Submission

Infigen

Level 17, 56 Pitt St,
Sydney NSW 2000
Australia

T 02 8031 9900
infigenenergy.com

Infigen Energy Ltd
ABN 39 105 051 616

To ESB
Submitted via email
Date 12 Feb 2021

Subject ESB REZ Consultation

Overview:

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 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.

Infigen's key points are:

- The ESB has not focused on the key policy issue requiring resolution: integration of Australia's obligations to reduce emissions in a manner consistent with the world mitigating climate change to no more than 1.5-2 degrees Celsius (this is explicitly stated in the COP21 agreement Australia has signed up to).
- The ESB has focused on an unfounded need for access reform – which has been rejected by industry and consumer groups.
- Issues relating to access in the past few years were driven by policy discontinuity, not the transmission access framework. Constant adjustments to renewable energy policy drove a boom bust scenario for investment that led to the transition being excessively squeezed into just the few last years (known as the 'rate of change' problem).
- The focus of policy makers should be one a sustainable policy that gradually (rather than suddenly) transitions the electricity sector to zero emissions.
- As such, the ESB's focus should be unlocking transmission in a timely manner to enable an efficient transition to a zero emissions electricity sector
- The ESB should consider the simplest option: open access, but with greater information sharing or coordination (e.g., options for first mover advantage) during the early stages of the REZ to minimise "rate of change" problems.
- Any access rights should be kept as simple as possible, with a focus on minimising costs to consumers (which includes impact on wholesale prices and asymmetric risks of investment delays)

1. The issue and the need for reform

1.1 Context and summary of ESB paper

In this paper, the ESB is considering how access should be managed under future REZs that have been proposed by AEMO and have passed a RIT-T. That is:

- A transmission investment associated with a REZ is classified as an actionable ISP project
- The project passes the RIT-T, demonstrating net value to consumers
    - Governments may partially offset the project cost to assist a project in satisfying a RIT-T
    - Generator contributions (if any) are considered wealth transfers, and are not included
- The transmission project is delivered by a TNSP

The ESB is considering whether changes to the frameworks should be implemented, particularly around the access regime. The ESB proposes to establish a framework to coordinate connections. Rather than having the open access regime apply to the REZ,

- generators would participate in an auction or tender process in order to compete for the right to be a foundation generator within the REZ.
- The capacity made available to generators via the tender process would be capped at a level that reflects the hosting capacity of the REZ
- Other generators would be able to connect to the REZ after the initial tender process, however they would need to do so in accordance with the REZ access regime.
- A REZ coordinator would be appointed to select tenderers through a formal process, e.g., by selecting a suite of projects that promote the long-term interest of consumers, costs and benefits, etc.

1.2 The ESB is incorrectly focused on access reform

Infigen strongly supports developing new transmission capacity to unlock new renewable capacity, and help the grid transition to a low emissions future at least cost. While REZs are not a complete solution, they are likely to be a critical part of the future.

However, the ESB has incorrectly defined the *problem* as one of access reform, such as stating “it will be necessary to transition to a broader based access regime”. The ESB appears to have ignored the extensive industry consultation on COGATI, where there is almost universal opposition to the need for access reform more generally and COGATI more specifically.

We are disappointed that the ESB has chosen to spend resources by using REZs as a platform to advance the unnecessary and unsupported COGATI proposal, rather than focusing on how to deliver necessary projects and transmission in a timely and efficient manner. We provide further comments below.

Access reform is a solution looking for a problem

We emphasise again that COGATI is a solution looking for a problem. This is evidenced by the AEMC's continual shifting from the problem being one of generators funding new transmission, to improving locational signals, to providing greater certainty for developers.

To be clear: investors are not requesting access reform, and no problem definition statement has been developed that would justify it. While it's true that "in an interconnected power system, investment decisions elsewhere on the power system resonate across the grid", this is a risk that market participants are able to manage. Indeed, detailed analysis by Baringa – who have an understanding of the Australian context – found that access reform would be costly for consumers.

We also note that gas markets and pipeline access – which have historically relied on firm access – have been recognised as inefficient, and are indeed moving towards open access.

