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Submissions  
Transpower

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## **RE: Consultation Paper – Renewable Energy Zones**

Nova Energy (Nova) supports Transpower facilitating the connection of electricity generation projects to its grid in a timely and least cost manner. The proposed introduction of renewable energy zones (**REZ**) recognises those parts of the country that have potential for electricity generation development but are presently not well served by a grid with sufficient capacity.

The principle of building or expanding transmission capacity on a 'just in time' basis is likely to become increasingly difficult as electricity demand grows, or as in most cases, after constraints bind. Such a process does not support the rapid implementation of renewable generation as generation developers bring projects from concept to completion in increasingly shorter time frames. This is likely to occur as the number of viable developments increases, resource consenting processes improve, and the construction industry expands to meet new demand.

Transpower is proposing to become rapidly and extensively involved in working up proposals for transmission investments to support the REZs. Before it does so however, Nova recommends there should be consideration of:

- a) alternatives to the REZ concept;
- b) interrelationships with the regulatory framework slated to replace the Resource Management Act; and
- c) a more customer focussed response to proposals to connect to the existing grid.

### **Alternatives to REZ**

- a) Government funded regional developments

Backbone electricity transmission is a key infrastructure asset that directly supports New Zealand's economy, much like major highways, rail networks, broadband fibre, and gas transmission. If the development opportunities are significant enough, should the development risk on expanding transmission capacity, especially into regions of renewable electricity generation potential, be socialised by being underwritten by national and regional government?

- b) Private development supported by transmission rights

The objectives and processes involved in progressing a REZ have parallels with multi-party commercial property developments. In such commercial agreements, the key to making progress is to consolidate the commercial needs of all parties to give the proposed development sufficient credibility to motivate investment. For commercial viability of renewable generation developments, access to transmission capacity and assurance of rights to transmit are key commercial elements which should be facilitated by Transpower, however in Nova's experience this is not always possible in the current regulatory framework.

The difference with property development is that prospective generators compete in the electricity spot market, as opposed to the synergies that arise from property developments. As such, the expected return from wholesale spot prices for each generator reduces with each addition of new

generation capacity to the REZ. This will likely result in some reticence for renewable generation developers to commit to a REZ well in advance.

To overcome this reticence, any proponent of an REZ will need to be proactive and flexible in its engagement with interested parties, particularly in respect of managing timelines. Participants will also want to be confident that additional generation developments post the creation of the REZ do not impact on the foundation investors by creating capacity constraints.

This could be countered by allowing the foundation investors to have property rights to specified levels of transmission capacity, or long term firm financial transmission rights.

Without capacity allocations, Nova suggests that investment in an REZ regime while the grid remains open-access is a risky proposition for a developer and may not meet the needs of sophisticated investors.

#### c) Pre-emptive investment by Transpower

This option would entail Transpower making a call on its own right that there is sufficient potential to justify investment in the grid expansion. This could be supported by registrations of interest from generation developers for renewable connections. Transpower should then be able to recover returns from the future connected parties at a level commensurate with the commercial risks undertaken in building the additional capacity. Nova acknowledges that this would require a significant change in the regulatory environment, but perhaps this is the appropriate long-term solution and could be viable for those connections off the core grid.

#### **Other relevant legislation**

Any new regulations or rules required to support REZ should also consider the broader regulatory environment. It does not make sense to designate regions that may be high in renewable energy potential if there are other regulatory barriers to their development. This includes sensitivity of land to RMA related issues or where transmission investment costs under the prevailing TPM would be prohibitive.

#### **A more customer focussed response**

Transpower has highlighted the high level of enquiries it is currently receiving from parties considering connecting to the Grid. Commencing intensive levels of engagement with parties within a REZ will clearly place increased pressure on Transpower's ability to respond to other firm proposals to connect to the Grid.

Before commencing with any REZ project, Nova recommends Transpower establish clear performance objectives in terms of its interactions with generation project developers and other direct connect parties. Project developers need to be able to work with realistic timeframes with Transpower and be able to rely on connection agreements not being the critical time element for generation projects. **What's in a name?**

Respecting the intent of the proposal, Nova points out that Transpower is generation technology agnostic and that any such new generation zone must be accessible to all. We also question how Transpower will assess the 'renewable' impact of load customers. For example, could a fertiliser factory connect to a renewable energy zone?

An unintended consequence of the proposed approach could be off-takers claiming themselves to be renewable by virtue of connection rather than conduct. Is a more appropriate name a "multi-party grid connection framework"?

#### **Waterfall cost of development failures**

Generation and offtake developers are sensitive to many factors which ebb and flow as an opportunity matures towards financial close. As witnessed in the wind consenting boom of the 2000's, many developments were proposed but only the better ones deployed. Nova cautions Transpower that "inquiries" are not necessarily a measure of intent and capacity to build.

With construction schedules of developments unlikely to align, and if one or more projects connected in an REZ terminate their arrangement, then presumably the cost of infrastructure must be recovered from the remaining development(s). This may make these investments uneconomic and create a cascade failure of investment. While back-ups have been proposed, these are not guaranteed and the risk of such a burden will be a material consideration for investors.

A solution to this issue could be to ensure all REZ developments are fully backed by pre-payment or other form of high-quality security, only refundable if all parties terminate or a replacement can be assigned.

### **Picking winners**

The regional benefits of a REZ appear to be significant, bringing the potential for high value jobs and creating ensuing economic benefits through construction and ongoing operational support. In selecting a single region as a trial, Transpower is picking a winner.

