

To AEMC
Reference EPR0073
Submitted via website
Date 19 Oct 2020

Subject COGATI Consultation

Infigen Energy (Infigen) welcomes the opportunity to make a submission. Infigen 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. Infigen also owns and operates a portfolio of firming capacity, including a 123 MW open cycle gas turbine in NSW, a 25 MW / 52 MWh battery in SA, and will soon take ownership of 120 MW of dual fuel peaking capacity in SA. Our development pipeline has projects at differing stages of development covering wind, solar and batteries and we are also exploring further opportunities to purchase energy through capital light PPAs. 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.

COGATI should not proceed

Infigen does not support the proposed COGATI reforms.

COGATI does not solve any problems

The problem that COGATI is intended to solve remains unclear, as the policy and design objectives continue to shift:

- COGATI was originally intended to revisit Optional Firm Access, and require generators to fund new transmission. This was rejected as it would result in significant delays to new investment, and significantly increase complexity.
- An updated proposal removed the planning aspects, but proposed local marginal pricing (LMP) with short-dated FTRs. However, it was noted this did not provide any additional certainty to investors, but created significant complexity and heightened risk.
- The next proposal introduced long-dated FTRs, with the intention of hedging both congestion and losses. However, it did not propose how complex issues of the transition, temporal firmness, losses, and fair pricing would function.
- The most recent iteration has recognised there is no effective way of providing long-term hedges against losses, and there are significant challenges with how to allocate FTRs for 10 years into the future.

This evolution highlights the difficulty in changing an active market design (a useful analogy being switching from driving on the left side of the road to driving on the right).

In practice, we expect the disruptions to the financial markets (both retail and contract) to be severe, and risk delaying critical investment to meet state renewable energy targets as well as overall NEM affordability and reliability.

The most recent position adopted proposes three reasons for introducing the reforms:

- Reducing generator risks: yet an AEMC survey revealed 100% of investors said it will do the opposite.
- Improving locational decision making: Existing problems were caused by the rate of change due to policy discontinuity of the Renewable Energy Target. Existing MLF framework provides more than enough locational incentives.
- Efficient pricing: Efficient pricing will only occur if CoGATI reforms are applied to both generators and loads. This is likely to be unacceptable to policymakers as it would present significant equity impacts.

It is disappointing that the reforms are not grounded in any attempt to use the existing regulatory framework to properly integrate energy and climate policy. Energy policy is only one relevant consideration for the development of new renewable energy projects. Climate change should be explicitly recognised as a relevant consideration by energy policy makers. Unfortunately, current 'reforms' seem to focus entirely on valuing the perceived 'problems' associated with renewable energy, while there is little recognition through the market rules about the valuable contribution made by renewable energy towards Australia meeting its international emission reduction obligations. A higher penetration renewable energy system reduces the systemic financial risk faced by the Australian economy and provides optionality for significant benefits to flow from new technologies such as hydrogen. It is uncontroversial to say that such developments are in the long-term interests of consumers.

COGATI will not help investors

The proposed COGATI model does not provide any improved certainty to developers, or address the key challenges of ensuring sufficient transmission is delivered in a timely fashion. Rather, it proposes to trade the well understood and quantified congestion risks for a complex scheme that exacerbates congestion risks (becoming a binary risk – potentially, either the regional price or zero revenue, even if prices are high and the resource is valuable).

If FTRs were released progressively over time, developers of new projects would be forced to begin purchasing FTRs well in advance of project commissioning, increasing development costs and risks. While FTRs acquired ahead of time would partially de-risk potential future projects, it is highly likely that lenders will require the continued acquisition of FTRs as a condition of finance – locking equity providers into the purchase of products at an unknown future price. The firmness of these assets is still unclear, particularly if large-scale disruptions like the SA System Strength constraints applied again in the future.

COGATI will disadvantage small participants

The additional complexity of valuing FTRs, purchasing, risk sharing through contracts, and regulatory compliance will significantly increase barriers for participation. For example, in the US, the cost of operating in small markets is typically high due to dedicated systems that must be developed for those markets. This will reduce competition, and is unlikely to be in the interest of consumers.

Modelling nodal prices will be very challenging

As noted below, despite having direct access to AEMO and the AEMC, NERA was unable to accurately complete this task.

COGATI will increase risks and project costs and not change the end outcome

Given there is no appetite to expose loads to locational prices, the outcome will be the same - increased transmission infrastructure investment to new Renewable Energy Zones (REZs). Locational marginal pricing would only be effective if loads could benefit by shifting their consumption behind a point of congestion. Otherwise, the most economic outcome would be facilitated through REZ development and generation connections up to the physical capacity of the REZ.

