

14 February 2022

Ms. Baharak Sahebekhtiari  
Director, Commercial Capabilities  
NSW Department of Planning, Industry and Environment  
By email: [Electricity.Roadmap@dpi.e.nsw.gov.au](mailto:Electricity.Roadmap@dpi.e.nsw.gov.au)

Dear Ms Sahebekhtiari,

**Response to *REZ access rights and scheme design: Central-West Orana - Consultation paper***

The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the NSW Government's *REZ access rights and scheme design: Central-West Orana - Consultation paper* (the Consultation paper) published on 20 December 2021.

CEIG represents domestic and global renewable energy developers and investors, with more than 11GW of installed renewable energy capacity across more than 70 power stations and a combined portfolio value of around \$24 billion. CEIG members' project pipeline is estimated to be more than 18GW. CEIG strongly advocates for an efficient transition to a clean energy system from the perspective of the stakeholders who will provide the low-cost capital needed to achieve it.

**KEY POINTS**

- CEIG supports in-principle the proposed design for the Central-West Orana (CWO) Renewable Energy Zone (REZ) access right scheme as it will provide investors with additional certainty, particularly around the key features of its REZs.
  - CEIG commends the NSW Government and the NSW DPIE for the work put into the detailed design of the proposed REZ scheme.
  - CEIG recognises that the material re-design of access policies for REZs is an imperfect, evolving process but expects that it will provide

investors with additional certainty that should bolster investor confidence.

- The physical access right regime will provide a cap on REZ connections which will slightly improve revenue certainty for generators compared to the status quo.
- In response to the ESB's *Post 2025 Market Design* reforms, CEIG has commenced its own work on grid access reform, which is also considering the introduction of a physical rights access regime (albeit with rights that apply across the National Electricity Market (NEM)).
  - CEIG welcomes the opportunity to work closely with the NSW Government as it refines the design of its State-based REZ access scheme.
- The continuing risk of shared network degradation beyond the declared REZ infrastructure - notwithstanding the proposed access scheme control mechanism and the opportunity to connect to a strong 500kv transmission line - could lessen the benefits of the scheme and proponents may not value the REZ access rights highly.
  - This could lessen consumer benefits by not lowering the cost of capital as much.
  - Since the NSW Government has opted to set the level of the access fee, consumers may ultimately be worse off as REZ generators need to recoup the relatively higher REZ access costs through higher wholesale prices or higher Long-Term Energy Service Agreement (LTESA) bids. Alternatively, projects may avoid those costs by locating outside REZs.
- CEIG understands that storage assets will be expected to hold access rights:
  - A downside of the proposed access regime is that storage cannot be incentivised through uncapped 'less secure' access rights;
  - CEIG would like to clarify whether storage assets will be provided uncapped access rights for their load function, at no cost (i.e. similar treatment to load) as an incentive to locate in a REZ.
- CEIG is pleased with the decision not to charge transmission use of system (TuoS) charges for storage assets to use the new REZ Infrastructure:
  - This will provide asset owners with greater certainty, which lowers the cost of capital and ultimately benefits consumers.
  - CEIG notes that the AEMC's latest TuoS framework for storage assets will apply for the use of the rest of the network. CEIG has expressed concerns regarding the AEMC's latest decision.

- CEIG will be interested to understand how the REZ access fee will be determined, and particularly what proportion of transmission network costs are proposed to be passed on to generators.
- CEIG supports the proposed streamlined and coordinated connection process, including the development of REZ Access Standards.
  - This will simplify the process, reduce delays and improve certainty.
  - CEIG however notes that this approach has not yet been tested or proven in practice, and there are many hurdles to clear to ensure its success.
- CEIG supports the coordinated and centralised provision of system strength services within REZs.
  - This proactive and centralised approach to managing system strength should contribute to lower costs overall.
- CEIG supports the introduction of a contestable tendering process for the delivery of new REZ network infrastructure projects and the appointment of a REZ Network Operator.
  - This will generate incentives for efficient scoping and procurement of infrastructure and will leverage the private sector's expertise in delivery of complex, risky infrastructure projects.

