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12 November 2019

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Ref EPR0073 – Coordination of Generation and Transmission Investment

Energy Consumers Australia appreciates the opportunity to comment on the Australian Energy Market Commission's (AEMC) *Coordination of Generation and Transmission Infrastructure Proposed Access Model: Discussion Paper* (the Access Paper), and the *Renewable Energy Zones: Discussion Paper* (the REZ Paper) of 14 October 2019.

Energy Consumers Australia is the national voice for residential and small business energy consumers. Established by the Council of Australian Governments Energy Council in 2015, our objective is to promote the long-term interests of energy consumers with respect to price, quality, reliability, safety and security of supply.

From our perspective, the Coordination of Generation and Transmission Investment (COGATI) Review, of which these papers form a part, is part of ensuring that the transition of the electricity system that is already underway occurs in a way that maximises affordability for consumers without compromising reliability.

While aspects of this transition have been driven by government policy, others are being driven by technology and consumer choices. Australia's existing coal fired power stations are progressively approaching the end of their productive lives and replacement generation is now more affordably provided by renewable energy resources that have very different technical characteristics. At the same time household and business investment in both energy efficient, smarter appliances and distributed energy resources (DER – including rooftop solar and storage), and disinvestment by some businesses (large manufacturing), is significantly changing demand.

This change can be summarised as a system that is changing from a small number of large things to a large number of small things. This change is fundamental and is still in its early phases.

Whereas transmission investment could follow generation when the latter was large scale and took time to build, this is no longer the case. However, if we simply build (regulated revenue) transmission assets with no thought to how we incentivise generation to be built where transmission is available as a first choice, then the risk of that 'overbuild' is entirely born by consumers. Australian electricity consumers are already suffering from the cost over-burden from incorrect demand forecasts and poorly thought through approaches to reliability in the last decade. The AEMC wisely in the Scale Efficient Network Extension Rule change identified that it is not appropriate to allocate a stranded asset risk for new investment to consumers.

The two papers address the ways to manage this risk better. Each is discussed separately below.

The Access Paper

The access reform proposal through locational marginal pricing appropriately creates incentives for generators to locate where transmission is available, while providing a mechanism by which generators can buy insurance against future congestion.

Commentary suggesting that the AEMC approach is unnecessary and that all that is required is for the extra transmission to be built so that extra generation can connect is not supported by Energy Consumers Australia. The suggestion that generation might consider the cost of getting to market has been criticised as adding a cost that ultimately consumers have to bear. Requiring generators to consider transmission availability is a way of reducing the risk of transmission being built that is unused. This minimises risk for consumers – who pay for transmission whether it is used or not. Consumers are currently still paying for distribution network services that are significantly under-utilised to the extent that the ACCC recommended governments in Queensland and New South Wales consider writing down the value of these assets.

In the Access Paper the AEMC has dropped consideration of the proposal that Financial Transmission Rights (FTRs) could finance new transmission investment and replace the central planning model of transmission investment that is becoming embedded in the Integrated System Plan (ISP) framework. That is, nothing in this reform changes *what* transmission will be built, it just changes the *incentives* on generators to align their investment decisions with the availability of transmission. That said, the approach to transmission planning through the ISP needs to ensure that projects are only included on the basis of need, where the net benefit assessment is robust and where the final determinant is the impact on consumer prices.

As the AEMC has noted, the move to Locational Marginal Prices (LMP) is a complement to the introduction of Five Minute Settlement. Just as the latter removes the current temporal smearing of prices, LMP removes the spatial smearing of prices. Both create change to the existing paradigm in the contracts market, and we are already seeing change in the availability of cap contracts as we approach he introduction of Five Minute Settlement.

However, the contract market as it is currently structured has been under significant strain purely from the changing generation mix. The growth of variable renewable energy that is non-dispatchable has seen the growth in Power Purchase Agreements rather than the traditional contract market. The process of adjustment of the contract market is just another aspect of the transition.

The observation that the proposed acess reform will have an impact on the contract market is not a reason to not implement the reform. It is also not a reason to delay the reform, as the ongoing introduction of more smaller generators will make challenge of the change more difficult.

The REZ Paper

In the Renewable Energy Zone (REZ) Paper the AEMC has sought to draw a distinction between two types of REZs. Type A is a cluster of generators sharing connection assets only, which are those assets used by generators to connect to the transmission network, and Type B is a cluster of generators sharing their connection assets as well as a part of the shared transmission network.