The ESB has misunderstood the issues

The ESB states correctly that the top two concerns of investors are:

- unpredictable grid connection process and associated delays in commissioning (84%); and
- increased risk and constraints placed on operational projects (74%).

However, the ESB then says "These challenges are the direct consequence of the current access regime, which requires AEMO and TNSPs to connect new generators that meet specified technical standards, even if the effect is to constrain off pre-existing generators."

The significant project delays would have occurred regardless of the access arrangements. Either AEMO nor any TNSP identified the relevant constraints ahead of investment decisions. In several cases, projects have been curtailed by issues that emerged *after* they had connected.

The project delays are entirely due to a "rate of change" problem, exacerbated by a lack of forward looking planning by the market bodies. The ESB risks further exacerbating this risk by being unwilling to consider realistic emissions reduction trajectories or climate change [1] impacts, therefore underestimating the pace of change. To be clear, it is the lack of integration of the required climate change objectives into the system planning process that is causing the issues of concern listed above. Failure to plan ahead for a high penetration VRE system implies that relevant bodies were ignoring the investment required under the RET and other policies designed to assist the sector meet Australia's emissions reduction objectives.

If TNSPs had identified genuine challenges ahead of time, this would have been communicated to developers; Infigen is not aware of this occurring. None of the access reform proposals to date would have addressed these issues. Even the ESB's REZ access options are only effective to the extent that TNSPs and AEMO can identify issues in advance (e.g., interactions with inverters, the impact of closure of aging coal units, etc.).

There are already strong locational signals in the NEM

The ESB has argued, "the current market design does not provide strong enough signals to encourage generators to locate in an optimal place from a whole-of-system perspective." However, no evidence has been provided to support this statement.

[1] A term that is conspicuously absent from the ESB's January Directions Paper

There are strong locational signals in the NEM – through both congestion, constraints and marginal loss factors. To the extent that participants made what were (in hindsight only!) poor investment decisions, this is a cost worn by those participants, not consumers. Any subsequent transmission investment has been to deliver a net benefit to consumers.[2]

There are many opportunities for greater information to be provided to investors, such as the more regular MLF updates by AEMO, and greater transparency around binding constraints and MLFs in the ISP. However, this requires the ISP to be more realistically based around decarbonisation objectives. If regulators and market operators are comfortable making assumptions about new technology costs, then it is not clear why assumptions cannot be made about the most appropriate trajectory of emissions reduction to achieve Australia's international commitments.

Infigen is supportive of a clear pathway for decarbonization that avoids "boom and bust" cycles that lead to these problems. As discussed in Section 2, there may be a role for a REZ coordinator to reduce coordination issues with a REZ, but this is distinct from access reform.

REZs should not be considered a "means of providing locational signals".

The key purpose of REZs is to unlock low-cost resources and address transmission constraints *before* they become costly and binding. This will have the effect of increasing generation at that location, but should not be seen as correcting a missing signal: investors always seek to build at the best available location, subject to known constraints. Rather,

The ESB should immediately rule out implementing LMP and access rights for the wider NEM

Infigen does not support the ESB considering "the transition to a whole of system access solution in early 2021". This has been discussed extensively through a consultative process with the AEMC – reopening all the same arguments by the ESB will be costly for participants, and will increase risks for investors. Any access reform discussions should be pushed back to beyond 2025, to provide certainty for investors and consumers.

1.3 Defining the problems

Industry has been advocating for REZs as they have the potential to address multiple key problems in the NEM that are broadly agreed by participants:

- The timing of new generation and transmission has been consistently challenging, with transmission lagging generation. Some level of new intraregional (and interregional) transmission is likely to be required in the future;
    - Delivering scale efficient network infrastructure and coordinating multiple generators has not been successful to date. A REZ framework can allow transmission to be delivered in a timely manner.
    - To date, generation has led transmission, such as in Western Victoria. In hindsight, given that Western Vic is highly suitable for renewable generation, developing new access would have reduced system costs.

[2] Obviously this assumes the generator cost is sunk. However, the counterfactual is not necessarily building generation elsewhere – it may be that transmission should have been developed *first* to unlock the resources without the congestion.

