



## **Drive Electric (CPO subgroup) submission on Electricity Authority Issue Paper – Targeted reform of Distribution Pricing**

**15 August 2023**

### **Introduction**

1. This is the submission of Drive Electric’s Charge Point Operator (CPO) subgroup on the Electricity Authority (Authority) Issues Paper “Targeted Reform of Distribution Pricing” that was published on 5 July 2023. This submission represents the views of this CPO subgroup.
2. The Drive Electric CPO subgroup welcomes the opportunity to submit on the Electricity Authority’s Issues paper on Distribution Pricing. We consider that 2023 is a very important year for New Zealand to get the right building blocks in place to provide users of electric vehicles (EVs) with charging infrastructure across New Zealand.
3. We believe that Drive Electric CPO membership has a key role to play here, and this submission is a unique opportunity to give the Authority direct input from EV consumer-facing charge point operators who provide the New Zealand public with charging services. We are also providing this submission representing CPOs as customers of EDBs.
4. New Zealand is on the cusp of a complete transformation in our transport system, moving from being fossil fuel-powered to being powered by electricity. This change is already occurring and will rapidly accelerate over the next ten years. New Zealand needs a network of public charging stations to underpin this change.
5. In short, the users of e-mobility in New Zealand (eventually all New Zealanders) need a regulatory system for network businesses that enables CPOs to invest in and deploy charging infrastructure to meet current and future market demand.
6. Private sector investment into public charging networks is starting to be seriously hampered because of the costs (connection and use of system charges) and processes associated with electricity network issues. Demand for energy by EVs is growing quickly, and if we don’t enable investment in public charging infrastructure, there will be undesirable consequences for EV users, electricity networks, and for New Zealand’s electrification opportunities and decarbonisation targets.
7. Public EV charging offers important benefits for networks in the form of a load profile that will likely be more dispersed than traditional network evening peak load, because EV drivers can charge opportunistically throughout the day, rather than at home in the evening. This provides outcomes that are much more efficient for networks and for New Zealand. Additional efficiency benefits include:

- a. EVs as batteries – the use of energy stored in EV batteries being available to meet peak grid demands and manage load (flexibility services). This is already in its infancy in New Zealand.
  - b. Public charging connects to the grid at higher voltages than home charging and can be dynamically priced to manage demand, as well as being a more practical way of providing pricing signals to a larger number of EV owners.
8. The Authority’s concerns with distribution pricing and connection arrangements, that are set out in the Issues paper, are only one component of the regulatory framework for electricity network businesses. Other regulatory and government entities are active in this space, for example – the Commerce Commission are currently reviewing the Input Methodologies and Information Disclosure rules; Ministry of Business, Innovation and Employment (MBIE) are considering policy regarding the provision of public charging (including its recently released consultation, “Electricity Market Measures<sup>1</sup>”), and the Ministry of Transport has recently consulted on the forthcoming National EV Charging Strategy<sup>2</sup>. It is vital that these regulatory components work together.
9. We have recently briefed the Commission on these issues via a CPO submission on draft IMs decision consultation, wherein we sought specific provisions in the revised IMs to assist EDBs with delivering network connections for public charging installations.<sup>3</sup> That submission did not include the detailed evidence on the issues that CPOs currently face that we are presenting here to the Authority.

### **Submission purpose**

10. The purpose of this submission is threefold, to:
  - a. assist the Authority in its understanding of the scope and importance of public EV charging in meeting New Zealand’s decarbonisation goals (both its domestic and international obligations).
  - b. describe and evidence the issues that CPOs are experiencing with network connections; and
  - c. describe the outcomes from a mandated access regime that CPOs consider is essential if New Zealand is to deliver on the aspirations set out in the draft National EV Charging Strategy (currently being finalised by the Ministry of Transport).
11. Our reading of the Authority’s Issues Paper indicates that, at a high level, the authors understand the challenges that New Zealand is facing as we electrify transport. We consider it is important that this submission provides a fulsome briefing on the public

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<sup>1</sup>

<https://www.mbie.govt.nz/dmsdocument/26909-measures-for-transition-to-an-expanded-and-highly-renewable-electricity-system-pdf>

<sup>2</sup> <https://www.beehive.govt.nz/release/government-future-proofs-ev-charging>

<sup>3</sup> [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0018/323118/Drive-Electric-Submission-on-IM-Review-2023-Draft-Decisions-19-July-2023.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0018/323118/Drive-Electric-Submission-on-IM-Review-2023-Draft-Decisions-19-July-2023.pdf)

charging challenges we face and a well evidenced case for a change to the electricity network access arrangements.

