given any specific target by the Government in undertaking his assessment, and that in the absence of any guidance, the Panel did their modelling based on Australia's existing nominated Paris target of 26-28% by 2030 which, taking a smooth trajectory, would get to zero by 2070. He provides the view that the slope chosen is a sensible slope because it enables the balancing of security, reliability, affordability and emissions reduction [see: Australia's chief scientist, Alan Finkel, talks to The Australian's David Crowe]

Commentary on the Finkel review notes that should the Government adopt the electricity sector pathway recommended, then Australia would not be able to meet its obligations under the Paris Agreement because it is inconsistent with the 2°C goal, let alone the "well below 2°C" or 1.5 °C. In particular, not requiring the electricity sector to do more would mean that a higher burden is placed on other parts of the economy, which would result in higher costs and slower action in terms of Australia's Paris targets. It also risks locking in fossil fuel-intensive infrastructure which will be at risk of becoming stranded in the future, with associated economic and social costs.

The Finkel review and the approach taken to Australia's current (and any future) Paris targets highlights the importance of the 2017 Climate Change Review currently underway , and in particular the need to identify a longer term target which is consistent with the 2°C goal. Further, key to the ultimate design of the CET will be ensuring there is sufficient flexibility to ramp up the contribution made by the electricity sector in achieving Australia's Paris commitments.

-- Elisa de Wit, Partner, and head of Australian Climate Change practice

Generation retirement

All existing large electricity generators are recommended to have to give three years notice of closure. This is against a background of recent unexpected closures of coal generation which have contributed to security of supply issues. The notice requirement should allow replacement generation to be brought on quickly enough to fill the gap. Decommissioning is becoming a global issue.

From an energy security perspective, the notice requirement is intended to allow replacement generation (including the potential for storage) to be brought online quickly enough to fill the gap and enable an event-free transition. From a whole-of-economy perspective, it allows communities to adjust and plan for the alternatives. In this way, the notice period is directly responding to the issues raised by the current coal asset closures (such as Hazelwood) but also earlier 'sudden exits', for example through the Commonwealth's large scale water buybacks.

On the positive side, the notice period gives these sites, and their associated assets and infrastructure, a real chance of proper decommissioning and rehabilitation and, ideally, repurposing for the future economy. The true costs of decommissioning and rehabilitating coal-based energy assets are only now starting to bite in Australia and across the globe, as these assets come to the end of their operating life with minimal sureties in place, at the same time as governments and communities are demanding cleaner and cheaper electricity alternatives. The economics and environmental and social impacts associated with closure and decommissioning are significant and orderly closure provides the 'breathing space' for assessing and determining the best options for future use through strategic land use planning (across industry and the whole of government), community and stakeholder consultation and engagement for potential repurposing, assessment of environmental rehabilitation with the known future use in mind and transitioning local workforces to alternative industries. While solar PV and storage are obvious future land uses (as well as vehicles to cover the 'funding gap' for the required rehabilitation), we are already seeing clever whole of industry uses, such as metal and solar panel recycling facilities.

-- Noni Shannon, Partner, Environment & Planning and Climate Change

System planning and governance

Key proposals in respect of system planning include the introduction of an integrated grid plan as well as making system-wide investment decisions on interconnection and developing a list of priority projects. An Energy Supply Board is proposed and that would deliver an annual system health check. AEMC, AEMO and AER would be resourced, strengthened and made more effective through coordination provided by the ESB. The need for better coordination between regulators and interested parties is a familiar international refrain. Joining up the gaps between those responsible for grids, generation policy, licensing, consumer protection and even financial markets regulation will be important in an ever more complex world. Paradoxically, post-privatisation structures in many jurisdictions have

had the effect of making this kind of "central" planning less, rather than more, easy to implement.

Appropriate policy settings are the pinnacle of energy market reform in the furtherance of an efficient and cleaner outcome for Australia and the globe. As my colleagues note, the Finkel review furthers that. From my perspective as a competition and regulatory lawyer, the way that policy trickles down into regulation and regulator functions must be carefully traversed.