- Risks are asymmetric: while the cost of new intra-regional transmission is only expected to be 0.8-2.1% of future system costs (AEMO 2020 ISP), the cost of *not* having these resources is likely to be much higher.
- Grid connection is challenging. Establishing dedicated REZs could streamline the connections process by delivering system strength, inertia, and other services in a coordinated way and by allowing TNSPs to progress the necessary grid connection studies in advance of connection.

This is not to say that new transmission is the solution to every problem – it may be possible to develop significant capacity outside of new REZs, using the existing transmission system. However, REZs provide a potential pathway to evaluating and exploring these options.

2. Consultation questions

3. Do stakeholders agree with the proposed objectives for a regulated REZ development model?	The ESB proposes the objects are to: • Overcome current problems associated with an uncoordinated connections process; • Ensure that the group of projects that become part of the REZ (the REZ participants) is selected on a basis that aligns with the long term interests of consumers; and • Reduce the level of risk and cost borne by customers. As noted in Section 1, Infigen does not agree with the premise of the ESB's first objective, and suggests that this should be removed. Instead, the objective should be "Facilitate the efficient coordination of multiple parties, consistent with Australia's international emissions obligations and state government net-zero emissions targets"
4. Are there alternative, preferable options for deciding which generators become part of the REZ?	Infigen has provided an alternative in Section 2.2
5. Which party is best placed to perform the role of REZ coordinator where the REZ is being developed in accordance with the regulatory framework? Should the decision regarding the identity of the REZ coordinator lie with the State government?	Infigen supports establishing a new specialized government entity for coordinating and managing REZs in each region. Alternatively, the Clean Energy Regulator or the Clean Energy Finance Corporation could be appointed to this role on a national level. Both organisations have a commercial understanding of clean energy investment, and would be able to act in the interest of consumers.
6. Are the functions to be undertaken by the REZ coordinator in the regulated model appropriate?	The ESB's initial view is that the REZ coordinator could be required to: • establish minimum requirements for parties participating in the REZ process; • select the successful tenderers based on certain criteria. We provide further comments on these below. We note the REZ Coordinator might also need to determine what conditions, if any, are placed on subsequent projects, how grandfathering should be treated for existing projects, etc. These questions are appropriate for an independent advisor, rather than AEMO or a TNSP.
7. What, if any, qualification criteria should the REZ coordinator apply to prospective REZ participants?	To the extent that a REZ access regime is established, it would be appropriate for certain criteria to be applied. This could include: • Projects that have a clear channel to market; that is, they will be used to support affordable customer contracts. Policy makers need to ensure developers are focused on the overall purpose of their project – supplying energy to end-customers. • Projects that are sufficient progressed to ensure low delivery-risk
8. What objective or objectives should the REZ coordinator	Finding an "efficient" mix of generation is a complex exercise. In our view, a competitive market is best placed to deliver the most efficient outcomes. For

