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Tēnā koutou

## Powerco submission on strengthening national direction for renewable electricity generation and electricity transmission

1. Powerco Limited (Powerco) welcomes this opportunity to provide feedback on the proposed changes to the national direction instruments for renewable electricity generation and electricity transmission.

### Summary of Submission

2. Powerco agrees that meeting New Zealand's emissions targets will require a significant expansion of renewable electricity generation as well as associated electricity transmission **and distribution**. Electricity distribution infrastructure is a critical component of the electricity system within New Zealand (see Figure 1). Numerous existing (and proposed) renewable generation activities connect directly to distribution networks instead of the transmission network and it is critical that appropriate policy support is provided for the full electricity system, both in its historical form and for its future form with much more distributed generation.

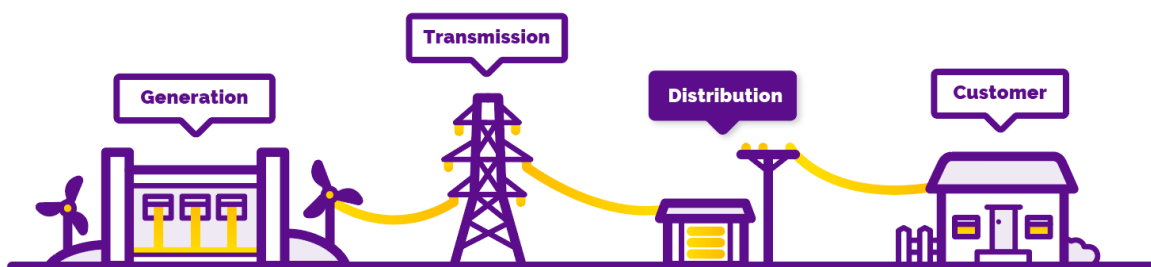


Figure 1 - The electricity system and the place of distribution

- The delivery of distribution activities has been challenging under the RMA. The RMA and its national direction has provided policy support to electricity generation and transmission, but not distribution – despite the energy system needing all of its constituent parts to be able to function to provide affordable, reliable and low emissions energy to consumers. Powerco seeks that changes are made to the national direction documents to provide the support needed for distribution activities to achieve outcomes for the full energy system.

#### About Powerco

- Powerco is New Zealand’s largest electricity distribution network in terms of network length. Our network spreads across the upper and lower central North Island servicing 344,000 homes, businesses and industries. This represents 16% of the electricity connections in New Zealand. Our electricity distribution network measures over 28,000km in length. A breakdown of our asset length, voltage and location relative to road reserve is contained within Table 1 below (as at 31 March 2022).

	<b>110kV</b>	<b>33-66kV</b>	<b>6.6-22kV</b>	<b>&lt;6.6kV</b>
Percentage of total network	<1%	6%	58%	26%
Length (km)	12	1,781	16,995	10,159
Percentage of overhead line <u>outside</u> road reserve	51%	65%	53%	45%

*Table 1 - Powerco network voltages and length*

- Powerco’s existing distribution networks need to be operated, maintained, repaired, and upgraded to maintain or improve capacity or security of supply. New network infrastructure is also needed to meet growing electricity demand driven by decarbonisation, new technology, population and economic growth. Powerco networks are also utilised by some renewable electricity generators to export the electricity that they generate (often referred to as ‘distributed generation’). Powerco currently has around 50 separate enquiries or applications to connect to Powerco networks from renewable electricity generators. In total, these applications could add more than 1,000MW of electricity to the New Zealand electricity market.
- We are a requiring authority and operate assets within six regions, under 29 district plans, and pursuant to numerous resource consents and designations. With our wide geographical spread, Powerco’s distribution networks traverse or adjoin a wide range of environments. For example, our networks on the Coromandel Peninsula pass through Outstanding Natural Features and Landscapes, Significant Natural Areas, the Coastal Marine Area, Conservation land, wetlands, as well as urban and rural zones.
- A reliable and constant energy supply is critical to sustaining the regional economy, population growth and community wellbeing. Powerco’s goal is to provide its customers with the optimal balance of cost,

security and flexibility. Development of our network, providing for new technologies and smart systems, and connecting new distributed generation is an important contributor to New Zealand meeting its 2050 net zero target. New Zealand demand for electricity is modelled to increase by 68% by 2050 (Transpower 2020 modelling) so providing for this growth and minimising regulatory constraints in all parts of the electricity system is a priority in achieving 2050 emissions targets.

## Consultation Document Section 12 – Questions on high-voltage electricity lines

*12.1 Do you agree that electricity transmission provisions that apply to the national grid should be extended to also cover high-voltage transmission lines not owned and operated by the national grid?*

8. Powerco recommends the electricity transmission provisions should apply to all high-voltage lines, regardless of the asset owner. While the national grid delivers high voltage electricity to Grid Exit Points ('GXPs'), these GXP's are typically located on the periphery of main centres. It is the job of electricity distribution companies to supply electricity to each customer within those main centres as well as surrounding communities. This is achieved via the use of sub-transmission circuits that link to zone substations. This high voltage substation to substation link forms the same function as Transpower transmission links between GXPs. These sub-transmission lines face the same constraints as the national grid – and are frequently required to extend through sensitive environments such as urban areas, and are often located outside of road reserve due to their point-to-point function.