12. The weight of evidence that is presented in this submission has us convinced that the Authority needs to be more definitive about network access pricing and other connection arrangements than they suggest in paragraph 7.19 of the Issues paper. Compared to the high-level issues summary in paras 7.14 to 7.17 of that paper, the evidence base that we set out below suggests to us that the Authority has underestimated the scale and scope of the current issues. The constraints that we face are 'live' and urgent and we need a remedy that is structured and enduring.
13. We believe that the Authority needs to urgently mandate an access regime for public charging in a similar way to the Distributed Generation (DG) access rules mandated in Part 6 of the Electricity Participation Code. In short, our objective is to achieve a commitment from the Authority to pursue a mandated access regime for public charging connections.
14. A mandated access regime is needed simply because what CPOs are doing is unique – rolling out a nationwide infrastructure network of charging points that requires many thousands of connections to the 29 local electricity networks, and creating a consumer-facing service. We will not succeed without such a regime.
15. Because CPOs are EDB customers that represent EV drivers as consumers, this submission has a focus on local electricity network connection charges for public charging installations. Because of this we do not comment on other 'market' related matters in the Issues Paper, though Drive Electric members may submit their own views on broader distribution network pricing.
16. Structure of this submission:
  - a. Introduction
  - b. Submission Purpose
  - c. Who is Drive Electric
  - d. Government strategy and public EV charging
  - e. Our interest in this Issues Paper
  - f. The challenges that CPOs face
  - g. Access Arrangements
  - h. The outcomes that we seek.

### **Who is Drive Electric**

17. Drive Electric is an apolitical, not-for-profit organisation. We engage with government, media, industry, and individuals to continually promote the benefits of making e-mobility mainstream and encourage accelerated electric vehicle uptake across the country. Our board, member network and research partners are at the forefront of the electric vehicle

movement. We are proud to be the catalyst for change and to provide expertise in the key conversations bringing New Zealand closer to a fully electric future.

18. Drive Electric represents a member base comprising new car OEMs and retailers, used car importers and distributors, infrastructure organisations (electricity generators, distributors and retailers, electric vehicle service equipment suppliers), e-bike/scooters, heavy vehicle importers, finance, fleet leasing and insurance companies, along with electric vehicle users. We have more than 70 members from across the e-mobility ecosystem.
19. Drive Electric has established a subgroup of Charge Point Operators (CPOs) to specifically focus on the barriers to investment in public charging infrastructure in New Zealand. This group comprises Tesla, Meridian, Jolt, ChargeNet, Z Energy (Z) and BP. All these businesses provide a range of charging services to New Zealanders and have significant private capital to deploy in further building out New Zealand's charging network. These businesses have different operating models and provide different types of charging solutions. However, their experience to date has been relatively consistent.

### **Government Strategy on Public EV charging**

20. The Government has recognised the need for a coordinated and strategic approach to rapidly scale up public charging in New Zealand. In March 2023, the Ministry of Transport released a Discussion Document 'Charging our Future'<sup>4</sup> which intends to establish a National EV Charging Strategy. We understand that this will be finalised in the coming months.
21. This strategy sets a vision for: "Aotearoa New Zealand to have world-class EV charging infrastructure that is accessible, affordable, convenient, and reliable." The discussion document also proposed national targets:
  - Journey charging hubs every 150 – 200 kms on main highways,
  - A public charger for every 20-40 EVs in urban areas; and
  - Public charging at community facilities for all settlements with 2000 or more people.Clearly, to deliver on these objectives, the broader system that provides charging infrastructure needs to be enabled to do so.
22. In Budget 2023, the Government allocated \$120 million to expand EV charging infrastructure in support of its strategic direction. With appropriate economic and market regulatory settings, private capital will invest many times more than this to establish New Zealand's charging network.
23. Outcome 4 of the draft strategy is that Aotearoa's EV charging market functions effectively, can adapt and evolve over time, and is attractive to users, operators, and investors. Regulatory settings, particularly those that directly impact markets, need to be considered in this light to enable investment in and deployment of charging infrastructure.