### **In-principle support for CWO REZ access right scheme**

CEIG supports in-principle the proposed design for the CWO REZ access right scheme.

CEIG commends the NSW Government and the NSW Department of Planning, Industry and Environment for the work put into the detailed design of the proposed REZ scheme. The issues and proposed solutions are clearly documented and cognisant of the needs of the future NEM. The material re-design of access policies for REZs is a major undertaking for the NEM. CEIG recognises that it is an imperfect, evolving process. However, CEIG expects that the access regime – as presented in the Consultation paper - will provide investors with additional certainty that should bolster investor confidence.

The NSW Government has also conducted a very effective consultation program which has allowed industry to participate and provide feedback on the design of the Roadmap more broadly.

CEIG welcomes the NSW Government's acknowledgement<sup>1</sup> that it would review its LTESA and REZ access products and its tender processes at the end of each tender round. This process of regular review is critical for both industry and government to keep learning about what is effective or not, and what could be amended. This continuous improvement process will be important in the context of the material future REZ developments across NSW.

CEIG acknowledges the NSW Government's decision to favour simplicity by opting for physical access rights (option 1) over more granular and more 'firm' financial access rights (option 2b) and notes the amendments to the original physical access rights proposal to mitigate the risk of REZ underutilisation.

CEIG welcomes the decision to set the term of the access scheme at 15 years which is in line with our previous recommendation.

### **Detailed feedback on key access regime features**

#### Potential under-utilisation of the REZ network

CEIG understands that the NSW Government has opted for an access regime that supports industry to better manage curtailment risk (rather than removing that risk through schemes that guarantee dispatch or Marginal Loss Factors and that were considered too risky).

This support may take the form of:

- modelling of the Aggregate Expected Capacity Profile based on an assumed generation mix using;
- information being provided to successful tender participants prior to signing the connection agreement (e.g. better understanding of neighbouring plants); and
- the proposed guaranteed Target transmission curtailment level.

Notwithstanding those comments, CEIG would like to note the possible unintended consequences around potential under-utilisation of the REZ network should the government modelling used to select the mix of wind/ solar projects that are built in the REZ not be accurate.

CEIG understands that the NSW Government will conduct modelling upfront to determine the Aggregate Expected Capacity Profile that will ultimately be used to select the mix of wind/ solar projects in the REZ. During webinar presentations, the NSW Government has noted that wind and solar are expected to complement

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<sup>1</sup> NSW Government, Competitive Tender Design LTESA and REZ Access Rights - Interactive Online Session, 7 February 2022.

each other well in the CWO REZ. There is however a risk that the government's modelling is not accurate, and as a result, the REZ may be under-utilised.

Our members' experiences have been varied, where wind can behave quite differently each day and have a less predictable generation profile than solar. Storage assets are also flexible and less predictable as to when they dispatch. In this case, neither would be well suited to the current CWO REZ proposal which locks in fixed maximum generation profiles. For example, solar projects may be allocated a sizeable fraction of the 'day' generation allocation, due to them having a much higher probability of generating during those hours. This would leave the REZ highly under-utilised on cloudy days. However, it is often windy on cloudy days. Wind generators might be able to generate on these cloudy days and could do so without causing any curtailment of the solar generation, but the current CWO REZ proposal would see them unnecessarily curtailed, due to their reduced 'day' allocation.

Additionally, solar generation is quite different during summer and winter. Between 4 & 5pm, solar might be a reliable generator in summer, but not useful in winter. Giving solar the same allocation at this time of day regardless of the month of the year will also lead to poor utilisation of the REZ, at a time of the day when electricity prices are peaking. In a similar manner, giving solar the same allocation at 3pm as at 5pm is also likely to leave the REZ under-utilised at 5pm.

It would be useful to understand how those features will be incorporated into the modelling that generates the Aggregate Maximum Capacity profile, and how NSW will define its indicative generation mix for the CWO REZ.

To mitigate any potential under-utilisation of the network, the NSW Government should aim to have a mechanism to allow wind and storage assets to generate or dispatch provided they will not cause curtailment to existing right holders.