*12.2 In your view is 110 kV an appropriate threshold for determining high-voltage transmission?*

9. Powerco recommends lines operating at 33kV and above is the appropriate threshold for the scope of the national direction. Assets at this voltage are primarily point-to-point assets (i.e. they are not typically used for customer connections) which have similar traits to the national grid. With the renewable electricity generation enquiries currently in our pipeline, 97% of these generation capacity connections would be on 33 kV and above.

*12.3 Are there any technical or other differences that policymakers should be aware of that could result in unintended consequences?*

10. Section 12 of the consultation document infers that distribution networks are different from the national grid as they are often located within road reserve. While it is true that legal road is utilised for some distribution assets, this does not apply to all assets. Table 1 above provides this information including that 62.5% (1,113km) of Powerco assets operating at a voltage of 33kV or greater are located outside of legal road. It also needs to be acknowledged that each district plan (Powerco operates under 29 different territorial authorities) treats assets within legal road differently which creates both an administrative burden with uncertain time impact, and also requires resource consent in many cases even when within road reserve.

*12.4 Please provide any evidence or examples to support your view.*

11. The photo below (photo 1) identifies the inequitable treatment that is faced by distribution companies. These assets are located along Pooles Road, Greerton, Tauranga. The assets on the right-hand side of this photo are owned and operated by Transpower (HAI-TGA-A line). The assets on the left-hand side are owned and operated by Powerco. It is very clear that the scale and form of the assets is nearly identical. These assets are both located within legal road and both extend through a suburban residential zone that are subject to a Plan Change that will enable High Density Residential development.
  
12. The national grid assets in this example have existing protections under the district plan (attributable to the NPS-ET) and will be afforded further consideration as a 'qualifying matter' under the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 when the Plan Change is advanced and increased density proposed. Powerco on the other hand has its assets noted on the planning maps, however no rules (protections or restrictions on adjacent uses) apply in relation to those assets – and Council has indicated that the Powerco networks will not gain further consideration in the Plan Change process.



*Photo 1 – Powerco assets and Transpower assets on Pooles Road, Greerton, Tauranga*

12.5. Please provide any comments about this section.

Powerco does not agree that the 2019 Draft Network utility rules; as currently drafted and destined to be included in the first tranche of the National Planning Framework, will provide resolution to the core consenting issues currently faced by distribution networks. These rules were drafted in an Resource Management Act context and prior to the establishment of the Climate Change Commission, the release of Aotearoa's first emissions budget, and release of the first Emissions Reduction Plan (electrification of the economy).

Also, as the National Planning Framework is not currently anticipated to be an RMA instrument; implementation of these provisions could take 5-10 years to take effect in all regions; any consideration given to the distribution network via this RMA consultation would not be a duplication but an enabler of the network prior to the National Planning Framework coming into force.

Powerco does not agree with the statement *'the wider distribution network is different from the national grid in several ways, including scale and operating environments (for example, local power lines are often located within road reserve). The operation, maintenance and upgrading of these distribution activities can be well provided for in the planning system through designations and network utility rules'*.

As detailed in this submission, 62.5% of Powerco's 33kV or greater network is located outside of the road corridor and can be found in significant natural areas, the coastal marine area, estuaries, wetlands, rivers, forests and production land. Many of these high voltage assets are located where they are; as this was the most cost-effective location / alignment when electricity was being rolled out to communities. Whether within road reserve or not, Powerco assets are generally not well recognised or provided for in district plans.

A review of three recent consent applications for three different types of activities (replacement, upgrade and construction of new assets) found that the national grid would be subject to the same activity status as that of the distribution network. For the replacement of a 33kV overhead network within the buffer zone of a site of significance to Māori in the rural zone; both networks trigger a Restricted Activity. To upgrade an existing 66kV overhead line in an ONFL (including vegetation trimming) and the coastal environment triggered a Discretionary Activity for both networks; and establishment of a switching station within 10m of a natural inland wetland; triggers a Discretionary Activity.

This snapshot demonstrates that aspects of the distribution network operate in similar environments to the grid and face similar consenting barriers.

## Conclusion

13. The review of the current RMA national direction for electricity is a critical opportunity to provide the guidance and recognition required to enable the rapid build of the full electricity system needed in the next 5 to 10 years. These national tools need to recognise and provide for the electricity system needed to reach Aotearoa's net zero goals. This includes the existing distribution networks, the rapid build of capacity to serve demand growth, and the role of distribution networks in future distributed generation.
14. Recognising the national importance of distribution networks and enabling their development (particularly 33 kV and above) through amended NPS and NES is a sound option suited to this current consultation.
15. Should officials require any additional information regarding Powerco or the changes sought above, please do not hesitate to contact us via Adam Du Fall, Head of Environment, Ph +64 6 759 6268, Mobile +64 27 603 0833 or email: [planning@powerco.co.nz](mailto:planning@powerco.co.nz).

Ngā mihi,



**Adam Du Fall**

Head of Environment

**POWERCO**

Powerco has read and acknowledges the Privacy Statement outlined in the Consultation Document dated April 2023.