Industry and consumer groups do not generally support COGATI because it is not in the long-term interests of consumers

As noted in the table in Attachment 1, in the previous consultation phase, the majority of organisations were not in favour of COGATI.

If not COGATI, then what?

The AEMC has already been heavily engaged with several key programs which we see as critical to delivering the original intent of COGATI: coordinating future generation and network investment. In particular, ensuring that network assets (both transmission and system strength) are available in a timely fashion to deliver reliable electricity supply as well as facilitating the Australian electricity sector achieving emission reduction obligations required by the Australian Government's international emission reduction commitments.

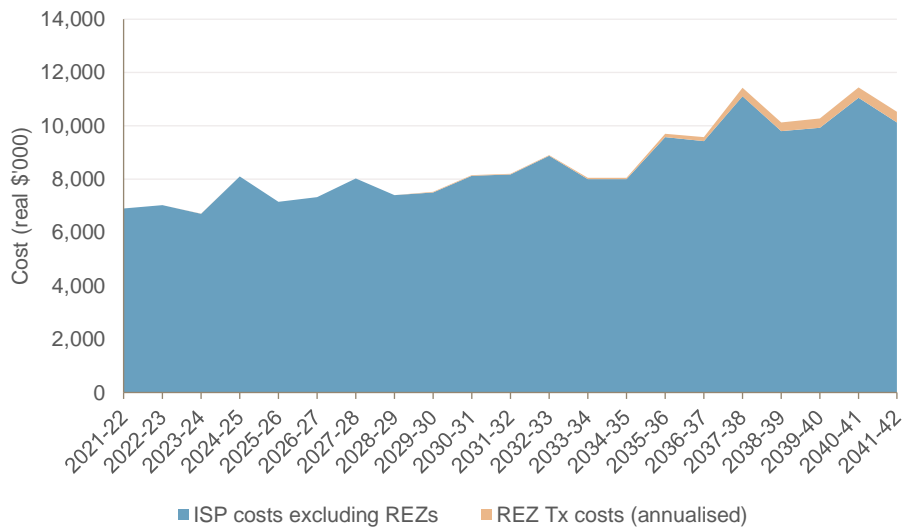
Actioning the Integrated System Plan (ISP) to deliver new Renewable Energy Zones (REZs) has been a key success of the Energy Security Board's work program. Infigen strongly encourages the AEMC to work with the ESB and individual state governments to establish frameworks for connecting new generators on specific REZ infrastructure that carries energy to the shared network. This would be a far better outcome for consumers as it would facilitate additional supply, placing downward pressure on prices. Existing work programs related to mandating system strength levels would also facilitate better outcomes for consumers by enabling TNSPs to plan investments (based upon the ISP¹) ahead of time.

It is also important to keep costs and benefits in perspective.

Despite the outcomes of NERA's contentious modelling (see below), AEMO's ISP suggests that future intra-regional upgrades (REZ zones) will be only ~1% of future NEM costs (Figure 1). The actual cost to consumers as a percentage of their bills will be even smaller, once returns to sunk capital, network costs, and retailer margins are taken into account. While these costs are material and should not be ignored, they fall into the class of "rounding errors".

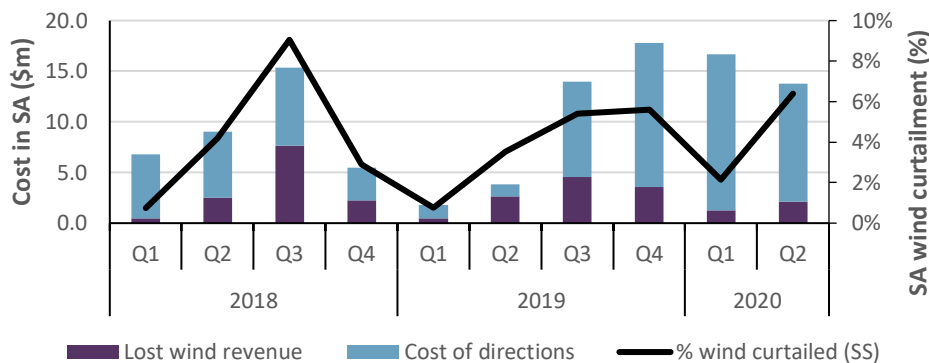
¹ In fact, Infigen would strongly recommend that the ISP's central scenario be a scenario that reflects Australia's international emission reduction commitments: net zero emissions by mid century or earlier, consistent with a carbon budget that achieves a 1.5 degree outcome.

