

4 September 2023

Energy Corporation of NSW
NSW Treasury
By email: cwo@energyco.nsw.gov.au

Dear Central West Orana team,

CWO REZ August 2023 Project Update

PIAC welcomes the opportunity to respond to the August 2023 Project Update to the Central-West Orana Renewable Energy Zone (the update).

PIAC broadly supports the intent of increasing the capacity of the CWO REZ to six gigawatts. However, we are concerned that existing issues with the recovery of REZ costs may be further exacerbated by this change.

We have previously provided detailed submissions arguing it is not fair or efficient for consumers to carry the full cost for assets in REZs. Generators, who are immediate beneficiaries and who are best placed to make decisions impacting whether or not an asset is efficiently utilised, should contribute more significantly.

Doubling the capacity of the REZ in stage 1 will very likely result in increases in REZ infrastructure and the associated costs to be recovered. Without adjusting the cost allocation structure, consumers will carry most of the additional costs despite receiving only a portion of the benefits. They will also carry greater risk of bearing the costs of an asset that is under-utilised. The additional costs are material and will likely run into the billions of dollars.

PIAC has detailed an alternative model of risk- and cost-sharing¹ with several alternatives for managing the costs associate with REZ infrastructure without unreasonable and inefficient burden for consumers. The most practically applicable for the CWO REZ would be generator access fees reflecting the substantial benefit to generators from access to the REZ. These fees could be determined by the regulator or the NSW Government, and be based on some combination of:

- The value of REZ access for connecting generators, compared to the costs and risks incurred with the same investments at the same time under the access arrangements for connecting outside the REZ;
- The difference between the capital cost of the REZ transmission and the predicted market benefits to consumers of the REZ being built,
- Where the REZ is part of an interconnector or other transmission investment, the portion attributable to direct generator benefits (rather than direct consumer benefits). If there is a

¹ Provided for reference in Attachment 1

- clear primary purpose for the investment, any portion of the investment with dual benefit could be attributed to that primary purpose; and
- Other policy objectives.

We welcome the opportunity to meet with EnergyCo and other stakeholders to discuss these issues in more depth. Please contact Michael Lynch at mlynch@piac.asn.au regarding any further follow up.

Yours sincerely

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ATTACHMENT 1: PIAC model of risk- and cost-sharing for REZ investments

This description of the PIAC model of risk- and cost-sharing for REZ investments is adapted from material developed for the AEMC's Coordination of Generation and Transmission Investment (COGATI) review² and the ESB's Post-2025 reform process.³

Overview of concept

PIAC has developed a framework that helps address the issues facing REZ delivery. The model provides a transparent, principled and predictable framework for how the cost and risk of REZ transmission investments could be shared between consumers, generators, transmission network service providers, and other investors, potentially including government underwriting. It has been developed and refined over three years of engagement with a wide range of key stakeholders including market institutions, consumer advocates, incumbent and prospective generators, network service providers, investors and governments.

PIAC's framework is based on the following cost recovery principles:

- Costs are recovered on a beneficiary-pays basis, such that the primary beneficiaries of a given investment or mechanism should pay for that investment.
- Where there are multiple beneficiaries, the costs should be recovered proportionally to their share of the benefits.
- Where it is not practical and transparent to identify the beneficiaries, a causer-pays principle should be used.
- Cost recovery should also include the risk, to the extent it exists, of the underutilisation of assets and hence asset stranding. For example, it is appropriate that costs associated with other parties taking on more transmission investment are ultimately passed through to consumers as slightly higher wholesale costs.
- Cross-subsidies should only be permitted where they are immaterially small or widely accepted by the payers of the cross subsidy.

Risk is most efficiently borne by those parties best placed to manage it. Therefore, it is not appropriate for consumers to bear the risk of REZ underutilisation. Other parties should carry this risk through measures such as funding additional transmission investment to alleviate physical constraints or by underwriting financial instruments to cover the financial impacts of curtailment.