#### Target transmission curtailment level

CEIG notes that the Target transmission curtailment level for within the CWO REZ is proposed to be set at 0.3%, and that this is part of a broader measure of total curtailment which also incorporates economic curtailment and curtailment due to congestion on the shared network 'outside the REZ'. In its public webinar, the NSW Government has estimated that total curtailment could be between 10% and 15% per annum.

CEIG welcomes the proposal to guarantee that the target curtailment rate within the REZ will not be amended during the life of the access scheme.

Finally, CEIG is pleased to note that the tender process will consider the impacts of potential REZ projects on other projects outside the REZ as part of its Merit Criteria. REZ projects displacing existing non-REZ generation would not be of benefit to consumers.

### **Exposure to the risk of shared network degradation beyond the REZ could lessen value for consumers**

The continuing risk of shared network degradation beyond the declared REZ infrastructure (notwithstanding the proposed access scheme control mechanism) will lessen the benefits of the scheme and proponents may not value the REZ access rights highly. This may in turn not lower the cost of capital as much, and it could lessen the benefits that will accrue to consumers.

#### Access inside a REZ

The physical access right regime will provide a cap on REZ connections which will slightly improve revenue certainty for generators compared to the status quo, although CEIG notes that there does not appear to be any obligations on the TNSP or the REZ Network Operator to maintain the REZ's foundation access level.

CEIG supports the NSW proposal to allow market-funded transmission augmentation within the REZ through an 'Allocation 3' process. Running this process once Allocations 1 and 2 are complete allows to focus on efficient utilisation of the existing network first. By enforcing a 'do no harm' principle on 'Allocation 3' right holders, the process will also provide greater certainty for existing REZ projects. The 'Allocation 3' process will send an efficient locational signal as it will require generators to assess the benefits of a particular location (e.g. abundance of wind and sun) against the cost of the transmission network enhancement required.

#### Access 'near a REZ'

CEIG notes the NSW proposal for an access scheme control mechanism for projects seeking to connect 'near a REZ' (i.e. to existing REZ infrastructure that does not contribute to the intended network capacity of the REZ).

The proposed access scheme control mechanism can be expected to provide greater certainty for REZ projects that their REZ benefits will not be eroded by projects seeking to connect 'near the REZ'.

#### Access beyond the declared REZ infrastructure

Notwithstanding that REZ projects will be provided a connection to a strong 500kv transmission line, CEIG notes that the NSW Government has opted not to mitigate the risk of shared network degradation beyond the declared REZ infrastructure:

- While the open access regime continues to apply to the wider network beyond a REZ, the foundational transmission upgrades and the cap on REZ connections will not provide sufficient certainty that a REZ output will not be unreasonably congested due to other generators establishing their plants between a REZ and the Regional Reference Node (or large loads).
- This shared network degradation risk could also materialise inside a REZ once REZ access rights expire: foundational REZ projects could be subject to the changing open access shared network for a large part of their remaining life.

#### Necessary reform of the open access regime

Those limits on the foundational benefits of REZs also show the limitations of the open access regime. CEIG reiterates its previous call to the NSW Government to support reforms of the open access regime that will provide greater certainty and will help to mitigate the risk of shared network degradation, therefore helping to maintain the foundational benefits of REZs (noting this is partly beyond the scope of this paper).

#### **CEIG's Grid access reform proposal**

CEIG believes that future design of the energy market should adopt a long-term view, recognising that the electricity sector will transition to a 100% renewable generation with low or zero marginal costs. The long-term sustainability of clean energy investment will therefore rely on market design approaches which provide effective locational signals and reward the most efficient and lowest cost capital investments.

Accordingly, CEIG is currently preparing an alternative proposal to the Energy Security Board's (ESB) Congestion Management Model (CMM) that focuses on reforming grid access in the NEM.

In a system dominated by thermal generation, the open access regime designed in the 1990s made sense. By providing free entry into the market but without any guarantee of dispatch, the open access regime generated competition and incentivised plants with lower marginal costs to compete for dispatch through the merit order.

In contrast, the NEM is quickly transitioning to a future state where clean energy generators will form the bulk of the energy system. They are characterized by high upfront capital costs and low or zero marginal costs. This future NEM will also go through a geographical re-alignment, with multiple new smaller plants needing to be linked via the transmission network across a broad area.