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[https://consult.transport.govt.nz/policy/charging-our-future/supporting\\_documents/Charging%20our%20Future%20%20draft%20strategy.pdf](https://consult.transport.govt.nz/policy/charging-our-future/supporting_documents/Charging%20our%20Future%20%20draft%20strategy.pdf)

24. MBIE’s recently released Market Measures consultation, canvasses the barriers that exist for investors in public EV charging, and raises the prospect of whether the Electricity Authority could consider an access regime.<sup>5</sup>
25. There is an emerging bipartisan view on the importance of EV Charging as part of a broader strategy to electrify New Zealand. For example, the National Party has released its ‘Electrify NZ’ policy with explicit measures to support EV charging.<sup>6</sup>

## Public EV charging

26. EV charging is not just a transport issue, it’s an energy issue. The transition to electric vehicles depends on the availability of renewable electricity and the infrastructure to enable users to charge their vehicles.
27. New Zealand is at the beginning of the biggest transformation of transport in over a century. Driven by technological advancements and requirements to decarbonise, over the coming decade the transport system will shift away from being powered by fossil fuels.
28. It is becoming clear that electric vehicles will replace petrol and diesel combustion engine vehicles in most use cases. International jurisdictions are setting dates for the end of new fossil fuel vehicles.<sup>7</sup> The Glasgow Declaration, of which New Zealand is a signatory, set a global agreement for phasing out petrol and diesel vehicles by 2035 in leading markets.<sup>8</sup> Automakers are committing to dates by which they will only produce electric vehicles, some already only make EVs (e.g. Tesla and BYD).
29. The scale of this transition cannot be underestimated. New Zealand currently has around 4 million passenger cars in its fleet, the vast majority of which are fueled by petrol and diesel. Within two decades, Drive Electric estimates most of these cars will be electric. The Government itself has set a target in the first Emissions Reduction Plan to have 30% of the light fleet electric by 2035 (Transport Target 2).<sup>9</sup>
30. EV uptake is accelerating beyond government expectations. In June 2020, 2.3% of light vehicles registered in New Zealand for the first time were plug-in vehicles. Just three years later, the average monthly market share of EVs is 12.6%.<sup>10</sup> The Climate Change Commission’s analysis suggests that by 2030 67% of cars entering the New Zealand market will be EVs.<sup>11</sup>

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<https://www.mbie.govt.nz/dmsdocument/26909-measures-for-transition-to-an-expanded-and-highly-renewable-electricity-system-pdf> (pp 77 - 80)

<sup>6</sup>[https://assets.nationbuilder.com/nationalparty/pages/17865/attachments/original/1684306518/Electrify\\_NZ.pdf?1684306518](https://assets.nationbuilder.com/nationalparty/pages/17865/attachments/original/1684306518/Electrify_NZ.pdf?1684306518)

<sup>7</sup> [https://en.wikipedia.org/wiki/Phase-out\\_of\\_fossil\\_fuel\\_vehicles](https://en.wikipedia.org/wiki/Phase-out_of_fossil_fuel_vehicles)

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<https://www.gov.uk/government/publications/cop26-declaration-zero-emission-cars-and-vans/cop26-declaration-on-accelerating-the-transition-to-100-zero-emission-cars-and-vans>

<sup>9</sup> <https://environment.govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/transport/>

<sup>10</sup> <https://www.mia.org.nz/Sales-Data>

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<https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/advice-for-preparation-of-emissions-reduction-plans/2023-draft-advice-to-inform-the-strategic-direction-of-the-governments-second-emissions-reduction-plan-april-2023/full-report>

31. Public charging infrastructure is an essential part of the energy transition. Public charging gives users the confidence to adopt EV technology, and alongside the sticker price of EVs, is probably the greatest enabler of uptake. This is part psychological and part necessity. As conventional car owners have today with petrol stations, to switch to this new technology EV drivers need confidence that they can charge their vehicles on long-distance travel and when away from home.
32. Also, there are many users who simply cannot charge at home and will need to depend on public facilities. The Climate Change Commission's 2023 Draft Advice to inform the strategic direction of the Government's second emissions reduction plan (draft advice) says around 15% of households lack a dedicated car park, and these people will need public facilities.<sup>12</sup>
33. Compared to other comparable countries, New Zealand is desperately behind in the rollout of this infrastructure. The New Zealand position is deteriorating. In 2021, we had fewer than 60 EVs per charging point, while in 2022 that has widened out to be close to 100. New Zealand has the worst ratios among comparable countries. The charts below from the International Energy Agency demonstrates this deteriorating situation.<sup>13</sup>

