

31 July 2026

Electricity Authority
PO Box 10041
Wellington 6143

By email to: fsr@ea.govt.nz

Dear Electricity Authority team,

ENA feedback on Electricity Authority *A roadmap for the future of distribution system operation in New Zealand*

Electricity Networks Aotearoa (ENA) welcomes the opportunity to provide feedback to the Electricity Authority (Authority) paper *A roadmap for the future of distribution system operation in New Zealand* (the DSO roadmap).

ENA is the membership organisation representing all 28 electricity distribution businesses (EDBs) that distribute electricity across Aotearoa (EDBs represented are listed in Appendix A).

EDBs employ over 7,800 people, deliver energy to more than two million homes and businesses, and have spent or invested \$6.8 billion in network assets over the last five years. ENA harnesses members' collective expertise to promote safe, reliable, and affordable power for our members' customers.

We would like to begin our feedback by thanking the Authority for laying out its vision for the development of DSOs in New Zealand, and its expectations for the sector in this regard. This kind of transparent regulatory signalling is very helpful, as it enables EDBs to engage constructively with the Authority's expectations (including to challenge, when appropriate), assess what they mean for different networks, and organise their own work programmes accordingly.

ENA offers the following feedback to the Authority in order to inform some of the more practical considerations in monitoring progress towards achieving the DSO roadmap objectives.

1. Monitoring progress towards DSO

An important consideration for the Authority attempting to monitor sector progress towards DSO capabilities and functions is to recognise that not all EDBs will have, nor will they need, these capabilities at the same time. ENA expects that the pace of development of DSO capabilities will be very largely driven by the situation within the specific network – consumer adoption of DER, industrial load growth or transition from fossil fuels, EV uptake (both in private and public fleets), organic growth in demand, etc. Some EDBs – typically those with larger metropolitan networks - will likely experience these impacts earlier than others.

For this reason, ENA encourages the Authority to take a proportionate and context-based approach to assessing progress towards DSO capability. In practice, this means recognising

that the need for particular DSO functions will be driven less by an arbitrary point in time, and more by anticipated or observable network conditions, such as emerging network constraints, high or clustered DER uptake, increasing two-way power flows, growth in flexible load, more complex connection requests, or the emergence of flexibility service providers (possibly retailers) seeking to dynamically operate material amounts of load on a network.

This distinction is important because some DSO capabilities will be necessary and valuable only where the relevant network conditions exist. For example, a distributor facing rapid load growth, significant EV charging demand, increasing solar export, or constrained parts of its network may reasonably need to develop or procure more sophisticated visibility, forecasting, flexible connection arrangements, and flexibility procurement capabilities. Conversely, an EDB with relatively stable or declining demand, low DER uptake, limited flexibility service provider interest, and no material forecast constraints may not be able to justify building the same level of DSO capability at the same pace.

ENA does not suggest this means some EDBs should be passive or disengaged. Rather, all EDBs should be able to demonstrate that they understand the likely drivers of future DSO capability on their networks, are monitoring relevant trends, are participating in relevant sector-wide standardisation work, and have a credible pathway to access DSO capability if and when it becomes justified. For some EDBs, this may mean developing capability directly. For others, it may mean collaborating with their peers, relying on common industry tools or templates, or procuring particular DSO functions from a third party or shared service provider.

ENA therefore recommends that the Authority's final roadmap, and its future monitoring of progress, distinguish between:

- baseline capabilities that are likely to be relevant to all EDBs, such as improved planning transparency, standardised connection processes, appropriate cyber and data governance, and participation in common industry standards; and
- more advanced DSO capabilities, such as active flexibility procurement, dynamic operating envelopes, granular LV visibility, or near-real-time operational coordination, which should scale with network need and consumer value.

This would allow the Authority to maintain a clear expectation that the sector is moving in the right direction, while avoiding an implication that all EDBs should develop identical DSO capabilities on the same timetable, regardless of network need or the likely benefits to consumers.

2. DSO development will depend on parties beyond EDBs

ENA also notes that several of the outcomes sought by the roadmap, particularly those relating to the development of flexibility markets, will not be wholly within the control of EDBs. Distributors have an important role in identifying network needs, signalling constraints, considering non-network solutions, enabling flexible connections, and procuring flexibility where it is efficient to do so. However, the development of active and liquid flexibility markets also depends on the participation and capability of retailers, flexibility service providers, load aggregators, consumer device manufacturers, and market platform providers.

This matters for how the Authority monitors progress. If, for example, there is limited participation in flexibility markets in a particular network area, that may not necessarily indicate a lack of distributor readiness. It may instead reflect the absence of commercially

viable flexible load, low customer participation, limited aggregator activity, immature market platforms, or insufficient value available to justify third-party investment. Similarly, even where an EDB is willing to procure flexibility, there may not yet be a sufficiently competitive or dependable provider base from which to procure.