In this future NEM, improving the security of access to the grid is critical to delivering the revenue certainty that investors require to lower the cost of capital and enable the clean energy transition at least-cost, to the ultimate benefit of consumers. To do so, the focus needs to shift towards the efficient coordination of generation and transmission investment to minimise the overall infrastructure costs. Since all generators have the same marginal cost, issues around dispatch efficiency become muted.

### Our approach

CEIG is developing a proposal that recognises that changes to market design must work in the future NEM – that is a world dominated by generators with zero or low marginal costs.

While this approach is still under development, we consider that it could include;

- Secure transmission access rights in the NEM and management of access:
  - Secure access rights to the transmission network are allocated where there is spare transmission network capacity;
  - Once all spare transmission capacity (including an agreed level of efficient congestion) is fully allocated, grid access is managed to preserve broadly defined service level standards.
- Option for transmission charges as a safety valve: new generators who wish to locate in an area of the grid without any spare transmission capacity can choose to fund the required transmission network upgrades.
  - This provides a strong locational signal for generators as they must weigh up the full costs and benefit implications of that location.

### Parallels between the CEIG and NSW Government approaches

CEIG's potential approach would also introduce a physical rights access regime, albeit with access rights that apply across the NEM. This could also include means for generators to fund transmission network upgrades where there is insufficient capacity proposed through actionable ISP projects.

CEIG's work on Grid access reform could help inform the design of the NSW REZ access scheme and we would welcome the opportunity to work closely with the NSW Government as the design of the REZ access scheme is refined.

### **Framework for subordinate access rights**

CEIG notes that

*Further to Allocation 2, it is proposed that EnergyCo NSW is to also have the power to introduce a framework for subordinate access rights provided that such a framework will do no harm to existing access right holders. The subordinate*



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*access rights are intended to improve utilisation of the REZ if the actual technology mix is materially different to the forecasted mix.*

CEIG supports in-principle the proposed subordinate access rights framework and its attached features. It might be a useful tool for the NSW Government to maximise the utilisation of the transmission infrastructure in the REZ should the allocation process not maximise the efficient utilisation of the network.

### **Treatment of storage assets**

CEIG understands that storage assets will be expected to hold access rights to the REZ<sup>2</sup>. CEIG assumes that this applies to the assets' charging function based on the NSW Government's comment that

*(...) it is proposed that storage will be required to hold an access right to connect to the REZ Scheme Network. This allows for EnergyCo NSW and the AEMO Services to assess its impact (including system strength) on other projects appropriately.*

However, like loads, storage assets have the potential to relieve curtailment in a REZ. CEIG would like to clarify whether storage assets will be provided uncapped access rights for their load function, at no cost (similar treatment to load) as an incentive to locate in a REZ.

One of the downside of the proposed physical access regime is that storage is not provided with uncapped 'less firm' access rights than plants that provide original generation (i.e. wind and solar). In our response to the original CWO REZ access rights paper, we proposed that storage should be able to hold an uncapped amount of 'non-firm' access rights on the provision that they would need to compensate 'firm' access right holders. This had the advantage of favouring original generation (with 'firm' access rights) and incentivising storage to locate in the REZ to relieve curtailment.

With the current proposal, CEIG believes that the requirement for storage assets to hold access rights is likely to limit original generation (i.e. since storage dispatch may then replace generation from wind and solar plants), may waste energy and may detract from maximum utilisation of the transmission network.

### **Storage and Transmission use of System (TuoS) charges**

#### TuoS charges for the use of new REZ infrastructure

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<sup>2</sup> NSW Government, *REZ access rights and scheme design: Central-West Orana - Consultation paper*, p.28

CEIG is pleased with the decision not to charge TuoS to recover the cost of the new REZ infrastructure; it will provide asset owners with greater certainty which lowers the cost of capital for the ultimate benefit of consumers.

#### TuoS charges to use the rest of the network

CEIG notes that the AEMC's latest TuoS framework for storage assets will apply for the use of the rest of the network which will leave it up to storage asset owners to negotiate an exemption with the TNSP. This decision will generate uncertainty for asset owners around the ability to secure an exemption from TuoS charges and will increase the cost of capital that is ultimately paid by consumers.