Figure 1 Annual 2020 ISP system costs



In contrast, system strength directions and curtailment is already at 3-5% of consumer wholesale costs in South Australia (Figure 2), and so (rightly) should be a focus of the AEMC.

Figure 2 Cost of system strength in South Australia



Source: Infigen analysis of AEMO data, AEMO QED publications

NERA modelling is not fit for purpose

Infigen thanks the AEMC for undertaking modelling to consider the potential costs and benefits of the COGATI reform; this was long-requested by industry to help in understanding the potential costs and benefits.

Unfortunately, the NERA model is not fit for purpose. While there would normally be an opportunity for further iterations, the modelling was not commenced until very late in the COGATI process. Delivery delays and lack of transparency on outcomes has meant that there is limited opportunity to address the significant flaws in the NERA modelling. Given that nothing in the modelling depends heavily on the COGATI design (focusing primarily

on LMP vs RRP, rather than the full NEM market), we consider this modelling could (and should) have been commenced as a first step.

The NERA modelling has multiple flaws. Although NERA has acknowledged the technical challenges, the model is not sufficient to draw conclusions from. For example:

- The model uses just 24 representative hours for each month of modelling – this cannot capture key trends such as the diversity and correlations of renewable resources, importance of energy storage, and demand trends. NERA has not reported “carving out” night-time periods for solar, meaning the model may have solar generating overnight.
- Batteries treated as peaker units, with an SRMC given by their LRMC – this is non-physical, and does not capture how batteries operate.
- No iterative process is used to assess appropriateness of investments once time sequential modelling was undertaken.

Critically, NERA appears to have done no benchmarking of the model against the ISP, the most comprehensive public model currently available. NERA’s model features ~40 GW of solar power developed in the Base Case (status quo) by 2040 – whereas AEMO modelling shows only 15 GW (or at *most* 25 GW in the step-change scenario, that NERA did not model). Conversely, NERA’s model built less than half the expected amount of wind.

This has led to bizarre outcomes, such as the suggestion that in the base case (status quo), an unnecessary 20,000 MW of solar will be developed – while in the COGATI case, somehow this solar will no longer be needed. It is therefore unsurprising that the model produces astronomical benefits that are inconsistent with the previous work of EY, or of NERA’s own estimates.

While modelling will be valuable for future studies, this demonstrates the importance of working with Australian modelers that have the deep understanding of the NEM necessary to deliver credible outcomes.

Conclusion:

We look forward to the opportunity to continue to engage with the AEMC. If you would like to discuss this submission, please contact Dr Joel Gilmore (Regulator Affairs Manager) on joel.gilmore@infigenenergy.com or 0411 267 044.

Yours sincerely

Ross Rolfe
Managing Director

Attachment 1 – Assessment of stakeholder positions on COGATI based on submissions

SEGMENT	DEGREES OF NOT IN FAVOUR			DEGREES OF IN FAVOUR		
	DEFINITE	QUALIFIED	LEANING	LEANING	QUALIFIED	DEFINITE
INDUSTRY ASSOCIATIONS	Clean Energy Council Australian Energy Council Smart Energy Council			Energy Networks Association	Australian Aluminium Council Australia Forest Products Association	
TRADITIONAL GENERATORS / GENTAILERS	AGL Energy Energy Australia Origin Energy Snowy Hydro			Delta Electricity ENGIE		
NEW GENERATORS	Infigen Tilt Renewables Neoen Total Eren Meridian Innogy Canadian Solar	BayWa r.e.	Pacific Hydro Enel Green Power GoldWind Hydro Tasmania		UPC Renewables	
NEW INVESTORS	Clean Energy Investor Group Australian Financial Markets Association (AFMA) Black Rock Foresight Group					

SEGMENT	DEGREES OF NOT IN FAVOUR			DEGREES OF IN FAVOUR		
	DEFINITE	QUALIFIED	LEANING	LEANING	QUALIFIED	DEFINITE
EMERGING RETAILERS	Flow Power ERM Power (Shell Energy) ESCO Pacific CS Energy WindLab					
NETWORK SERVICE PROVIDERS	ElectraNet Aurecon AusNet Services Energex Ergon Energy	Mondo	Energy Queensland	TransGrid TasNetworks		
CONSUMER GROUPS	Major Energy Users Brickworks				Queensland Electricity Users Network	
ANALYSTS, THINK TANKS & ACADEMIC	Victoria Energy Policy Centre LocoParentis ITK Services		Grattan Institute			