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New Zealand Infrastructure Commission
(via website: https://infracom.govt.nz/strategy/have-your-say/)

To whom it may concern,

Submission to the Infrastructure Commission consultation on Aotearoa New Zealand Infrastructure Strategy

The Electricity Networks Association (ENA) appreciates the opportunity to make a submission to the Infrastructure Commission on their consultation on Aotearoa New Zealand Infrastructure Strategy. This submission is on behalf of ENA's members (listed in the appendix to this submission), the electricity distribution businesses (EDBs) of New Zealand.

ENA is supportive of the proposed direction of the Infrastructure Commission's strategy, as laid out in the consultation document. We have some specific comments on those few sections of the consultation document that directly touch on the interests of our members and the communities they serve.

Proposed priorities

We support priorities two (Getting the price right), and four (Supporting a zero-carbon economy and preparing for climate change) that the Commission has identified. As we expand upon later in this submission, pricing reform is a key tool for EDBs and other infrastructure providers to signal to consumers the optimal way in which to use the network service, and signals to third parties the value of support they can provide to the network.

A reformed and enabling planning system is also critical to ensuring that electricity distribution infrastructure can be expanded and maintained to support New Zealand's electrification and decarbonisation goals, and deliver the electricity services that New Zealanders will increasingly rely.

Long term issues for electricity distribution infrastructure

Looking to the longer term, two key issues will affect the ability of electricity distributors to meet the needs of consumers and the wider economy. As mentioned above, an enabling planning system will be key to the ability of the distribution sector to provide infrastructure that supports New Zealand's long-term aspirations. While the government has announced a significant programme of reform and replacement of the existing Resource Management Act-based planning system, at this stage the distribution sector has no visibility of the replacement system. The new planning system that replaces the RMA must appropriately balance interests of communities, and local environmental and cultural considerations, against the benefits generated by electricity infrastructure for wider community well-being and environmental objectives (e.g. decarbonisation).

The second long-term issue for the distribution sector is the flexibility of the funding and financing arrangements imposed on the sector by the Commerce Act and regulations. These constraints, which effect capex, opex, pricing (including tariff structure) and revenue for the regulated EDBs, can hinder the scope and rate of deployment of new innovative network technologies and techniques. This in turn may have the effect of slowing the pace of adaptation to new technologies (e.g. electric vehicles) and services consumers will adopt. It would be timely for government to begin considering now whether the existing regulatory arrangements – in particular those concerning the Commerce Commission and Electricity Authority – are sufficiently adaptable and responsive for a fast-changing and uncertain future.

Responses to specific questions and proposed actions

In addition to general comments above, we have responded to specific questions and proposed actions from the consultation document.

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

As the New Zealand economy transitions to low carbon and more electrification over the next 30 years, it will be critically important that new electricity infrastructure can be built, and existing infrastructure maintained and upgraded. Central to this is a permissive planning regime and flexible funding arrangements for regulated entities that will deliver network infrastructure.

ENA proposes that the national energy strategy should consider the way in which electricity infrastructure should be enabled and supported by the planning regime. The government has begun a process to reform the planning system in New Zealand but it is unclear at this time the extent to which a new regime will enable electricity infrastructure. In addition, the suitability of the existing regulatory regime for electricity distribution businesses should be reviewed, with a particular focus on the long-term sustainability of the regime in the face of significant societal change.

Section F2.1 - Enable electricity distribution networks to minimise barriers to the connection and use of large numbers of local generation, storage and demand response facilities (distributed energy resources or DERs)

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.

ENA would welcome further support to help the distribution sector develop standardised arrangements for procuring network support services. ENA, via its Network Transformation Roadmap, has identified that a thriving market for the provision of demand response (DR) and other support services will be critical in allowing EDBs to accommodate the expected impacts of significant uptake of new consumer technologies (e.g. electric vehicle charging units, etc) on low voltage (LV) networks. Individual EDBs are taking the lead in this field, for example Powerco and Aurora Energy, have run their own projects to procure from the market DR and other support services to alleviate seasonal network constraints, as an alternative to expensive network reinforcement and upgrading.

