Better together.

Trustpower Limited
Head Office
108 Durham Street
Tauranga
Postal Address:
Private Bag 12023
Tauranga Mail Centre
Tauranga 3143
F 0800 32 93 02
Offices in
Auckland
Wellington
Christchurch
Oamaru
Freephone
0800 87 87 87
trustpower.co.nz

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Submissions
Transpower Limited
Waikoukou
22 Boulcott Street
PO Box 1021
WELLINGTON

By email: REZ@transpower.co.nz

TRUSTPOWER SUBMISSION: RENEWABLE ENERGY ZONE CONSULTATIONS

1. Introductory remarks

1.1.1 Trustpower Limited (**Trustpower**) welcomes the opportunity to provide a submission to Transpower New Zealand Limited (**Transpower**) on its Renewable Energy Zones (**REZ**) National Consultation and Northland Pilot Concept consultation papers. This submission responds to both consultations.

1.1.2 Trustpower's long held view is that *'just enough incremental investment, just in time'* in the current grid will not be in the long-term interests of consumers, particularly given New Zealand's electrification aspirations. Transpower needs to be able to size a connection or interconnection asset in a way that will have benefits to future users. A similar philosophy also needs to apply at the distribution level.

1.1.3 We welcome the industry leadership of Transpower, along with Top Energy and Northpower, in exploring the potential to develop REZs to overcome some of the known issues with the funding and regulation models for developing network infrastructure, including the first mover problems.

1.1.4 Establishing an effective REZ arrangement may further help to unlock low-cost renewable generation and support New Zealand's electrification journey and we look forward to contributing to this work as it progresses.

1.1.5 Exploring the potential for a pilot REZ in Northland may however have an immediate unintended effect on those developers close to making final investment decisions relating to projects in Northland and surrounds, by creating uncertainty as to whether a more economic network connection arrangement might be possible via a pilot REZ being established.

1.1.6 We recognise that this might largely be a transitory issue, as establishing forward transparency around confirmed future REZ's may provide a partial solution[1]. However, there is a risk that exploring a Northland REZ has the unintended impact of discouraging investment decisions right now through creating uncertainty - just at the time when the industry needs greater certainty. This will need to be carefully managed.

[1] Even if processes to provide transparency around future confirmed REZ's are established, there will be a new set of risks for project developers to account for. For example, given the long lead time for some projects, developers will potentially want to seek out clarity around whether a REZ development in a region is likely to be confirmed in advance, and even if a REZ development has been confirmed there remain significant coordination challenges which could result in the REZ development not proceeding.

1.1.7 The planned announcement of next steps for this work in mid-2022 will address some of this uncertainty for project developers. We encourage Transpower to actively communicate any changes to this timeframe that might arise.

1.1.8 Prior to progressing further, we also encourage:

a) Transpower, Northland and Top Energy to directly engage with project developers in Northland and surrounds who are close to making final investment decisions, to further explore how to best manage the risks for their projects associated with a pilot Northland REZ. These are likely to be unique to each developer; and

b) Transpower to ensure it has a thorough understanding of any additional new risks that could be created for project developers by the development of REZs so these can be addressed (to the extent possible) in further work. Direct engagement with a range of project developers across New Zealand would be valuable in this regard given project sensitives.

1.1.9 The remainder of this submission outlines our views on the following matters:

a) The linkage between this work and the proposed new Transmission Pricing Methodology (**TPM**);

b) Ensuring least cost outcomes are achieved and that competitive neutrality is maintained if a REZ is developed; and

c) Addressing coordination challenges to ensure REZ's are feasible in practice in New Zealand.

2. Linkage to the proposed new TPM

2.1.1 We agree that the first mover issue will become more material in the context of the energy transition. To date this has not been a significant problem for connection assets as they have generally been customer specific, but it is anticipated to be an increasing issue with electrification[2].

2.1.2 Our recent submission to the Authority on the new TPM noted the following[3]:

> *"This issue is exacerbated with the transition to renewables, since these projects, as well as being typically smaller than for conventional generation, are likely to cluster in geographical areas where renewable resources, land prices, transmission interconnection and planning conditions are all favourable, and multiple projects can be accommodated."*

2.1.3 The new TPM will need to answer fundamental questions such as whether new assets should be right sized to just accommodate the new entrant generator, or if they should be over-sized to economically provide for future entrants? If the later, then it will also need to answer the question as to who would pay for this and who should take the stranding risk.

2.1.4 We anticipate the new TPM[4] will provide some further clarity on how the type 2 first mover disadvantages are managed for connection assets, based on the recovery of anticipatory capacity costs via a benefit based arrangements. However, the resultant cost allocation methodology will be overly complex and any anticipated benefits of stakeholders interrogating decisions around anticipatory investments are unlikely to eventuate in reality. This view is shared with many other market participants.

2.1.5 The better solution would be adopting a pool and share arrangement within the TPM to address the type 2 first mover problem for connection assets, i.e. spread the risk widely rather than with a single customer or small subset of customers who are deemed "beneficiaries" given they are

[2] We note a recent Concept Consulting report for the Authority identified as much as $500m of grid connected investment for generation and $300m for process heat electrification.
[3] Trustpower-TPM-submission-2021.pdf (ea.govt.nz)
[4] At the time of making this submission, the decision on the new TPM by the Authority has not been released.

unlikely to represent the future beneficiaries of an investment in anticipatory connection capacity. This approach was proposed originally by Transpower and supported by many other submitting parties. In our view it would implement a solution that would most effectively addressing type-2 first mover disadvantage for connecting parties.