We do not believe these are different types of REZ, they are just different aspects of a REZ. The first is simply about shared connection assets, the second is about the combined impact of a group of generation assets on the shared transmission network.

However, far more fundamental is the question of exactly what a ‘Renewable Energy Zone’ is. The concept was introduced by the Finkel review. That Review’s final report gave one example, the REZ

approach in Texas. AEMO has incorporated REZs in the ISP by considering data about the quality of the solar, wind and pumped hydro resources in different locations, combined with proximity to existing transmission infrastructure. As such they are represented as indicative geographic areas on a map.

Before we devise plans for dealing with transmission assets to support REZs we actually need to solve this fundamental definitional problem.

The approach to REZs can be more strategic. And in being strategic the opportunity for Government to bear the cost of the initially underutilised elements of transmission would appear to fall within the scope of the new funding made available to the Clean Energy Finance Corporation (CEFC).

The idea of a REZ has significant advantages beyond merely the ability to plan transmission. Firstly, the identified REZs all have solar and wind resources that are diverse. They all have potential associated off-river pumped hydro storage. Having the resources across a REZ developed therefore has potential to enable a virtually dispatchable power plant in aggregate.

Regional communities that have seen recent renewable development note that they are even more of sugar hit for local economies than mining developments.[1] Heightened activity with a largely imported workforce runs for only months and leaves few if any new jobs. The ability to provide a sequence of projects to a community with local employment programs can make renewable development a sustained economy development opportunity.

Land use laws can further assist in development. Land that is already valuable agricultural land is usually the most accessible, while slightly more marginal land might be just as good for the renewable project (this is particularly a matter for solar farms, though they can still support grazing).

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Accordingly, Energy Consumers Australia suggests that the AEMC pause on the development of hedging instruments designed to apply to REZs until the essential definitional work is completed. We propose that the AEMC lead a process, in consultation with jurisdictions, industry and consumers, to develop a formal process for the designation of geographic areas as REZs and a corresponding program of support from jurisdictions for the defined REZs.

In our response to the Directions Paper we wrote:

> *We encourage the AEMC to identify the circumstances in which Government investment in transmission may be warranted as a means to assign risk to a party best capable of bearing and managing the risk. This is particularly relevant for transmission investment to service Renewable Energy Zones, where Government has other instruments (e.g. planning approvals, contracts for supply) that could ensure that the transmission is eventually fully utilized by generation built in the zone.*

This continues to be our view.

[1] Alexander Liddington-Cox *Regions tired of renewables 'sugar hit'* Australian Energy Daily 14 Oct 19

Conclusion

In the transitioning NEM different stakeholders have different views on whether the most important priority is more investment in transmission to make more effective use of available generation, or more generation to put downward pressure on wholesale prices. The most pressing need is neither of these.

No amount of new variable renewable generation will meet market needs without the development of large quantities of storage, either through grid scale physical (pumped hydro) or chemical (battery) storage, or through distributed chemical storage. Storage becomes viable through temporal or spatial price differentials. The access reform proposed together with Five Minute Settlement change the market in ways that will better and more appropriately reward storage investment.

The energy transition creates many challenges. The proposed access reform responds to the challenges created by the replacement of a few large generators by more smaller generators in different locations. Access reform in turn then creates challenges for the contract market.

All these challenges will be easier to manage if market bodies have access to sophisticated modelling tools, such as the 'digital twin' being proposed by AEMO. Development of sophisticated simulators of the technical characteristics of the system needs to be married with sophisticated simulation of participant decision making. We encourage the AEMC to make the investment in agent based simulations that will give a better understanding of how the market will be affected, and to make these simulations available to market participants.

However, we note that access reform as proposed by the AEMC is essential, and that delaying its implementation simply makes its eventual, necessary implementation harder. Speedy progress in the definition and design of REZs will also facilitate the development of a network to support the new operating environment of more smaller generators and storage.

Thank you for the opportunity to contribute to the consideration of this important topic. Please do not hesitate to contact David Havyatt, Senior Economist, on 02 9220 5508 or david.havyatt@energyconsumersaustralia.com.au, if you would like to discuss this submission further.

Yours sincerely,

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