should seek to achieve when selecting successful tenderer?	instance, the ISP has never accurately predicted future generation development. This should not be seen as a criticism, but rather as a fundamental limit of models. More preferable is for investors to make commercial decisions and bear both the upside and downside risks. A key question is the hosting capacity of the REZ, which may depend on the mix of resources in question or may simply be a defined MW quantity. An efficient system would likely involve (as noted by the AEMC) *some* level of congestion – the REZ Coordinator should therefore allow for this when determining the total quantity to be procured. When auctions are held, overall value is likely to be improved if some level of consumer benefit and efficient transmission use is considered when selecting the mix of projects.
9. Should the Rules establish a framework to ensure that the REZ delivers an optimal supply mix?	The Rules should not constrain (for example) state governments from playing a role in the objectives of REZs they are funding.
10. Should regulated REZ developments be subject to a requirement that they may only proceed if a certain proportion of the planned capacity of the preceding REZ stage is subscribed?	If a REZ passes a RIT-T, then barring a material change in circumstances (e.g., costs, policies, etc.) it should be developed. However, if there are subsequent stages of the REZ to be developed, it would be appropriate to make these contingent on some level of takeup of the earlier stages. I.e., the REZ coordinator should not just proceed with the next 2 GW if none of the first 2 GW have been used.
11. Should the REZ coordinator return any surplus auction proceeds to customers in the form of a reduction in TUOS charges?34	We do not consider that auctions should be designed with the *aim* of returns to consumers. If a RIT-T has been passed, the asset is by definition expected to deliver value regardless of cost recovery. Adding complexity of auctions will increase costs and therefore reduce the benefits to consumers. If an auction is run and fees are charged, Infigen supports revenue being returned to consumers as a default. However, there should be appropriate performance obligations on TNSPs, including for timely network infrastructure delivery, with generators compensated for delays.
12. Should the ESB consider REZ models that allow for speculative investment that departs from the ISP, in order to reallocate risk away from customers, such as the one put forward by the Public Interest Advocacy Centre (PIAC)?	Infigen supports further consideration the proposed PIAC model, or similar variations. This "benefiter pays" approach would apportion costs of the REZ between both consumers and generators, but would also allow speculative investors to leverage economies of scale if they have a different view to AEMO.
13. How should pre-existing developments be treated within a REZ framework? At what stage of development should a project be considered a pre-existing development?	Any existing projects should continue under the open access framework, not be disadvantaged by the REZ access arrangements. That is, there should be no financial penalties beyond normal market competition, and they should not be subject to any change in settlements. Projects beyond a certain stage (we suggest connection applications submitted) should be considered by the REZ coordinator as existing projects for the purposes of evaluating hosting capacity. These projects could be offered the choice of whether to participate in the REZ (with any costs and associated access rights).
14. Should the REZ framework contemplate brownfields developments? If so, should developers have the ability to influence the location and configuration of the REZ transmission assets within a brownfields REZ?	If there are cost-effective upgrades to be made to the network, then a RIT-T would support the network upgrade. Examining existing constraints and evaluating upgrade options should be a critical part of the ISP. Except in very specific cases (such as simple upgrades to radial lines), we do not support access rights being associated with such upgrades. As demonstrated by the failed OFA and COGATI processes, fair allocation of rights to incumbents is intractable.
15. Are the evaluation criteria set out in the introduction to Chapter 5 appropriate?	Infigen supports the ESB's proposed evaluation criteria, but suggests two additional criteria: • The extent to which the various models are likely to promote efficient power system operation, investment, and risk allocation.

	• The practicality and deliverability of the options. As the interim solution to broader access reform, REZ solutions need to be able to be implemented in the short term and the associated costs. • The impact of the option on efficient investment in, and use of, storage. Given its versatility and its ability to either relieve or worsen congestion, REZ frameworks need to be designed in a way that rewards storage for contributing to efficient overall outcomes. • The extent to which the REZ option is consistent with actioning the ISP and the long term move towards an enduring access reform solution • The ability of the model to deal with potential complexities in some REZs including network loops and legacy generators. • The extent to which the model enables state governments to meet their net-zero targets at least cost • The impact of access arrangements on total consumer costs, including wholesale prices and firming
16. Which option for access within a REZ is preferable?	These questions are addressed below.
17. Are there alternative options that the ESB should consider?	
18. Are there potential improvements to the options that the ESB should consider?	
19. If the ESB were to adopt one of the access options outlined in this chapter, would it be necessary to restrict connections outside of REZs?	
20. If the ESB were to adopt the financial access protection model, should it also adopt measures to avoid winner takes all outcomes?	
21. If the ESB were to adopt the financial access protection model, should subsequent connecting generators be required to provide compensation that reflects the regional reference price?	
22. If the ESB were to adopt the financial access protection model, how should financial compensation be allocated between REZ generators? Is generator availability an appropriate metric?	

3. Access options within the REZ

We note that REZs will be developed for various reasons, including privately led proposals and by Governments for the express purpose of meeting climate change targets (which are not being considered by the ESB). We are focusing here on REZs developed through a RIT-T process.

We consider that all design options should be focused on the fundamental objective - facilitate a least-cost transition of the grid for consumers, consistent with the NEO – and should try and address clearly defined problem definition statements.

Many steps have already been taken

We note that state government REZ plans and the ESB's positive steps towards actioning the ISP have increased the likelihood of new transmission being developed.

