

15<sup>th</sup> July 2021

Wellington Electricity  
(via email: [EV\\_Connect@Welectricity.co.nz](mailto:EV_Connect@Welectricity.co.nz))

Dear Greg and team,

**Submission to Wellington Electricity on the EV Connect Draft Roadmap**

The Electricity Networks Association (ENA) appreciates the opportunity to make a submission to Wellington Electricity on the draft EV Connect Roadmap. ENA is pleased to see the leading role Wellington Electricity is taking in what we consider to be a critical discussion for New Zealand Electricity Distribution Businesses (EDBs) and the wider electricity sector. Wellington Electricity has correctly identified some of the key considerations and trade offs that need to be made for the New Zealand electricity sector, and wider society, to efficiently and effectively respond to the impacts of widespread electric vehicle (EV) adoption.

In Appendix A, ENA has responded to the questions posed in the consultation material. If there is any further support ENA can provide to Wellington Electricity in considering this material, or the next steps in the EV Connect project, contact Richard Le Gros ([richard@electricity.org.nz](mailto:richard@electricity.org.nz), 04 555 0075).

Yours sincerely,



Graeme Peters  
Chief Executive  
Electricity Networks Association

## **Appendix A – ENA submission to EV Connect Draft Roadmap Consultation**

**Question 1:** Submissions from the first EV Connect consultation thought EV uptake would be slow and the industry would have time to develop the ability to accommodate new demand from EVs. Since then, the Climate Change Draft Advice has been released. What visibility of EV penetration onto networks or through fleet purchases & home charging is required to monitor network uptake rates?

**Answer 1:** There is a continuum of the ability to make optimum interventions in the LV network to support EV charging based on the level of information available on penetration. At a minimum, being able to map dedicated (as opposed to standard ‘three-pin’) EV charging units to an ICP would give good visibility of where the potential for significant EV charging demand may materialise. An extension of the existing Code requirement to register PV inverters that are exporting on to the network to dedicated EV charging units is a relatively low-cost and straightforward way to capture this information.

**Question 2:** Are our observations about the Wellington network consistent with other regions or do they relate to urban rather than rural areas?

**Answer 2:** In the context of EV charging load, it is reasonable to assume that the Wellington Electricity network would be consistent with other urban networks in New Zealand, though perhaps the low provision of off-street parking in and around the central city may be a unique characteristic.

**Question 3:** What do you think will be other key drivers for managing peak demand apart from price signals and shifting EV charging to off peak periods?

**Answer 3:** We expect that price signals will be the key mechanism for encouraging consumers to shift EV charging to off-peak periods. However, retailers and third-party demand response (DR) providers/aggregators may be able to package price signals into more appealing and innovative offerings for end-consumers. Some examples include air-miles, support for local schools and community facilities and environmental initiatives.

**Question 4:** Could the proposed actions be combined with other industry programmes or should the EV programme remain independent?

**Answer 4:** While EV charging demand presents itself to the electricity network in the same way as any other demand, it does have a few unique characteristics; namely low diversity (i.e. long charging periods) and the potential for intervention available at this early stage in mainstream adoption. In order to keep the scale and scope of the programme manageable, and to ensure that timely outcomes are achievable, we recommend that the programme be constrained to focussing specifically on EV charging demand. It would be sensible however for the programme to be cognisant and communicative with other activities in the wider sphere of electricity network transformation.

**Question 5:** What is the best model and implementation plan for ensuring the actions are delivered?

**Answer 5:** We encourage Wellington Electricity and EECA to look at similar programmes, that have delivered high-quality and timely outcomes, and model their EV programme on those. That said, a critical element is senior level leadership and buy in from the participating organisations and a genuine mandate for the programme to propose and enact fundamental system change. To this end, a key objective is an empowered leadership or steering group to support the more active workstreams and help overcome barriers.

We also encourage Wellington Electricity and EECA to be very clear about the scope of the programme – is it intended to encompass activities on Wellington Electricity’s network only; is it intended to set a standard or precedent for New Zealand as a whole; or is it intended to include all electricity networks

right from the get-go? Clarity will ensure that participants in the programme have a clear understanding of the implications for any recommendations or outcomes.

**Question 6:** Have we captured the correct objectives within the roadmap?

**Answer 6:** The objectives presented in the roadmap appear to be reasonable, however they are all described as 'required'. It would be pragmatic to identify a sub-set of these objectives that would still enable viable outcome with respect to managing EV charging demand. Additional objectives could then be layered on top that would further enhance or optimise the response. In this way you could have an all or nothing solution which requires all these objectives to be achieved to be viable, making deliverability of some useful outcome (even if not the absolute best possible outcome) more likely.

**Question 7:** Are there other deliverables we have missed, or which need amending?

**Answer 7:** Not that we can see.

**Question 8:** Feedback suggested a government lead or/co-lead work programme. What steps are needed to make sure this structure is effective?

**Answer 8:** One suggestion is a high-level commitment from government (perhaps the relevant Minister) to work constructively towards achieving the *objectives* of the programme, recognising that the specific outputs probably cannot be agreed upfront. It will also be important to understand where government intervention is likely to be required – e.g. EV charging unit standards, electricity tariff regulations, etc.