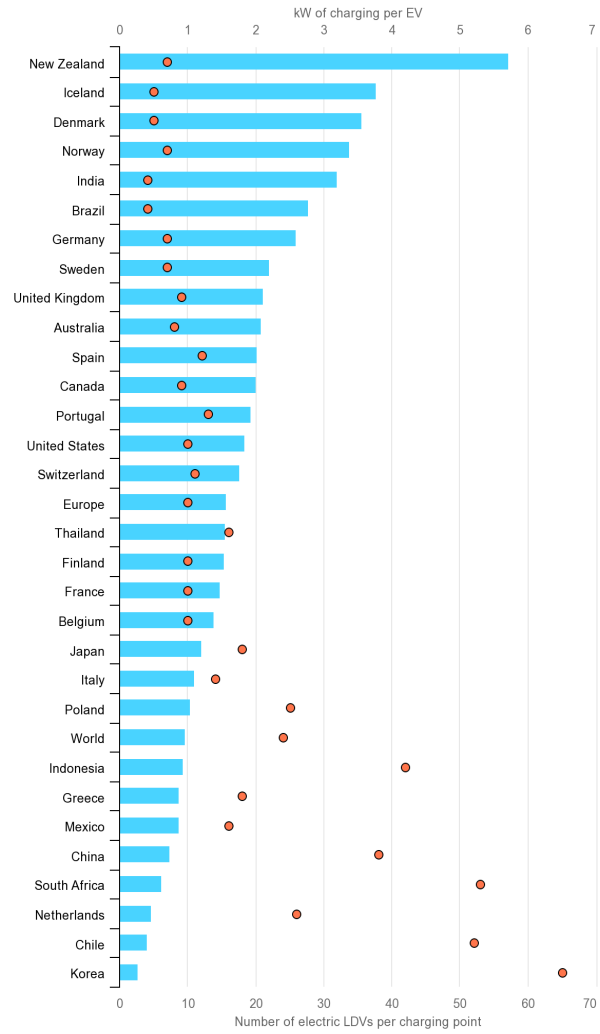
*Table - Charging points per EV and kW per LDV in selected countries, 2021*

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<sup>12</sup>

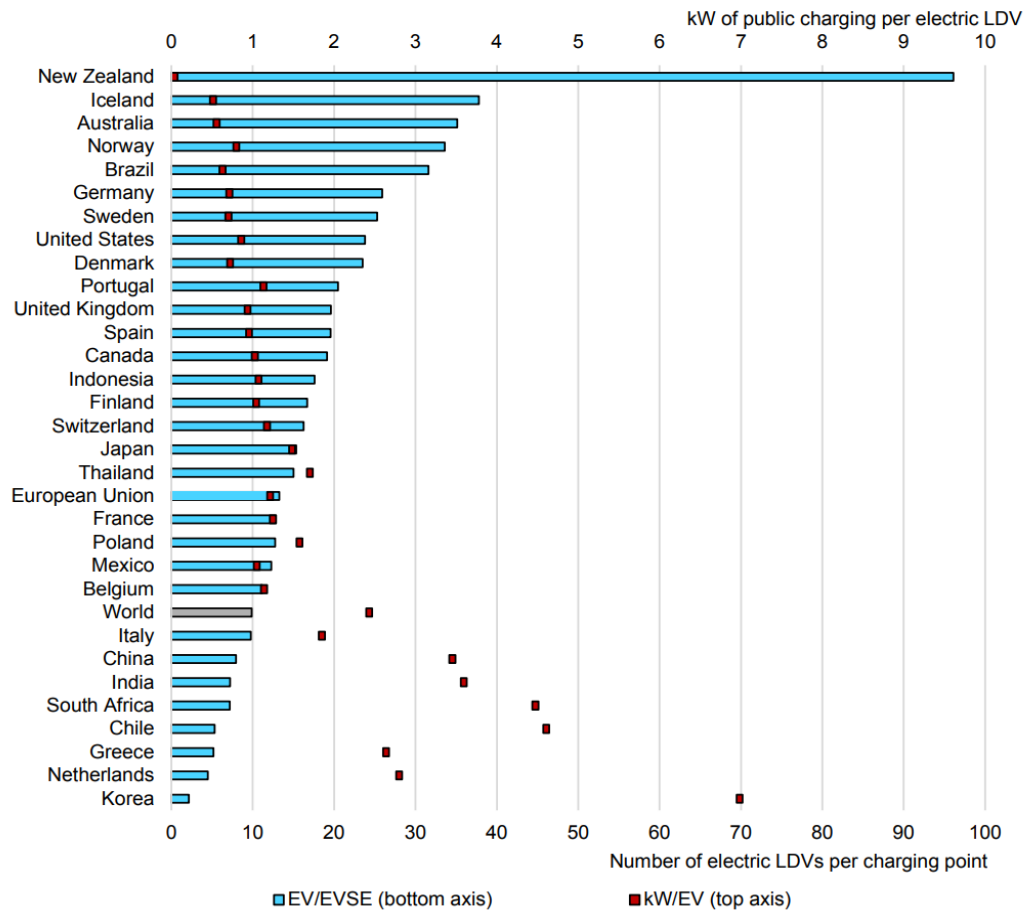
<https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/advice-for-preparation-of-emissions-reduction-plans/2023-draft-advice-to-inform-the-strategic-direction-of-the-governments-second-emissions-reduction-plan-april-2023/full-report/>