A fundamental aspect of the PIAC model is that REZ transmission capex is recovered from both generators and consumers, rather than just consumers. This is achieved by separating transmission investment into two portions: one, consistent with current cost recovery, is rolled into the RAB of the incumbent TNSP and is recovered through regulated revenue; and a contestable portion, funded by a contestable investor or Government, and is recovered through generator access charges. The connection charge would be pre-determined at fixed rate (such as \$/MVA) that increases with time commensurate to the underutilisation risk the speculative investor bears – this is both transparent to all parties and incentivises early connection.







Both the portions have elements that are approved by the regulator or some other administrative body and based on a range of factors.

² AEMC, *Renewable Energy Zones discussion paper*, October 2019, 46-49.

³ PIAC, *Submission to the Post-2025 Market Design Consultation Paper*, October 2020, 24-36.

The process for planning, delivering and connecting a REZ is summarised in Figure 2 below as well as in the AEMC’s REZ discussion paper.⁴

Figure 1 Summary of the PIAC risk sharing mode for Renewable Energy Zones

 <p>Identify REZ</p>	<ul style="list-style-type: none"> • Initiated by AEMO, government or industry • Indicative capacity and location/s determined • Network options for design determined
 <p>Design transmission</p>	<ul style="list-style-type: none"> • Market testing of prospective generators • Planning and approval processes commence • Specify prescribed capacity • Apportion capex to generators and consumers
 <p>Choose investor</p>	<ul style="list-style-type: none"> • Contestable tender or reverse auction process • One or more transmission options • Lowest bid rate of return selected • Develop revenue and access proposal
 <p>Determine revenues</p>	<ul style="list-style-type: none"> • Capex for TNSP and speculative investor • Opex for TNSP • Connection charge cap for generation
 <p>Build and operate</p>	<ul style="list-style-type: none"> • TNSP builds and operates network • Generators build and operate generation
 <p>Connect generation</p>	<ul style="list-style-type: none"> • Generators pay connection charge • Charge per MW paid to speculative investor • Earlier payment reduces charge

Value proposition of the model for different parties

For connecting generators

Under the PIAC model, generators are protected from the risk of REZ underutilisation and timing misalignment between different generation projects. In lieu of bearing these risks,

⁴ AEMC, *Renewable Energy Zones Discussion Paper*, Oct 2019, 46-51.

generators pay a time-based premium to the contestable investor, who bears the timing risk. Generators are incentivised to reduce this risk by connecting, or at least committing to connect, earlier. At the same time, they are not forced to connect earlier than they are prepared to. Hence it provides a framework for generators to connect over time as they are ready while fairly and transparently recovering costs from them.

The model provides a mechanism for sharing investment in transmission infrastructure between different projects and enabling multiple generators to access wholesale market revenue. This will often be at lower overall cost than current arrangements where either no transmission investment is built or the network is only built in a piecemeal fashion and economies of scale and scope are missed.

For contestable investors

Contestable transmission investors voluntarily take on underutilisation risk for their portion of investment costs, and receive a commensurate uplift in their rate of return for doing so.

The PIAC model also offers an opportunity for investors seeking to help meet climate change and decarbonisation portfolio targets to invest. A survey of Australian investors by the Investor Group on Climate Change found that two of the most significant perceived barriers to green investment in Australia are the lack of opportunities to invest with an appropriate rate of return and policy/regulatory uncertainty.⁵

Implementing the PIAC model allows contestable investors to accelerate the uptake of renewable generation and decarbonise the Australian economy whilst earning a return commensurate to the risk they incur. The PIAC model also provides certainty for both contestable investors and generators through its transparent process to understand the levels and types of risks they would incur and greater certainty of their return for it.

For the incumbent TNSP

The incumbent TNSP is protected from the risk of asset stranding as their costs are recovered from consumers under normal arrangements. Operational, maintenance and future asset replacement costs are recovered by the TNSP in the manner they do today. They are therefore not forced to take on any new or additional risks beyond what they already accept delivering regulated transmission investments.