2.1.6 The new TPM will not provide a solution to type 2 first mover problem for interconnection assets[5] and we note Transpower's previous concerns that increased scrutiny around investment proposals may not completely address the risk that future customers do not appear[6].

2.1.7 We agree with Transpower that REZ's may have an important role in enabling the connection of renewable generation and loads during the energy transition through providing a potential solution in some, but not all, instances where a first mover disadvantage problem arises, including potentially for relevant interconnection assets and distribution network assets.

2.1.8 A recent report by Creative Energy Consulting noted that[7]:

> *"The TPM approach creates a first-mover problem – which the EA recognises but has not been able to satisfactorily address – where an entering generator triggers new investment (whether for connection or for interconnection) incorporating excess capacity for which it is required to pay the lion's share until later entrants arrive. Of course, it cannot know whether these will arrive at all. So moving first is extremely risky, and will result in a crisis of coordination: no project that is planning to connect in an area where there are likely to be later-movers will want to be the one who goes first.*
>
> ***The experience in Australia has been that solving this coordination problem is critical to the transition to renewable generation. Like the EA, Australian regulators first attempted to develop arrangements where first-movers would be responsible for these costs and risks, but ultimately found these to be infeasible or impractical. These have now been superseded by new arrangements where transmission and generation entry in a REZ are centrally coordinated, and the transmission costs and risks are variously shared between entrants, load customers and taxpayers. I expect that the EA's proposals will similarly fail to meet the needs of the energy transition and be superseded****. Notwithstanding that, the TPM could be substantially improved in this area by providing that load customers generally, rather than first movers, bear the initial costs and stranding risks of the excess capacity, through adjustments to the residual charge. This will substantially help with the first mover problem, whilst imposing limited risks and costs onto load customers."*

2.1.9 REZ development may assist in providing more optimal decision making around anticipatory network investments (both transmission and distribution). However, given that cost allocation requirements for network assets developed by Transpower within a REZ will still be determined by the TPM, we consider that the best outcome for NZ overall may still not be achieved unless a more socialised approach is adopted for addressing the first mover problem.

3. Ensuring least cost outcomes and competitive neutrality

3.1.1 We are broadly supportive of the guiding principles for developing REZ's that have been established.

3.1.2 While in theory establishing a REZ should result in lower cost outcomes associated with connecting renewable generation/load[8], we consider that the long-term interests of end users will best be promoted by a REZ development framework that expressly seeks to achieve least-cost outcomes (not just lower cost) and maintain competitive neutrality.

3.1.3 To achieve these two objectives, the REZ development framework should actively require REZ developers to consider both:

[5] Refer to paragraph c.8 :https://www.transpower.co.nz/sites/default/files/uncontrolled_docs/36.%2022%20Mar%202021%20-%20Letter%20from%20EA%20%28Transpower%20TPM%20Checkpoint%202B%20submission%29.pdf
[6] TPM Template document (transpower.co.nz)
[7] https://www.ea.govt.nz/assets/dms-assets/29/Trustpower-TPM-submission-2021.pdf
[8] Through adopting a collective approach to establishing a network connection as opposed to achieving this on an individual basis

a) traditional poles and wires solutions; and

b) non-network alternatives (from network companies and other suppliers)

when identifying potential technical network solutions that could service the REZ.

3.1.4 This will help ensure affordability during a time when there is likely to be upward pressure on network costs due to significant investment requirements.

3.1.5 We are pleased that the role of non-network alternatives such as deployment of batteries to meet the needs of connecting parties have been recognised as options for forming part of the arrangements within a REZ.

3.1.6 However, unless the REZ development framework ensures that REZ developers actively seek non-network alternatives from third parties via competitive tender arrangements when considering the potential technical network solutions, then:

a) least-cost outcomes will potentially not eventuate;

b) existing biases towards building poles and wires within distribution networks will continue; and

c) competitive neutrality will not be achieved between monopoly networks and third-party suppliers of non-network alternatives.

4. Potential coordination challenges

4.1.1 Transpower's consultation paper captures several coordination challenges which will need to be overcome for REZ's to deliver better outcomes than under the existing arrangements for network connection.

4.1.2 The difficulty in overcoming some of these should not be underestimated and there is the potential that if unresolved REZ's may in fact delay connections for new generation and load in these areas, compared to the existing processes.

4.1.3 Ensuring an ongoing process of identifying and effectively addressing regulatory and investment obstacles will be important to the overall success of REZ's in New Zealand.

4.1.4 We are pleased that Transpower has recognised that consideration would need to be given to coordinating resourcing consent applications for all parties within a REZ to ensure broad alignment of timelines for the connecting parties and networks (as applicable).

4.1.5 There are significant challenges associated with creating zones for renewable energy given that full information and legislation is not yet available for those considering spatial planning as part of the wider Resource Management System Reform.

4.1.6 In particular, how a REZ could be created and catered for within a spatial planning framework, while retaining the anticompetitive elements of resource management, yet balancing this with the competitive elements of the electricity market. These issues have been outlined by the Electricity Sector Environment Group during the recent consultation on the exposure draft of the Natural and Built Environments Bill. A copy of their submission is provided as Appendix A.

If you have any queries regarding the matters raised in this submission, please contact Fiona Wiseman via: fiona.wiseman@trustpower.co.nz