<sup>13</sup> <https://iea.blob.core.windows.net/assets/dacf14d2-eabc-498a-8263-9f97fd5dc327/GEVO2023.pdf>



*Table - Number of EV per public charging point and kW per EV, 2022*

**Figure 1.16 Number of electric light-duty vehicles per public charging point and kW per electric light-duty vehicle, 2022**



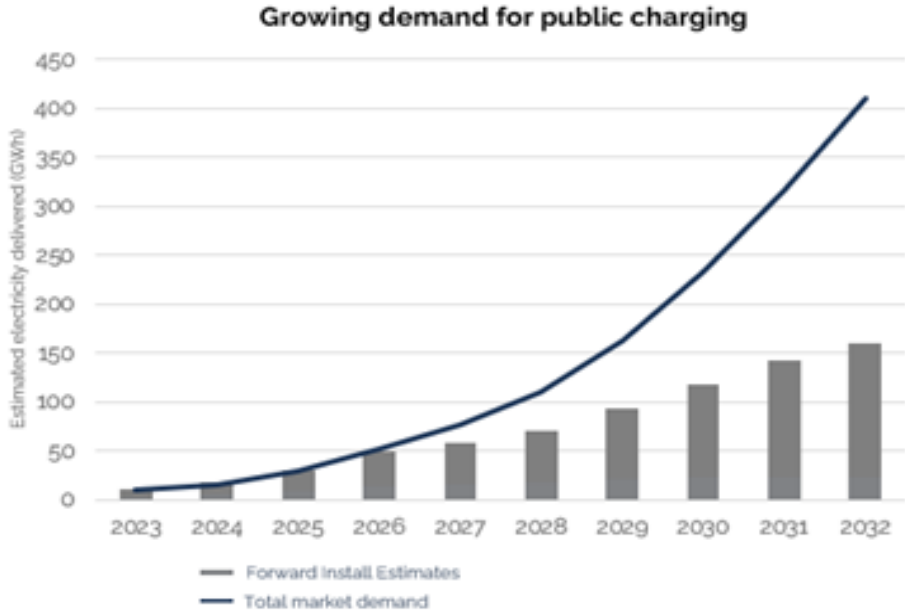
IEA. CC BY 4.0.

34. ChargeNet, a public charging operator, undertook analysis using Climate Change Commission data which suggests that demand for public charging will increase from an estimated ~10GWh in 2023 to 690GWh in 2035. It is likely that up to \$400m will need to be invested in the public charging network over the next 3-5 years.<sup>14</sup> ChargeNet’s modelling shows it’s going to be challenging to overcome the shortfall.
35. A substantial gap between the electricity needed by public EV charging stations, and the number of charging stations to deliver that electricity, could emerge within two to three years (chart below).

<sup>14</sup> This is an estimate from one public charging operator. We are not aware that market analysis of this sort has been done. We have recommended in our response to the National EV Charging Strategy that this sort of demand and investment analysis would be useful.



Table - Demand for charging (GWh) and charger installations - ChargeNet estimates



- 36. The emerging infrastructure deficit is already impacting user experience. Research from EECA shows that 42% of EV drivers feel there is a lack of public chargers within New Zealand. Queues are stopping 55% of drivers from using public chargers more often.<sup>15</sup>
- 37. This shortage in public charging infrastructure has been confirmed in the Climate Change Commission’s draft advice released in 2023.<sup>16</sup> It has specifically recommended (recommendation 17) that the government must rapidly resolve the barriers to scaling up vehicle charging infrastructure.

**Our interest in the Distribution Pricing Issues Paper**

- 38. Our interest in the Issues Paper arises from the need to overcome the constraints that CPOs are facing as they try to increase their response to the growing market demand for public charging.
- 39. Public charging businesses, including Jolt, ChargeNet, Z, BP, Tesla, and Meridian, have private capital to invest in meeting the shortfall in public charging infrastructure in New Zealand and create the network of the future. These businesses all report that they have significant investment pipelines that are constrained. The cost of connecting to the network, the associated processes, and the differences in approach between 29 EDBs, all contribute to these investment constraints.