Access beyond the REZ

Under the ESB proposals, no access rights would be given beyond the boundary of the REZ. Infigen supports this approach. The development of a REZ should not prevent efficient investment elsewhere in the NEM. The REZ Coordinator should be tasked under the Rules as drawing the boundary of the REZ as narrowly as is reasonable while still containing the new network infrastructure. The REZ should not extend into the unaugmented shared network

However, it is critical that REZs be developed with a clear plan of how generation will be delivered to customers. This includes both physical delivery (i.e., sufficient connection to load centers) and financial delivery (ability to contract with customers should be one criteria used when selecting projects, if this is a responsibility of the REZ Coordinator)

Consideration of whole-of-system costs

Infigen notes that any costs imposed on connecting generators would increase the new-entrant cost and have a flow on effect on consumer prices in excess of the actual costs involved (wealth transfer to incumbents – due to uniform price clearing market structure). New transmission delivers benefits to both customers and generators. Given that much of the existing network was built to service coal generators and paid for by consumers, imposing all costs on generators would disadvantage new entrants.

3.1 Option 0 – No access reform

The ESB has not considered the obvious starting point for REZs: no access reform. If a development has passed a RIT-T, then it has been agreed to be in the long-term interest of consumers. We do not expect that a successful RIT-T would be contingent on access arrangements[3].

- ESB has not undertaken analysis of the costs and benefits of access arrangements, and in particular the risks of inefficient transmission usage – something highlighted consistently by submissions to COGATI.
- ESB suggests there is "no provision to implement the generation and storage associated with a REZ given this is driven by the market and so therefore changes are needed to the current access regime". In practice, markets are highly efficient at delivering low-cost outcomes – for

[3] As the COGATI consultation has demonstrated, there is no evidence that future investment is contingent on access reform (in fact, there is advice to the contrary).

example, an efficient mix of generation can be delivered without central decisions. In particular, congestion behind a radial constraint is not a cost to consumers – developers do and should manage these risks.

- ESB also suggests, "for the REZ framework to be useful, generators need to be incentivised to participate." As noted above, investors will always seek out low-cost opportunities. If generators did *not* want to participate in an open-access REZ, it would suggest that other (open access) locations are better and imply a planning failure in the REZ development. This same risk applies if access charges are too high to compensate for any reduction in uncertainty – and we note that the ISP projects very minimal network congestion in the (now outdated) Central scenario.

Infigen has considered how an open access REZ would function:

- An actionable ISP project passes a RIT-T
- The new transmission would be developed and, simultaneously, TNSPs would consider connection applications from generators.
    - This would function the same as for generators who are considering connecting to the existing network. No timing obligations would exist on either party unless agreed in a connection agreement.
- If necessary, sufficient system strength would be managed through the outcomes of the TransGrid rule change being considered by AEMC
- Once the new transmission was commissioned, generators could connect as they would to any other line, making commercial decisions about current and future projects.
    - A well designed REZ would be attractive to participants as it would presumably unlock high quality resources
- Generators would not pay access fees (other than below) and would accept the usual commercial risks that have underpinned all NEM investment, and in particular, $20bn+ of investment over the past 4 years.
- Long-run wholesale prices would reflect the new entrant cost of a project, rather than the cost of a project *plus* transmission access rights, potentially delivering lower prices (wholesale plus TUOS).
- The line would be utilised to the maximum extent commercially viable, delivering maximum value to consumers.

The advantage of this approach is that it provides a clear and transparent approach, and allows the market to drive the least-cost mix of resources.

One of the fundamental problems with access reform to date is that it only applies to generators and not to loads[4]. This means that congestion can only be reduced by new transmission rather than by charging loads based on their location (above the existing MLF signals). This fundamentally distorts the market,

[4] Non-scheduled loads, which are the majoriy of customers

and biases fixes towards new transmission capex. Under an open access regime, more options are available to adjust the level of capacity – including developing energy storage.

