
Energy Security Board

Congestion Management Model Consultation

January 28th

Dear ESB,

Iberdrola Australia welcomes the opportunity to make a submission. Iberdrola Australia delivers reliable energy to customers through a portfolio of wind capacity across New South Wales, South Australia, Victoria, and Western Australia, including both vertical integrated assets and PPAs. Iberdrola Australia also owns and operates a portfolio of firming capacity, including open cycle gas turbines, dual fuel peaking capacity, and battery storage. Our development pipeline has projects at differing stages of development covering wind, solar and batteries. This broad portfolio of assets has allowed us to retail electricity to over 400 metered sites to some of Australia's most iconic large energy users.

Iberdrola Australia is part of the global Iberdrola group. With more than 120 years of history, Iberdrola is a global energy leader, the world's number-one producer of wind power, an operator of large-scale transmission and distribution assets in three continents making it one of the world's biggest electricity utilities by market capitalisation. The group supplies energy to almost 100 million people in dozens of countries, has a workforce of more than 37,000 employees and operates energy assets worth more than €123 billion.

We are leading the transition towards a sustainable energy model through investments in renewable energy, smart grids, large scale energy storage and digital transformation, offering advanced levels of service to all our stakeholders and customers.

Summary of submission

It is critical that the ESB acknowledge the concerns of investors who are delivering both renewable energy and firming capacity in the NEM, as well as consumers and environmental groups who have almost unanimously rejected the continuous promotion of completely reengineering wholesale pricing by the ESB. These are not spurious or uninformed views, but rather the rational outcomes of investors seeking to deliver an efficient market.

In particular, there is strong opposition to implementing locational marginal pricing (LMP; whether the ESB's Congestion Management Model (CMM), COGATI, revised COGATI, or another variant). The consensus view is that LMP would deliver limited benefits, and indeed strong evidence that LMP reforms will impose significant costs on the system¹ and delay the delivery of new capacity. Most significantly, any form of LMP would need to have all consumers exposed to locational pricing for it to be effective (allowing load as well as generation to benefit from locational decision making). Given the ESB has ruled this out, the whole reform process is flawed and likely to be extremely counterproductive. Modelling from NERA commissioned by the AEMC was found to have significant flaws², highlighting the extreme difficulty in modelling LMP signals correctly even with direct collaboration between the AEMC and AEMO.

Ultimately, efficient investment requires information, and markets will make good decisions when quality information is available. CMM/LMP does not provide new information to investors. Therefore, we propose how additional information around existing congestion could be provided to the market. This would be a far better outcome.

We also strongly support the Clean Energy Council's submission to this consultation. Finally, we recommend the ESB focus their efforts on market signals for essential system services, and how to ensure the emissions and reliability targets of governments can be efficiently delivered.

1. Proposed objectives and outcomes of CMM

The ESB has proposed four objectives to be addressed by the CMM design:

1. Better signals for generators to locate in areas where there is available transmission capacity including, but not necessarily limited to, in the REZs that are being delivered through the ISP and state government policies.
2. Better use of the network in operational timeframes, resulting in more efficient dispatch outcomes and lower costs for consumers.
3. Establishing a framework that rewards storage and demand side resources for locating where they are needed most and operating in ways that benefit the broader system.
4. Measures to give investors confidence that their investments will not be undermined by inefficient subsequent connections.

We disagree that these are the most critical objectives to be addressed in the NEM or that local marginal pricing will deliver other value, as discussed below.

¹ <https://www.aemc.gov.au/sites/default/files/2020-10/EPR0073%20-%20Snowy%20Hydro%20submission%20COGATI%20interim%20report%2019Oct2020.pdf>

² Ibid.

LMP will do little to improve efficiency in the NEM

As state governments have identified, the most critical issue in the NEM is delivering new transmission and generation to replace existing aging coal generators. AEMO projects that 10,000km of new transmission line will be required, with most coal closed by 2032.

LMP does not help deliver either new transmission or generation, or facilitate emissions reduction – a key goal of governments.

- The ESB has explicitly noted that CMM will not help deliver the new transmission infrastructure that state and federal governments have highlighted is required. The ESB has explicitly noted this in its discussion paper.
- Given the rapid transition to renewables being facilitated by state governments, in the very near future the majority of resources behind a constraint will have the same short-run marginal cost (~\$0/MWh). There will be little benefit in complex arrangements to manage dispatch. We are not aware of any material examples of a market participant being undercut by a higher-fuel cost resources behind a constraint. (Objective 2) We urge the ESB to stop using 'hypothetical' examples of assets with materially different SRMCs. AEMO's ISP makes it clear (as does a recent paper on firming by Gilmore, Nelson and Nolan, Attachment 2) that almost all of the new 'energy' being produced in the NEM will be from wind and solar (with very low identical instantaneous SRMC).
- No new investment signals will be created by CMM (Objective 1) – all the same congestion and constraint information is already currently available to participants. However, forecasting future conditions always contains some uncertainty. If TNSPs or AEMO has more information, this should in the first instance be communicated to investors.
- To be clear, no investors or banks will finance a project if there is material congestion risk. The investment missteps to date have been driven climate policy discontinuity and a 'rate of change' problem (see Simshauser and Gilmore, Attachment 1). Combined with the greater transmission investment projected under the ISP and coordinated state REZ schemes, risk of investment errors will be lower (Objective 4). Regardless, these are investment risks that should be borne by sophisticated investors, not held by consumers.