Although it is beyond the scope of this paper, CEIG expressed serious concerns regarding the AEMC's final determination and believes that storage assets should be exempt from paying TuoS charges:

- CEIG notes that this approach to TuoS charges is likely to lead to higher prices for consumers:
  - storage assets would need to increase their wholesale bid prices to recover TuoS charges;
  - if they cannot pass on those costs through wholesale prices, storage assets will be less active in the market and competition will decrease.
- CEIG expects that consumers would be worse off overall as the cost impact of the pass-through of TuoS charges is likely to be higher than the savings they can expect to make on TuoS charges.

#### **Process for setting the level of the REZ access fee**

Because of the REZ proponents' exposure to shared network degradation risk outside the REZ over time, CEIG has previously noted that proponents may not value the access rights highly and may bid a low price at auction. However, CEIG notes that the NSW Government has since opted to set the level of the access fee instead of adopting a competitive auction process.

This may appear to protect consumers in the short-term since the NSW Government can ensure that all costs it wants to be reimbursed for are incorporated in the access fee (e.g. to deliver the legislated community and employment programs, etc.).

However, because of the scale of the NSW Roadmap program and the possibility of high access fees (e.g. depending on the government's decision on pass-through of transmission investment costs), consumers may ultimately be worse off as most new REZ generators in the State eventually pass on the cost of higher access fees through higher wholesale prices. Generators may also need to raise their bids for LTESAs to recoup the relatively higher REZ access costs (compared to the

benefits they deliver to generators). Alternatively, generators may avoid those costs by continuing to locate outside REZs - an undesirable outcome that would continue the unplanned development of generation across the State.

### **Quantum of transmission costs to be included in the REZ access fee**

CEIG notes that

*Exploration on the composition of access fees, including whether access fees should recoup network related costs in part or full, is currently being undertaken.*

CEIG supports in principle the costs of investments in the transmission network being shared between generators, consumers and other REZ proponents (e.g. governments or commercial REZ proponents, as required), with each party only paying for the costs that are demonstrated to deliver net market benefits to them.

Specifically, CEIG supports generators paying for part of the cost of network investments when this can provide special access rights to that network since in this case, generators benefit from an improved ability to send out their plants' generation in the grid.

Considering the limited protections offered by the current REZ design (e.g. REZ generators are still exposed to the risk of shared network degradation outside REZs), the benefits accruing to REZ generators will be limited.

CEIG will be interested to understand how the REZ access fee will be determined, and particularly what proportion of transmission network costs are proposed to be passed on to generators.

### **Support for streamlined and coordinated connection process**

CEIG supports the NSW Government's intent to streamline and coordinate the REZ connection process.

CEIG supports the development of REZ-specific Generator Performance Standards and inverter-based resource standards (the REZ Access Standards) that will have to be accepted by proponents, AEMO and the Primary TNSP without negotiation. This process can be expected to significantly streamline the connection process and CEIG looks forward to industry consultation on this critical issue.

CEIG however notes that this approach has not yet been tested or proven in practice, and there are many hurdles to clear to ensure its success (for example, securing OEMs' engagement with the process when they are able to guarantee the performance of their product but are unlikely to guarantee the performance of

the whole plant). This may impact how much generators may be willing to pay for those services as part of the access fee.

### **Support for central provision of system strength**

CEIG supports the proposed requirement for the REZ Network Operator to have to meet specified system strength requirements for the REZ Infrastructure, and for the costs to be recovered across all REZ proponents through a fixed allocation per megawatt. This proactive and centralised approach to managing system strength should contribute to lower costs overall.

In designing the system strength requirements, the NSW Government should ensure that projects are incentivised and rewarded for providing their own system strength to maintain positive incentives and avoid free rider problems where the costs of remediating the negative actions of one proponent are shared across all projects.