ENA therefore encourages the Authority to assess the development of DSO capabilities and flexibility markets in a whole-of-sector way. EDBs should be accountable for the capabilities and decisions that sit within their control, but market development outcomes should be understood as depending on a broader ecosystem of participants. This is particularly important where the roadmap refers to participation, liquidity, interoperability, data exchange, and the development of flexibility products and trading arrangements.

In this respect, ENA supports the roadmap's recognition that DSO development will require coordinated action across government agencies, regulators, EDBs, retailers, FSPs, Transpower, technology providers and consumers. ENA considers that the Authority will have an important role in helping identify which barriers sit with distributors and which sit elsewhere in the value chain, so that any future intervention is targeted at the right problem.

3. Practical enabling steps remain important

ENA also considers that some relatively practical regulatory or technical interventions could materially assist the development of DSO-type capability. In previous correspondence to the Authority, ENA has identified the value of requiring smart inverter functionality for inverters supplied into the New Zealand market. We continue to consider this an important enabling step.

Mandating smart inverter capability would not, by itself, create a DSO or a flexibility market. However, it would help ensure that new DER connecting to distribution networks has the technical capability to support future operating envelopes, export management, voltage support, and other forms of network coordination. In the absence of such requirements, New Zealand risks continuing to install DER that may not be capable of participating effectively in future DSO arrangements, increasing the cost and difficulty of coordination later. This is very consistent with the sector's advocacy for smart residential EV charging, which has been accepted and is being progressed by government.

ENA encourages the Authority to treat these types of foundational interventions as part of the practical pathway towards DSO capability. While the roadmap appropriately discusses interoperability, device standards and communication protocols, there is value in moving early on the "no regrets" elements of that agenda. Ensuring that new inverters and relevant consumer energy devices are technically capable of supporting future flexibility and coordination arrangements is likely to be more efficient than attempting to retrofit capability after uptake has scaled.

This is also an area where national consistency is particularly important. Individual EDBs cannot efficiently solve this issue through local connection requirements alone. A nationally consistent requirement for smart inverter functionality would support interoperability, reduce future integration costs, and provide greater certainty to manufacturers, installers, EDBs, retailers, aggregators and consumers.

4. Clarifying paragraph 3.9 of the roadmap

ENA also suggests the Authority clarify the wording of paragraph 3.9 of the roadmap. That paragraph states that an aim of the FSO project over the next five years is the “design and delivery of one or more DSOs, corresponding to one of the three DSO models”. Read literally, this could be interpreted as suggesting the Authority expects a DSO to be developed for each of the proposed DSO models. ENA assumes this is not the Authority’s intention.

Developing multiple DSO arrangements in parallel to correspond to different models would likely be inefficient and difficult for other parties to interact with. In particular, it would create complexity for participants that need to operate across networks or system boundaries, such as Transpower as system operator, retailers, flexibility service providers, aggregators and market platform providers. It would also risk fragmenting the development of common standards, product definitions, data exchange arrangements and operational coordination processes.

ENA understands the Authority’s intention to be that the roadmap should support the development of one or more DSOs, while keeping open the question of which DSO model, or variant of a model, is ultimately most efficient for New Zealand. If that is correct, ENA recommends that paragraph 3.9 be amended to make clear that the Authority is not seeking the parallel development of DSOs under each model, but is instead monitoring the development of DSO functions and capabilities while retaining flexibility as to the eventual allocation of roles between distributors, the system operator and other parties.

Conclusion

ENA supports the Authority’s efforts to provide a clear roadmap for the development of DSO functions and capabilities in New Zealand. The roadmap provides a useful basis for constructive engagement between the Authority, EDBs and other sector participants on the capabilities likely to be needed as distribution networks are operated in a more dynamic, decentralised and flexible manner.

ENA’s key recommendation is that the final roadmap should more clearly recognise that DSO capability development will need to be proportionate, trigger-based and capable of being delivered through different models. Some capabilities will be relevant to all EDBs as baseline good practice. Others will need to emerge where network conditions, consumer uptake, DER growth, flexibility value and market participation justify them. This approach would preserve the roadmap’s clear direction of travel, while ensuring that expectations remain practical, efficient and focused on long-term consumer benefit.

If you have any questions about ENA’s feedback please contact Richard Le Gros, Policy and Innovation Manager (richard@electricity.org.nz).

Yours sincerely



Richard Le Gros

Policy and Innovation Manager

Appendix A: ENA Members

Listed below are the lines companies represented by ENA:

- Alpine Energy
- Aurora Energy
- Buller Electricity
- Centralines
- Counties Energy
- EA Networks
- Electra
- Electricity Invercargill
- Firstlight Network
- Horizon Networks
- MainPower
- Marlborough Lines
- Network Tasman Limited
- Network Waitaki
- Northpower
- Orion New Zealand
- OtagoNet – represented by PowerNet
- Powerco
- Scanpower
- The Power Company – represented by PowerNet
- Top Energy
- The Lines Company
- Unison Networks
- Vector
- Waipa Networks
- WEL Networks
- Wellington Electricity
- Westpower