In this light, and once the concept of a REZ is refined, Nova do not believe a trial is warranted and the REZ concept, if pursued, should be made available to all regions simultaneously.

Long-term, enabling the development of energy related activities and creating favourable zones under the RMA via district and regional plans is a more traditional alternative.

### **Timeframes proposed create a disadvantage**

The proposed timeframe by Transpower does not support a fair and open process for connecting parties. Should an REZ be proposed in a region, we would suggest it will take at least 12 months for developers to assess an area and work up development proposals in a fair manner. Community consultation and support on the area selection will be critical, as such a gold-rush could create considerable angst and stress for affected residents.

Where shovel-ready developments wish to share infrastructure costs, an alternative is for these developments to simply enter into a multi-party agreement for Transpower to build under the existing Transpower Works Agreement structure. There is no barrier to this happening now and would serve to connect additional generation faster.

### **Developers perversely disincentivised**

Proposal of a REZ risks 'ready-to-deploy' developments taking a wait and see approach, with interest in REZ concepts potentially delaying renewable connections in other areas from proceeding in the short term.

### **Other REZ issues**

Nova also notes the following risks to be managed in any development of a REZ:

- The 'free rider' that avoids any of the initial investigation work and costs and simply chooses to bid for a significant share of the connection capacity near the end of the REZ establishment process;
- The risk that a party connects downstream of the REZ and restricts the physical capacity of the transmission assets (e.g. on the MDN-HDN 220 kV line);
- The risk that a party bids for a major proportion of the planned connection capacity to 'capture' the opportunity to develop a local renewable energy resource to the disadvantage of other parties;
- Will the establishment of an REZ concept prohibit cooperative parties from initiating a multi-party connection outside of an REZ? And, with either approach affecting an equivalent outcome, will this arrangement be afforded the same priority as an REZ;
- Is a precedent set that any cooperative multi-party grid connection must be tendered to all parties?
- Security of supply is critical to the NZ economy. How will security be enhanced in the face of increasing grid-edge intermittent capacity being added. Will the REZ's bear the costs of security enhancements required?

- The establishment of an REZ may be used as a conclusive argument by developers in seeking consent under the RMA and suggest this will carry some decision weighting. Community support is vital.

Critical backbone infrastructure needs to be a national priority and Transpower must work with its governmental stakeholders to prioritise investment in the grid. Regulation needs to be challenged, rather than inefficiently circumvented. The Net Zero grid pathways workstream is a good example of this foresight and should remain a priority.

To summarise, Transpower must ensure the REZ can stand alone, otherwise it risks promoting the REZ to the detriment to alternative generation projects with potentially lower costs or greater regional benefit.

Yours sincerely



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## Nova submission:

### National Consultation - Renewable Energy Zones

Q	Question	Response
Q1.	Do you agree that the first mover disadvantage and high connection costs can be challenges for connecting new renewable generation and/or large electricity loads to the electricity network?	Yes. Even when opportunities can be identified close to existing transmission assets the fixed costs of connecting to the electricity network can represent a significant cost to the overall project. Matching the grid voltage can also be an issue, particularly if a smallish project needs to connect in to a 220KV transmission line. Even if a few parties share access to a 220kV transformer their capital costs can be reduced.
Q2.	Do you think the concept of a Renewable Energy Zone could be beneficial in a New Zealand context?	Yes, in some areas. The scale of zones is expected to be smaller than the overseas comparatives, and subsequently the number and size of prospective connected parties also smaller. Nevertheless the benefits of coordinated development of transmission assets plus the potential for other local developments is likely to be significant.
Q3.	What region(s) do you think would be suited to Renewable Energy Zones?	All regions should be afforded access to this; a trial is not warranted. The regions developed as REZ should be anchored by one or two significant parties in each instance. As such, the regions should be self-identified as and when developers raise prospective projects that would benefit from joint usage of connection assets.
Q4.	What benefits do you think should be considered in the decision-making process for Renewable Energy Zones in New Zealand?	The benefits must be primarily considered in terms of reducing energy costs to consumers. This can result from reducing a potentially significant barrier to new generation projects. These should result in increased competition and lower energy prices, so long as these are not offset by socialised increases in transmission and distribution costs. Improved system resilience and helping advance a low emissions economy are secondary benefits.
Q5.	Do you agree with the proposed guiding principles? Are there any that you would change or add?	Refer letter
Q6.	Do you agree with the proposed criteria for selecting suitable regions for REZ development? Are there any that you would change or add?	Refer letter

Q	Question	Response
Q7.	Do you agree with using a tender process for committing projects in a REZ? Are there alternative processes that could be considered?	Nova agrees that the nature of commercial engagements required between two or more parties to develop and conclude a firm undertaking to fund a connection to Transpower's grid falls outside Transpower's core role. As per Figure 12, the stage of submitting firm price tenders is likely to only occur once all parties are clear on the expected timeframes and costs involved in establishing the connection. Timeframes remain too ambitious to create a level playing field.
Q8.	Who should be involved with co-ordinating and undertaking the various steps within a REZ development process?	Transpower will need to be closely involved, both because it will field the initial enquiries for connection (either directly or through the local network), and it will need to provide support by way of advising on the nature and likely cost of the connection costs and network upgrade etc. This involvement for otherwise marginal projects must not come at the cost of impeding progress for committed developments.
Q9.	Do you agree with the proposed project criteria? Are there any that you would change or add?	Refer letter
Q10.	Do you agree with the challenges we have identified?	Refer letter
Q11.	What are some of the ways to overcome these challenges and who should be involved?	Refer letter
Q12.	Do you see any other potential challenges that need to be considered?	Refer letter