### **Support for introduction of contestable tendering process for delivery of new REZ network infrastructure projects**

CEIG welcomes the introduction of a contestable tendering process for the delivery of new REZ network infrastructure projects and the introduction of a REZ Network Operator:

*“Unless determined to be inefficient or inappropriate, the Infrastructure Planner is expected to undertake a competitive market tender process to select the preferred Network Operator or Network Operators to deliver some or all of the project. It is currently intended that a Network Operator appointed as a result of a contestable market tender process would be granted a right to own, construct and finance the new REZ network infrastructure assets. Transmission system operation will remain the responsibility of Transgrid as the primary transmission network service provider.”<sup>3</sup>*

CEIG is supportive of mechanisms that increase competition in the right to build, own, finance and operate transmission infrastructure assets.

CEIG’s [Clean Energy Investor Principles Report](#)<sup>4</sup> has pointed out that over the last 20 years, the transmission companies have largely focused on maintaining a large existing electricity grid, not on building complex infrastructure projects, and that they may also lack incentives for efficient scoping and procurement since the

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<sup>3</sup> Network Infrastructure Projects (Part 5 of the EII Act 2020)

<https://www.energy.nsw.gov.au/sites/default/files/2021-10/network-infrastructure-projects-part-5-of-the-electricity-infrastructure-investment-act-2020-policy-paper.pdf>

<sup>4</sup> CEIG, *Clean Energy Investor Principles Report*, August 2021 [https://ceig.org.au/wp-content/uploads/2021/08/CEIG\\_Clean-Energy-Investor-Principles.pdf](https://ceig.org.au/wp-content/uploads/2021/08/CEIG_Clean-Energy-Investor-Principles.pdf)

regulatory framework guarantees their return based on the size of their regulated asset base.

In contrast, private investors have greater capacity and capability to deliver the large scale of transmission investment required:

- investors have deep experience in delivering large infrastructure projects;
- they are used to managing complex risks;
- they have gained valuable experience in other sectors and other countries; and
- they can leverage larger pools of capital at lower cost for the ultimate benefits of consumers.

The rule change request<sup>5</sup> put forward by TransGrid and ElectraNet in 2020 also raised questions around the relative competitiveness of the cost of capital accessed by TNSPs in Australia and showed that there could be benefits in exploring new financing models for transmission investment.

Considering the scale of future transmission infrastructure investment contemplated in the draft 2022 Integrated System Plan (ISP), CEIG supports the NSW Government exploring alternative mechanisms to finance major transmission projects. The expansion of contestability frameworks for transmission infrastructure could be useful in mitigating financeability issues and could lead to a lower cost of capital and deliver additional benefits to consumers.

CEIG notes that the revenue of the REZ Network Operator is expected to be determined by the Regulator<sup>6</sup>. CEIG looks forward to consultation on this topic to ensure that an efficient rate of return is set by the Regulator.

### **Linkages to the ESB's Congestion Management Model (CMM-REZ)**

CEIG has previously argued that it does not support the establishment of the proposed CMM-REZ model<sup>7</sup>.

CEIG welcomes the NSW Government acknowledging that the operation of the CMM-REZ model could negatively impact on the NSW Scheme and that, in response, it may consider derogating from that model to avoid eroding the benefits of the proposed NSW Scheme.

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<sup>5</sup> TransGrid, *National Electricity Rules change proposal - Making ISP projects financeable - Participant Derogation*, 30 September 2020 <https://www.aemc.gov.au/rule-changes/participant-derogation-financeability-isp-projects-transgrid>

<sup>6</sup> Network Infrastructure Projects (Part 5 of the EII Act 2020) <https://www.energy.nsw.gov.au/sites/default/files/2021-10/network-infrastructure-projects-part-5-of-the-electricity-infrastructure-investment-act-2020-policy-paper.pdf>

<sup>7</sup> CEIG Response to ESB Post 2025 Market Design Options, August 2021 <https://ceig.org.au/wp-content/uploads/2021/08/Post-2025-Market-Design-Options-09.06.21.pdf>



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CEIG thanks the NSW Government for the opportunity to provide feedback on its Consultation paper and looks forward to continued engagement on those issues. Our Policy Director Ms. Marilyn Crestias can be contacted at [marilyn.crestias@ceig.org.au](mailto:marilyn.crestias@ceig.org.au) if you would like to further discuss any elements of this submission.

Yours sincerely,

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