**Question 9:** Do we need to get a government mandate to support/resource?

**Answer 9:** As noted in the response to question 8 above, high-level government support for the objectives of the programme will be critical to ensure that those officials that are participating are empowered to make decisions.

**Question 10:** If not, what path needs to be adopted?

**Answer 10:** See answers to questions 8 and 9.

**Question 11:** We are cognisant that the roadmap has been assembled from an industry perspective. We also expect services offered to consumers with DER will evolve with time and consumer benefits will grow as new services are offered. Do you think the proposed actions will lead to consumers receiving the most value for their DER?

**Answer 11:** It is important to be realistic about what can be achieved while DER and the services arising from it are in early development. It is unlikely that consumers and/or DER owners will receive the 'most' value from their DER at the moment that EDBs and others begin to procure services. The most important focus is to ensure the foundation elements are in place and that they can be accessed in a frictionless, low (or zero) cost way, using transparent and inter-operable standards.

From an EDB perspective, this could mean gathering sufficient information about the state of congestion on the LV network, such that it can be used internally to understand where constraints exist, and provided externally (perhaps via a flexibility services map or similar) so third parties understand where DER enabled services would be of benefit. The centralised registration of EV charging units, as discussed under question 1, would provide additional visibility to both EDBs and third parties as to where DR services can add value, and where significant penetration of DER sources for those services might be found. More cost-reflective tariffs will be important to signal to those third

parties the value of a flexibility service to the EDB. It may also be necessary for government to mandate or incentivise that EV charging units (and possibly other forms of DER) are equipped with DR functionality.

With these foundations in place, there is scope for the electricity sector and new entrant third parties to iterate upon DER-based offerings to consumers. This would mean that, over time the most efficient and effective DR services can be found, while returning the most value to consumers.

**Question 12:** Digitalisation will allow just about any party, in future, to move demand. Are there situations or circumstances where a grid or network emergency requires one party to establish demand reduction rights over another?

**Answer 12:** This is a key question for EDBs (and potentially Transpower) and requires careful consideration. We are not aware of a definitive answer at this time. It may be prudent to seek a technical assessment to better understand whether there are genuine security of supply concerns that could arise due to ‘unfettered’ access by third parties to DR on distribution networks.

**Question 13:** The SNZ PAS 6011:2021 standard for residential EV chargers provides great advice and guidance for connecting EVs. How can we ensure consumers read and use the guidance?

**Answer 13:** Our working assumption is that consumers will be most engaged on the subject of EV charging immediately prior to, during the act of, and immediately following an EV purchase. It therefore seems sensible to present them with helpful guidance at those points in time. Ideally, the vehicle supplier/salesperson would be able to provide guidance to their customers on the best means of charging their new vehicle, and any other benefits that might arise (e.g., enrolling their new DER with a third-party aggregator). The standard mentioned in this question, while useful, is probably still too verbose, technical and dense to be accessible to the average consumer. A stripped down, simplified and more visually appealing piece of guidance, ideally no bigger than a leaflet, would probably be the ideal format for providing information at the point of sale.

**Question 14:** We have been thinking about who should provide demand management services (flexibility services) – Is there a clear and obvious party to provide demand response services?

**Answer 14:** All things being equal, a diversity of approaches and offerings should give rise to the best solutions, rather than one single party holding a monopoly of demand response services. However, it is recognised that in the early stages of the development and use of DR services, it is likely that a single or predominant provider and user of DR services will be needed to establish and seed the market.

With this in mind, it seems sensible for the relevant EDB to both develop the DR service and offering to consumers, as well as procuring the service for its own benefit. This should be undertaken as a transitional role, with scope for other parties to make offerings to DER owners, and the EDB to procure services from others when the market develops.

**Question 15:** Should this initially default to the EDB to ensure security of the LV network pending further market development?

**Answer 15:** As per our answer to question 14 above, this seems a reasonable approach.

**Question 16:** Who would provide the most value to consumers?

**Answer 16:** It is difficult at this stage to answer this question. It seems reasonable to allow these markets to develop and then let consumers decide which DR provider is offering them the most attractive proposition in exchange for control of their DER.

**Question 17:** As demand can only be shifted once, does there need to be an understanding of a hierarchy to prioritise demand response management so value is assigned correctly across the supply chain?

**Answer 17:** As noted in our response to question 14 above, assuming all those calling on the DR response are pricing their offers efficiently, then the response should go to its highest value use. However, with the unresolved concerns regarding security of supply expressed in question 12, there may need to be some overriding priority assigned to calls on DR that serve to maintain the integrity of the supply system. As we noted in our response to question 12, this may require some detailed technical assessment on behalf of the electricity distribution sector.

**Question 18:** We envisage that an EDBs demand management and DSO capability will evolve with time. What do you think are the core responsibilities of the DSO function?

No comment.

**Question 19:** When will each of the core DSO responsibilities identified above be needed (i.e. what drivers/causes will require their delivery)?

No comment.

**Question 20:** Who is best placed to deliver the DSO function?

No comment.