He Tūāpapa ki to Ora - Infrastructure for a Better Future

1. Introduction

Northpower Limited welcomes the opportunity to make a submission to the Infrastructure Commission on their consultation document – Infrastructure for a Better Future.

This submission addresses aspects of the consultation paper related to energy and we also support the submission of the Electricity Networks Association, on behalf of electricity distribution businesses.

We are also a signatory to a joint submission on behalf of Northland businesses and entities in relation to the importance of transport infrastructure critical to supporting thriving regional centres. We would welcome the opportunity to talk further with the Commission about the issues raised in our submissions.

2. Background - Northpower

Northpower owns, operates and maintains both the electricity and fibre networks in Whāngarei and Kaipara. The electricity network services over 60,000 connected customers, and our world class ultra-fast broadband provides connectivity to customers in Whangarei and 12 other towns across the Kaipara and Whangarei districts. Our investment in fibre has removed many of the traditional barriers to collaborating and communicating globally while living outside of the main cities.

We are supportive of a comprehensive infrastructure strategy that looks out 30 years – as we recognise that effective long term planning is essential to deliver thriving communities. This response is however limited to questions and options relevant to the energy industry.

We also encourage the concept of strong national strategies, meshed to considered regional plans, and supported by competitive market structures to support deployment. In our experience where effective and stable long term planning processes (10 years+) are in place, efficient and cost effective delivery is enabled. Conversely when plans are unstable inefficiencies are introduced, costs rise, and critical outcomes can be missed.

An example of effective long term central planning, backed by regional plans and market structures is the national rollout of ultra fast fibre, led by Crown Infrastructure Partners in partnership with industry. This initiative has rolled out over the past 10 years seamlessly, cost effectively, and in an equitable way. New Zealand now has high speed fibre infrastructure equal to the best infrastructure in the world. Northpower has been proud to partner with the Crown to deploy this solution and bring connectivity to the North.

3. Background – Electricity Sector

The electricity sector is facing a period of progressive change, as New Zealand moves to decarbonise, and new technologies such as solar generation, battery storage, and enhanced energy management systems create the opportunity to augment our centrally dispatched energy systems with distributed energy resources.

This is the latest of a series of shifts the industry has successfully navigated since the move to a market based structure in the 1980's. In the face of increasing demand, material volumes of wind and geothermal generation have been deployed, the core transmission grid has been augmented and enhanced, and distribution companies have progressively lifted investment to support new loads, and retire aging infrastructure.

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While ‘market value’ gets periodically debated, successive reports have indicated the price paid for delivered electricity is a fair reflection of costs given New Zealand’s geography, and the cost of capital associated with building and operating infrastructure of this type. The most recent review to conclude this was the Electricity Pricing Review. Issues of equity and access noted in this report are in the process of being resolved.

What should not be lost in the debate over price, is the critical role of resilience and adaptability of current market structures. Just as wind and geothermal were deployed as they became economic to do so, we are now seeing rooftop and industrial solar (farms) achieving investment hurdle rates and being deployed. History has shown that once this occurs, the current market structure is well equipped to access capital and build the infrastructure quickly and seamlessly.

We encourage the Commission to consider the value of market structures in enabling seamless deployment of renewable generation solutions. Distributed generation involves very high numbers of very small installations, and deployment is best served by an open market model. We consider the current market model to be a useful basis to build on.

4. Background – Exploring the concept of scale.

Scale and consolidation of small operations is noted as an area in the consultation document worthy of consideration to unlock efficiencies in management and construction.

While we acknowledge that ‘minimum viable scale’ is an important concept for the Commission to consider, we note the electricity industry and Northpower’s own operations as a practical example of how regional ownership and regional scale can unlock value over and above large centralised organisations designed to be efficient.

Northpower’s fibre business and electricity networks are able to deliver outcomes in line with the largest network operators in New Zealand (once the issue of connection density is taken into account). In addition to that outcome our community ownership means that all return on investment is returned to our communities. Over the past 10 years, we have returned $239 million to our consumer owners in distributions, discounts, and dividends.

Further, we note that as a regionally owned infrastructure organisation, we have close links to our community, and our networks operate as community ‘platforms’. This places us optimally to enable new solutions such as PV and electric vehicles and enabling technical solutions as they emerge. We are trusted by our community, understand the trends ‘on the ground’ and can act quickly and decisively.