Implementing LMP will impose material costs on consumers and risk state government targets being achieved

Conversely, implementing LMP will incur significant implementation costs, risk deferring investment in new generation, and will make delivering state renewable targets more expensive. Investment would become non-viable in most parts of the network (despite it potentially being a more efficient option).

- LMP significantly alters the risk profile of non-REZ investments, reducing efficient investment in the network. Whereas a slight overbuild of renewables that results in 1% of congestion in 30% of periods might result in 0.3% lost energy (and hence revenues), under CMM those projects would risk a 30% reduction in revenue – not tenable by banks. Network utilisation would fall (going against Objective 2).
- Market power will be much harder to manage: a constrained connection point effectively has a fixed maximum demand, in contrast with the wider NEM where both supply and demand are variable. This creates very challenging forecasting risks – far in excess of straightforward congestion metrics (going against Objectives 2 and 4).
- As such, LMP would replace a manageable congestion risk with an opaque and unhedgeable product (going against Objective 4) – noting that industry and the AEMC has already rejected Firm Transmission Rights as unworkable, and no consultant for the AEMC has been able to forecast LMPs into the future. In contrast, NEM prices are much less sensitive to specific locational or bidding decisions.
- New wind and solar projects would not be paid for energy delivered to consumers – something unheard of in any other commodity market.
- LMP would increase the risks and costs of non-REZ projects to state governments, exposing taxpayers to higher costs. This includes valuable storage projects, as well as businesses developing flexible capacity reserves in anticipation of unexpected coal closures.
- The constant threat of LMP implementation is deferring the development and contracting of new capacity.

While the ESB has focused on storage behind connection points (Objective 3), a critical role for storage is delivering firming, including backing the sale of cap contracts or firmed energy contracts with customers. We have not seen any evidence that there will be material “free energy” behind constraints available for charging. Instead, LMP represents a material and unquantifiable risk to storage, that far outweighs the benefit a small number of hours of accessing curtailed energy. We further note that with higher share of renewable energy, economic curtailment will be common and provide a source of low-cost energy.

Unless the ESB proposes to expose *all* load to the LMP, such a scheme will never better coordinate load and generation.

There are no problems that LMP will solve

Critically, state governments have developed highly effective approaches to delivering essential new transmission capacity and unlocking higher levels of renewables. For example, NSW has adopted a prudent physical access model to manage the initial “rate of change” risks associated with new transmission developments, with a long-term return to an open access network.

Combined with the implementation of 5MS (reducing “race to the floor” bidding incentives), the delivery of a credible ISP most-likely scenario that will identify and unlock requirement transmission investment, and the painful lessons learned by

some investors (who made what were *in hindsight* costly investments during a investment megacycle – at no cost, and indeed significant benefit, to consumers) - there is no material problem in transmission that remains to be solved through implementing LMP.

Conclusion

The ESB should reject implementing LMP and provide certainty for participants and state governments.

Stakeholders have provided clear feedback to the ESB that implementing LMP (whether through COGATI or CMM) does not deliver benefits – indeed, the technical working group assembled by the ESB in 2021 strongly supported “no new schemes” when polled by the ESB.

2. Alternative models

That is not to say that there are not valuable contributions that the market bodies could make in this space. We propose three specific options that we consider would deliver consumer benefits.

First, is the development of a Transmission Statement of Opportunities that identifies the available capacity and potential congestion at each point on the network both now and given the coal closure timeline of the ISP’s scenarios. This would provide a clear signal to investors as to how much capacity could currently be developed, but would help inform state governments as to the potential locations of new REZs.

If material (ex post) investment errors continued, this document could be used as part of the planning approval process, where investors would need to justify why overbuild in an area was in the interest of consumers. We do not recommend this in the near-term, however, given the significant market changes already implemented and the significant challenges associated with “queuing”.

To be clear – economic decision making requires information. Pricing without information will be always be sub-optimal. If AEMO or TNSPs have information that the ESB does not believe is being effectively communicated with investors, then this should be addressed promptly. Once quality information is flowing, markets will make good decisions. (Note also that this information would underpin LMP modelling and inform “acceptable locations” under the ESB’s proposed CMM approach – so this *must* be the ESB’s first step regardless)

Secondly, the ESB should further investigate the Congestion Relief Market proposed by Edify, which would create a platform for constrained generators to sell their energy behind the constraint (e.g., to a flexible load or to an energy storage unit) at a bilaterally agreed price, that might be less than the LMP. This would address the issue raised by the ESB of incentives for storage (or other technologies) to relieve congestion. It may also be appropriate to consider whether the resolution of NEM constraint coefficients are currently appropriate and whether “rounding” of coefficients could allow for more rational tie-breaking approaches.

Finally, the ESB should continue to support state governments in delivering their REZ schemes, including the proposed physical access models.

We look forward to working with the ESB to deliver effective policy outcomes for the NEM. If you would like to discuss this submission, please contact Dr Joel Gilmore on joel.gilmore@iberdrola.com.au or 0411 267 044.

Yours sincerely

Ross Rolfe
Managing Director