3.1.1 Enhanced open access frameworks

While this option is attractive, a lack of a coordinated approach to climate policy could lead to a "rate of change" problem in a new REZ. This would be seen as a risk by investors. An open access REZ could therefore be enhanced without enduring access arrangements[5]. For example,

- **Auctions for first mover advantage.** An auction could be held for "first mover advantage" (a form of access protection, as per ESB's Option 1). That is, the right to develop and connect a project within [3] years, with other projects excluded from the REZ for that period. After that time, new projects would have clear visibility of the level of congestion, MLFs, etc., within the REZ; we consider it unlikely that developers or banks would finance projects if there was likely to be material congestion. This protects first movers from the "rate of change" problem of 2017-2020. Conversely, open access allows for continued innovation and more efficient transmission usage.
- **Information sharing.** For a period of [5 years] from the REZ proposal date, there could be greater information sharing obligations on connection applications or proposals. For example, TNSPs could be required to share details with other applicants. This could aid in coordinating projects, at the expense of some confidentiality.
- **Community benefit fees.** While projects would not pay access fees or receive access rights, new projects connecting to the REZ might contribute to a fund that would support communities across the REZ, contribute to environmental sustainability, etc. This could apply as a small annual cost to all projects connecting within [5 years] of the REZ commencement date[6]. This would be in addition to any other payments agreed between developers and local communities.

3.2 Option 1 - connection access protection model

Under this option:

- An initial tender for capacity to deliver the foundation REZ generators
- Local access protections would be maintained through ensuring future connections within the REZ do not harm the foundation members

This appears to be the most straightforward model that limits the build in the REZ: a REZ is modeled and developed on the basis of a certain capacity connecting, which is then procured.

[5] Enduring arrangements are more complex, particularly as the grid changes and the "REZ" becomes harder to define.
[6] A cost on the order of $0.05/MWh would raise ~$35,000/year from a 100 MW wind farm, or $1m pa across a 3 GW REZ. While projects could in theory delay connection to avoid the fee, they would face the risk of other first movers filling the REZ and seems unlikely.

- This approach has the advantage of straightforward procurement of capacity and a familiar settlements and operating regime for participants. It also avoids more complex settlement processes or counterparty risks.
- If the initial tender does not deliver resources equal to the hosting capacity, subsequent projects could be connected on the same basis as "non-REZ" generators. However (and this applies to all models) it is not clear on what access fees those generators would pay (if any) or how this would be set
- We note that centrally determining an efficient mix of resources is challenging
- We agree with the ESB that, "Congestion is likely to be a normal, everyday feature of efficiently sized transmission infrastructure to accommodate variable renewable generation – not an anomaly."
    - Determining a suitable *commercial* hosting capacity (distinct from the physical limits) will be critical to ensuring efficient use of the line. We expect that this is more than the MW rating of the line, and would be contingent on the technology mix.
- Simplifies grandfathering. No form of financial rights or settlement equations are required.
- Access should not be contingent on recovering all costs from generators.

Access rights could be for a limited period. For example, the first 5-7 years are typically the most critical for project financed assets (aligning with the bullet financing period). Providing certainty for a fixed period and then moving to an open access network may provide a good balance between supporting investment decisions and ultimate network utilisation.

For future connections, the ESB proposes a "do no harm" provision. This should be defined as narrowly as possible, and focused on the level of transfer capacity, with system strength managed proactively as per the AEMC rule change process. There are at least two ways this could be managed:

- Under a centrally led model, the REZ coordinator could determine what remediation (if any) might be required to connect that generator without impacting incumbents.
    - Some level of residual congestion risk can be borne by foundation participants. I.e., provided the REZ Coordinator has conducted suitable modelling such that no material impacts are identified under a range of scenarios, edge cases (such as extreme weather, or rare correlations of events) should not prevent subsequent connections.
    - Remediation could be through run-back schemes or developing new transmission – including by expanding the REZ (through subsequent ISP and/or RIT-T processes).
    - REZ foundation members could expand or diversify their assets provided they do not disadvantage other participants. For example, at the simplest level, adding storage or alternative technologies without exceeding their previous peak MW. This is consistent with "hybridisation" approaches used in Portugal for areas with limited transmission.
- An alternative option is for new generators to take a pro-rata share of any access charges being paid by the existing generators, or to make a higher regulated payment that offsets the charges by other REZ generators. That is, by participating in the REZ, access charges for other participants are reduced – potentially compensating them for any subsequent congestion. This

could maximise the efficient use of the line – by determining the level of congestion that delivers the most profitable outcome.