We suggest the idea of ‘bigger is better’ tends to only hold where ‘minimum viable scale’ has not been reached. Northpower is a case study of how regional delivery can bring superior outcomes and returns.

5. Response to specific questions

Q7 What infrastructure issues could be included in the scope of a national energy strategy?

We agree with the ENA’s submission that key to supporting a low carbon future, and greater electrification, is a supportive planning and consenting regime. New infrastructure assets will be required to connect new renewable generation to the grid, as well as upgrading of existing networks to address increased demand.

A national energy strategy must give high priority to renewable energy and the supporting infrastructure required to transport it across New Zealand and across distribution networks, to homes and businesses.

This could include stronger national direction under planning frameworks on the importance of electricity infrastructure and renewable energy, and which gives strong and consistent direction on the required level of consideration for both the specific renewable energy activities and the necessary enabling networks (both transmission and distribution). This would assist with certainty and reduction of costs through the resource consenting process.

We also consider the strategy should consider increasing the flexibility for EDBs to own and operate renewable generation (removing or lifting current legislative caps), so they can actively invest on behalf of their communities to support this energy transition.

Q8 Is there a role for renewable energy zones in achieving New Zealand's 2050 net zero carbon emissions target?

We are supportive of the concept of renewable energy zones to support faster construction and commissioning of renewable energy, particularly where those zones are located close to large load centres. Targeted renewable energy zones across New Zealand could encourage investment in renewable generation, assist with consenting processes for new infrastructure, and ultimately strengthen generation diversity and resiliency across New Zealand.

Northland is an ideal candidate for a renewable energy zone – with extensive and valuable wind and solar resource, and close proximity to the growing load centre of Auckland. A recent study by Roaring40s Wind Power undertaken for MBIE (*Wind Generation Stack Update*, 11 March 2020) established ten feasible wind farms in Northland, totalling 1,310 MW. However, a limiting factor to exporting this generation to Auckland is the need for new transmission links to the grid (e.g. from the west coast of Northland to Transpower's network), as well as transmission capacity in some areas.

A framework for renewable energy zones that provides an enabling consenting environment, and supports timely investment in transmission capacity, will likely be an important tool to unlock the renewable energy in Northland.

Options

F2.1 Enable EDBs to minimise barriers to the connection and use of large numbers of local generation, storage response facilities (distributed energy resources or DER).

Require (and possibly fund) electricity distributors to work with DER providers to develop and implement (by 1 July 2023) standard arrangements for procuring support services from DERs and any other associated requirements.

The distribution sector is acutely aware of its role in supporting a decarbonised New Zealand, including connecting large quantities of DER, and we are preparing for that future. A number of networks are already trialling alternatives to traditional network alternatives as opportunities arise, and we expect that this will gain momentum as markets mature and costs of alternative technologies decrease. The timeframe for this is unclear, and markets may develop unevenly across New Zealand.

We would welcome additional support to assist distributors and DER providers in developing standardised procurement arrangements, and suggest that early trials are used to prove up the process, and learnings factored into further development work.

The ENA sponsored Network Transformation Roadmap outlines the work required by distributors to underpin the energy transition, and key to this is the greater visibility and control at the low voltage level. While critical LV data is already collected by advanced meters, this information is not readily available to distributors, resulting in distributors progressing their own trials and early deployments of low voltage monitoring technologies. To deliver an energy future that minimises costs to consumers, low cost access to this data is important, otherwise New Zealand risks duplication of assets and resulting costs.

F2.2 Reduce barriers to building spare transmission capacity where that would reduce inefficient barriers to large-scale renewable generation and the electrification of large process heating units

In principle, we support a flexible regime that enables capacity to be built ahead of demand, as this is often the most efficient way of building transmission assets. We also expect that a range of parties and sources of capital may be employed to build, own and operate transmission infrastructure, and that the regulatory regime should support this.

Regardless of who owns and operates this infrastructure, it is important that ordinary consumers do not end up paying for the costs of capacity built in advance to unlock renewable generation connections or for the electrification of process heat. We agree with the options discussed in the *Accelerating Renewable Energy and Energy Efficiency* consultation paper that these risks/costs should be borne by the Crown or investors until they are required by generators or load customers.