The incumbent TNSP (or their shareholders) are still free to bid for the contestable investment if they choose to.

For consumers

Central to the PIAC model is that consumers have little or no ability to manage the risk of underutilisation or asset stranding in REZs and are not direct beneficiaries of generator connection assets. The contestable investment represents value for consumers because it prevents inefficient transmission investment and less prudent generation costs being socialised to consumers.

Consumer exposure to the risk of underutilisation is capped at a fixed, limited portion of the investment value. This reduces their liability (relative to current arrangements) under the 'worst case' where REZ utilisation is low.

⁵ Investor Group on Climate Change, *Scaling Up: Investing for low carbon solutions*, August 2018, 14.

If the generation and transmission investments that are enabled through the contestable investment prove to be efficient and prudent, then consumers will benefit and accordingly these costs will be passed through to them through the wholesale market.

Identifying and planning a REZ

Under PIAC's model feasible prospective renewable energy zones, including transmission network options, are identified through the existing ISP process by AEMO, industry or government.

A detailed design stage, incorporating a RIT-T or equivalent process, determines the optimal attributes for a given REZ, and selects one or more network design options that is best suited to support efficient investment and market outcomes. This stage would include market testing with prospective generators, investigating planning approvals, and estimating capex for different network options. A variety of sources of information should be considered to minimise the risk associated with the contestable investment.

A key attribute determined in the detailed design stage is a prescribed 'efficient' capacity level, expressed as the firm or maximum physical capacity of new generation supported by the REZ. It will reflect a number of factors, including:

- The level and certainty of current generation market interest in and near the proposed REZ, as well as the current state of the generation investment market more broadly.
- The potential future investor interest in and around the REZ, considering the nature of the energy resource, planning opportunities and constraints, government energy and planning policy, and anticipated energy market conditions.

Investment and return

A contestable process, such as a tender or reverse auction, would be conducted to choose an investor to fund the contestable portion of the capital spend associated with the REZ. The successful bidder will be chosen on the basis of the lowest rate of return offered. This portion is ultimately recovered from connecting generators via connection charges. The remaining capex, and all opex is rolled into the RAB of the incumbent TNSP and recovered from consumers as with normal regulated revenue such as TOUS charges.

The AER would approve all revenue up to the 'efficient' capacity, including the cap on generator connection charges, before the REZ is built.

The TNSP builds and operates the new and augmented transmission network assets required for the REZ. Assets may be built in stages to limit costs and finance.

New generators that connect to the REZ pay a connection charge to the contestable investor which includes a time-based premium. This can be paid at any time between when the REZ revenue is determined and the generator is connected. Committing to connect earlier reduces the timing risk borne by the contestable investor and hence reduces the connection charge the generator must pay.

For feasibility and ease of implementation, the model should use current arrangements as far as practicable. These include:

- the generator connection process and charge structure;
- mechanisms to allocate some TUOS charges to consumers; and
- some extant regulatory processes and governance measures.

If a contestable transmission investor considers that interest in a REZ may be more than the prescribed 'efficient' capacity level determined, then the investor may fund this additional capacity and negotiate with generators to connect using this capacity as unregulated revenue. They could apply higher returns for this portion to compensate for the additional risk of investing in capacity without guaranteed cost-recovery.

Apportioning costs between generators and consumers

The amount to be recovered from generators is funded by a contestable investor. This apportioning could be determined by the regulator or by government, and be based on some combination of:

- The value of access to the REZ for connecting generators, compared to the costs and risks incurred with the same investments under the access arrangements for connecting outside the REZ at the time;
- The difference between the capital cost of the REZ transmission and the predicted market benefits to consumers of the REZ being built,
- Where the REZ is part of an interconnector or other transmission investment, the portion attributable to direct generator benefits (rather than direct consumer benefits). If there is a clear primary purpose for the investment, any portion of the investment with dual benefit could be attributed to that purpose; and
- Other policy objectives.