To a certain extent there is a 'chicken and egg' scenario to normalising the use of network support services as an alternative to traditional network reinforcement in New Zealand. To be viable for EDBs to go to market for these services as a standard approach, there needs to be a diverse and strong cohort of DR providers. Conversely, in order for there to be a thriving market for DR services, EDBs (and other market participants) need to provide clear signals to potential DR providers that there is a market to be served and a viable revenue stream for doing so.

On the EDB side of this problem, there are constraints on their ability to provide clear signals imposed by regulation or market arrangements outside the EDBs' ability to change. One of these is the inability to find a regulatory or Code[1] solution to provide them with workable and ongoing access to smart metering data. This in turn limits their visibility of their low voltage networks, which then impedes the easy development of 'heat maps'[2] (such as have been seen in Australia and the UK) to signal to third parties where network congestion exists, and to what extent. Without some visibility of the extent of the capacity problems on EDB LV networks, it is difficult for potential DR providers to understand what scope there is for a viable business offering network support services to relieve these constraints.

ENA and its members are keenly aware of the importance of developing a market for network support services and are taking some early steps in this area. Unfortunately, EDB visibility of their LV networks is not as comprehensive as the sector would like, and therefore it is difficult to know the extent to which these sorts of support services are needed, except in the case of very significant projects of the type Powerco and Aurora Energy have undertaken.

EDBs are currently significantly constrained in their efforts to introduce more cost-reflective tariffs for use of their networks, due to the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004. This ban on more cost-reflective pricing, restricts the ability of EBDs to use tariffs to

[1] The Electricity Industry Participation Code, administered by the Electricity Authority.
[2] A good example of this is the Western Power Distribution Network Flexibility Map - https://www.westernpower.co.uk/network-flexibility-map, though there are many others.

mitigate or resolve capacity issues on LV networks and signal to third-party DR providers the potential business case for offerings to EDBs.

Similarly, a high degree of visibility of power flows on the LV distribution networks will be important to allow EDBs to understand where constraints and opportunities exist on those networks, and therefore seek network support services as an alternative to traditional network reinforcement. As things stand, EDBs have been largely unsuccessful in their attempts to find a regulatory solution to provide them with relatively frictionless and ongoing access to smart metering data. As an alternative, EDBs are progressing trials and early deployments of low voltage monitoring technologies.

Summary

Taking a long-term view of the likely challenges for the electricity sector in New Zealand is difficult, due to some uncertainty as to how exactly decarbonisation and consumer and commercial uptake of new technologies will play out. For infrastructure providers making decisions about the optimum investment strategy for long-lived and expensive assets, certainty is highly desirable, and if there is less certainty available then flexibility in planning and funding regimes is a valuable hedge on uncertainty. To that end, ENA is advocating for an enabling, consistent planning system for electricity infrastructure, and a flexible and responsive regulatory and funding regime to govern the sector.

Please don't hesitate to get in touch with ENA if you'd like to discuss our submission. If you require anything further from ENA or its members, please contact [redacted] in the first instance.

Yours sincerely,

Manager, Policy and Innovation
Electricity Networks Association

Appendix A – ENA Members

The Electricity Networks Association makes this submission along with the support of its members, listed below.

Alpine Energy
Aurora Energy
Buller Electricity
Counties Power
Eastland Network
Electra
EA Networks
Horizon Energy Distribution
Mainpower NZ
Marlborough Lines
Nelson Electricity
Network Tasman
Network Waitaki
Northpower
Orion New Zealand
Powerco
PowerNet
Scanpower
The Lines Company
Top Energy
Unison Networks
Vector
Waipa Networks
WEL Networks
Wellington Electricity Lines
Westpower