As the Australian energy market welcomes new players with new expertise and technologies, a fit-for-purpose regulatory framework is imperative. Practicing in this area, I find that difficulties confront proponents due to the sometimes impenetrable matrix of rules, such as the National Electricity Rules. Also, as regulatory gaps reveal themselves in emerging areas, availability of timely guidance and indications from the regulators (like the AER, AEMO and CER) can be an impassable frontier.

Regulatory silence or ambiguity are navigable, but uncertainty and wasted resources make innovation an uphill quest. The worst is where an application of rules by the "black letter" is counter-intuitive and repugnant to the policy aspirations of electricity security, reliability and low emissions. While regulators can only work with what they've got (in terms of the regulations they must apply), lack of resourcing and bureaucracy can intensify the issue.

I welcome Finkel's recommendations for stronger governance, especially the recommendation to review the National Electricity Rules to streamline them in light of changing technologies and conditions (recommendation 7.7). I also believe that ensuring that network investment incentives echo policy more closely (Recommendations 5.4 and 5.5) will make the future proposition, for both traditional utilities and new proponents, a positive one.

-- Claire Forster, Special Counsel, Competition and Regulatory

The Finkel Review recommends that the Federal, State and Territory Governments agree to a national emissions reduction trajectory and a national strategic energy plan. What interests me in particular is the interplay between the call for national agreement and the individual initiatives of the various State and Territory Governments, in particular the Queensland Government's 50% renewable energy target by 2030. The recently released Powering Queensland Plan affirms this commitment and foreshadows the establishment of a government owned generator (referred to as 'CleanCo) to operate existing renewable and low emissions energy generation assets and develop new renewable energy generators. There is an unprecedented pipeline of solar projects in Queensland and a proposed deployment of new hydro generation to be investigated by the newly established Queensland Energy Security Taskforce – we are more than just the 'sunshine state'.

The proposed clean energy target and the generator security and reliability obligations are technology agnostic but the detail of how these would be implemented and the impact on renewable energy development costs remains to be seen – so too, therefore the impact on the achievement of Queensland's RET. It is hoped that any national energy policy alignment allows the recent upturn in renewable energy projects to continue while at the same time ensuring energy security and stability.

-- Rebecca Hoare, Partner, Environment & Planning and Climate Change

Grid services

A central theme of Finkel is the decreasing amount of "synchronous" generation on grid that results from the loss of traditional thermal generation. This can be compensated for by biomass, CHP and other "baseload" renewables. However, increasing amounts of solar PV and wind give rise to the need for alternative mechanisms to be put in place.
Finkel recommends that transmission network service providers be required to provide and maintain a sufficient level of "inertia", including a portion that could be substituted by fast frequency response. System frequency depends on the (real time) balance between system demand and total generation. If demand is greater than generation, the frequency falls, while if generation is greater than demand, the frequency rises. Finkel recommends that new generators are required to have fast frequency response capability. It also recommends the introduction of new connection standards that address system strength, reactive power and voltage control, among other issues. It is further suggested that market-based mechanisms are introduced for procuring fast frequency response, but only if there is a demonstrated benefit. In the UK, for example, generators can bid into a fast frequency response mechanism which is run by National Grid, and a recent Enhanced Frequency Reserve auction has supported significant amounts of battery storage deployment.

Finkel is largely technology agnostic. It does however highlight sensible pathways forward on the implementation of lower emission technologies (not all technologies mentioned within the report are emissions neutral e.g. gas, "clean" coal and biomass). One of the key inferences which the report makes is that the uptake of battery technology is inevitable and required to achieve the outcomes of "increased security", "future reliability" and "lower emissions".

Batteries have had some uptake in the Australian market, but until today, mostly within the small-scale residential space. This will soon change as over the last month, there has been several state government tenders which propose the construction of the first wave of large-scale battery solutions in Australia by the end of this year. These tenders have taken place in South Australia and Victoria and Norton Rose Fulbright has actively advised project proponents on several of these projects.

-- Joanna Zhou, Associate, Renewables, Projects, and Climate Change

A move to "day ahead" electricity markets?