3.2.1 PIAC option

Although not directly addressing access reform, PIAC has proposed a scheme which would allow for REZs to be developed by speculative investors. In this framework, a REZ would be proposed and defined by AEMO and (assuming it passes some threshold for progression) can be developed through a contestable process. As consumers do not bear the full cost or risk, it may enable more REZs to be developed. Costs would be shared between connecting generators and consumers, and risks would be shared between consumers and the REZ developer.

We consider this approach addresses multiple problems: it supports the coordination of multiple parties, effectively balances risks between multiple parties, and allows Governments to use a clear and transparent process to develop REZs to meet their net-zero targets. PIAC has carefully thought through a range of effective incentives (such as access charges being lower for early generators, to encourage utilisation). A contestable process would also ensure development at least-cost, and not force TNSPs to develop assets that they do not believe will be cost effective.

However, it still creates all the challenges of determining an efficient mix of capacity, managing access, etc. There would also need to be appropriate regulations and incentives on the REZ developer. It would also increase complexity of REZ development and auctions.

3.3 Option 2 – Financial access protection model

Under this model, foundation assets would be compensated by subsequent entrants if they are curtailed off. Specifically, in the event of congestion, the compensation paid by the subsequent entrant generators to REZ generators would be equal to the regional reference price. Accordingly, subsequent entrant generators would be paid as follows:

- Regional reference price: when no REZ generators are constrained off due to congestion
- Zero: when one or more REZ generators are constrained off due to congestion.

In practice, the outcomes are the same: new generators will still receive zero revenue for periods of curtailment (whether physical or financial), incurring the full cost of curtailment, and investment will be unlikely. We are not sure the additional complexity for participants, networks, and AEMO (including settlements under network outage conditions) would be justified.

Furthermore, this approach relies on determining a counterfactual: how much generation would each foundation REZ have produced *if* the subsequent generators had not been there. This will create uncertainty for both parties, with impact on investor certainty. The ESB proposes that any surplus could be allocated back to REZ generators based on their availability, regardless of their generation. This issue has been considered multiple times (under both OFA and COGATI, at least), but the ESB has not referenced the extensive consultation and analysis on this. We strongly recommend that the ESB review that work. While some issues are simplified if all resources are VRE, energy storage, provision of FCAS, operating reserves, and other services, as well as commercial portfolio strategies increase the complexity.

Role of energy storage

The ESB has suggested that storage might not require access rights, but could be paid for alleviating constraints – effectively, being able to charge at zero cost regardless of the RRP if there is congestion. This could have the effect of local marginal pricing for storage when it is consuming.

However, investors will not develop peaking capacity such as storage if it is at risk of receiving no revenue during high price periods. Note that prices are asymmetric – there is little difference between charging at $0/MWh and $10/MWh, but missing a $15,000/MWh price spike can be material. In contrast, under the open access regime, all resources behind a constraint may access a share of the constrained line. This is an imperfect hedge but allows for efficient levels of congestion and can be readily modelled; critically, it is strictly superior to the "all or nothing" access proposed by the ESB.

More generally, storage is likely to have opportunities to charge at low RRP without needing to access congested energy behind a constraint.

3.4 Option 3 – New NEM region

Infigen does not support the option of defining a REZ as a new NEM region, with a local regional price. This would add significant complexity to the NEM (even without ESB's proposed LMP pricing).

Critically, the ESB has not considered the impact on customers in the REZ, which should be the ESB's priority. It would present significant risks to loads inside that area that would now be exposed to much more volatile prices, and it would be very challenging for them to obtain contracts.

We note however that the ESB has correctly identified the risks of generators being exposed to local marginal prices, which would "incentivise generators to locate outside the REZ". While generators could use settlement residues to manage their risks, this is a complex strategy with significant risks. This parallels the risks under COGATI with LMPs and FTRs, and we encourage the ESB to consider this in the future.

3.5 Option 4 – Early allocation of transmission rights

This option assumes a COGATI-like scheme would be introduced. Consumer groups and industry have rejected the need for COGATI or the introduction of LMP. As repeated reviews have shown, access reform is unnecessary, costly, and does not solve the actual problems.

We therefore do not support imposing complex structures on REZ participants, or seeking to lock in future unnecessary reform by proxy.

Conclusion:

We look forward to the opportunity to continue to engage with the ESB. 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