Finkel also identifies that the NEM's single settlement approach, whereby all electricity trades are settled in a real time market, should be reviewed. A move to a "day ahead" market should be considered by 2018. In day ahead markets, bids are submitted and committed to on a day ahead basis. This is followed by a separate "balancing" market where mismatches between supply and demand are traded away. The day ahead mechanism can help coordination with fuel supply markets, which would be particularly helpful for gas fired generation. It enables generators to hedge against exposure to pricing and scheduling risks and reduces price volatility. Day ahead markets are already in place in many EU jurisdictions, as well as in the majority of North American power markets. The introduction of the day ahead market was broadly considered to have reduced electricity prices in the UK, another key objective for Australian market reform.

While acknowledging that gas will have "a role in electricity generation", the Finkel Review does not go as far as suggesting that gas should become a transition fuel, with issues being tight supply and affordability. A number of initiatives recommended to address these issues would require state governments to move away from political populism in relation to onshore resource development.

As one would expect from a report prepared by a scientist, the Finkel Review recommends use of scientific data on gas and adopting evidence based regulatory regimes to manage the risk of individual gas projects on a case-by-case basis. In my view, transparent and accessible data from an academic institution or not-for-profit organisation about seismic activity, fracking fluid composition, aquifer purity and fugitive emissions, as suggested by the Finkel Review, should be welcomed by gas producers, as it would assist in gaining a social licence to operate.

Finkel's recommendations on gas sound quite reassuring for the gas industry however it remains to be seen whether state governments are persuaded by the science.

-- Tatiana Gotvig, Senior Associate, Oil & Gas

Consumers

Finkel recognises that consumers are increasingly turning to auto generation and storage. As yet these systems are not properly integrated into the grid, albeit they have the opportunity to provide reliable and low cost alternatives to traditional generation. It is recommended that AEMC is directed to review the regulation of individual power systems and microgrids so that these systems can be used where it is effective to do so. Rolling out broader energy efficiency measures is also recommended.

Finkel's recognition of the importance of consumer integration into the solutions is very well received. The rapid decline in price for delivery of alternatives to traditional generation and consumer "bill-shock" as they are faced with heavy increases in their consumer tariffs is already crystallising into the delivery of alternative solutions. From large industrial users and national commercial businesses to local councils and individual households, consumers are driving innovation. They are looking for alternative energy delivery structures that provide them with autonomous physical delivery and the ability to capitalise on the benefits of providing system support and reliability at the same time.

Technology has responded to these needs and is evolving rapidly to integrate consumer systems with the grid and maximise the benefits to both. Finkel's final chapter looks at the future of the blueprint and recognises the continued evolution of integration technologies. Our systems are already capable of being "smart" and will continue to become "smarter". One of Finkel's overarching recommendations is policy reform and I agree. Policy reform needs to respond but, importantly, continue to be able to do so. Reliability, stability and fast frequency response are key deliverables for our system security and these can be and are being provided through our integration technologies. The challenge, is to ask for the same deliverables from our policy and regulation."

-- Kelly Davies, Special Counsel, Power and Renewables

Consumers are looking at bill savings and for savings to occur now. The right price motivations for consumers need to be in place to take advantage of innovative new technologies proposed in the Finkel Review that may drive demand management or peer trading. The market is rapidly testing new technologies, but cost barriers remain.

Until such initiatives are rolled out at scale, the true benefit of reduced bills as a result of Finkel will remain to be seen, as current modelling suggests $92/year savings by 2050 – an impact that is necessary but needed next summer, not in the far future. Pricing wins for consumers can only come through tariff reform of fixed charges, a question of asset value and the utility we take from the grid as consumers as we redesign the physical and financial market place to be future ready.

-- Jacqueline Fetchet, Lawyer, Power and Renewables

Conclusions

Overall I feel the panel hasn't managed to catch the excitement and dynamism that is driving our industry forward or convince the readers that there is a lower cost sustainable energy eco-system just around the corner. It is now up to all of us to deliver that message.

-- Simon Currie, Partner and Global Head of Energy

Finkel is heavy on content and recommendations, but relatively light on detail. This can be expected given its broad-ranging remit. Full implementation is likely to take years to achieve, but fundamental market reform is being implemented in other jurisdictions over similar timeframes. Australia will be able to rise to the challenge. Above all, doing nothing is no longer an option, so be prepared for significant developments in the electricity sector over the coming months and years.

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