<sup>15</sup> <https://www.eeca.govt.nz/assets/EECA-Resources/Research-papers-guides/EECA-Public-Charging-Research-March-2023.pdf>

<sup>16</sup> <https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/advice-for-preparation-of-emissions-reduction-plans/2023-draft-advice-to-inform-the-strategic-direction-of-the-governments-second-emissions-reduction-plan-april-2023/full-report>

40. CPOs are commercial entities with New Zealand EV drivers as customers. We accept that it is fair and reasonable to incur a cost for connecting to the network. However, the level of the contributions, and the inconsistencies in pricing approaches, can make investments in charging infrastructure uneconomic. CPOs observe that EDBs have different ways of allocating network costs over time and have a range of approaches for customers' contributions to connections costs, and to use of system charges.
41. The level of contribution affects the ability of CPOs to invest in new charging infrastructure. There are dynamic efficiency implications to consider. High prices could ultimately drive underinvestment in power supply for charging stations that will result in expensive rework when demand grows into the future.
42. Potential consequences could include:
  - Inability to meet consumer demand for charging,
  - Regional disparities / postcode lottery (i.e., charging being installed where it's cost effective to get a connection, rather than where demand is),
  - Dampening consumer demand in EVs (given limited charging availability); and
  - Difficulty in securing a steady stream and sufficient depth of private investment (capital redirected to more favourable markets or investment opportunities).
43. We are aware that the needs of electrification are putting increasing pressure on EDBs as demand for connections and network capacity grows, and we have actively sought to overcome the network connection issues through direct engagement with both individual EDBs and with the Electricity Network Aotearoa. These organisations have all said to us that the constraints that we face are directly influenced by the regulatory environment.
44. We have therefore reached a point where we consider that if the networks are to adapt to the accelerating demand for EVs and public charging, there will need to be changes in regulation, in business practices, and with resourcing for most if not all distributors. The Commission and Authority share control and oversight of the following regulatory components of distribution networks access arrangements:
  - a. Regulatory policy settings – eg: incentives to invest for uncertain demand, operational consistency among EDBs, standardised connection services, flexibility with forecasting and capacity.
  - b. Risk management – how to deal with the uncertainty regarding the impacts of EVs on regulated EDBs.
  - c. Costing and pricing – the costs of connection and use of system charges for public charging.
45. In our July submission to the Commission, we asked that consideration be given to include provisions in its final IM review decision to support the changes that we seek to EDB regulatory arrangements. CPOs are now asking the Authority to mandate a more structured approach to network connection arrangements.
46. Because public charging is now such an important component of the EV market, and the thousands of nationwide connections to the electricity network are the vital links, we believe

that now is the time to establish a regulatory environment that can facilitate supportive network connection arrangements particularly in pursuit of decarbonisation.

47. We would also point out that the issues we raise in this submission around the provision of public charging are not EV specific matters, they are important transport and energy issues that need to be resolved urgently. Market efficiency, which is at the heart of the Authority's statutory objective, should be prominent in shaping the broader electrification of transport and industry in New Zealand. Public EV charging is a competitive market, and it can be provisioned for in a manner that complements energy market efficiency objectives.

### **The commercial challenges that CPOs face**

48. To further support our call for a change to access arrangements, we describe here examples of the commercial-level experiences of CPOs. The evidence we present here respects the fact that public charging services are competitive, and we have collected this information privately, and anonymised operator specific information. CPOs would be happy to discuss specific issues directly with the Authority. We also recognise that EDBs operate in a regulated environment and have competing pressures. This section simply intends to reflect the experience of CPOs and the implications of that.
49. CPOs are facing a wide range of provisioning and installation issues across the regions. The most challenging areas seem to be the main centres and medium / large towns, likely because these are the early roll-out locations. Auckland, in particular, is a challenging environment to make investment cases work under current settings, whereas Christchurch is more enabling. We expect that these challenges will also present themselves in smaller towns and rural locations as the build-out progresses. The challenges broadly fall into the following five areas.
50. *Roll-out success*  
CPOs have learned early on that they need to deal with network connection constraints to successfully deliver adequate numbers of public charging stations. Constraints with connections, process timelines, and high capital costs for installations all cause a low success rate with progressing installations in a particular period.

For example:

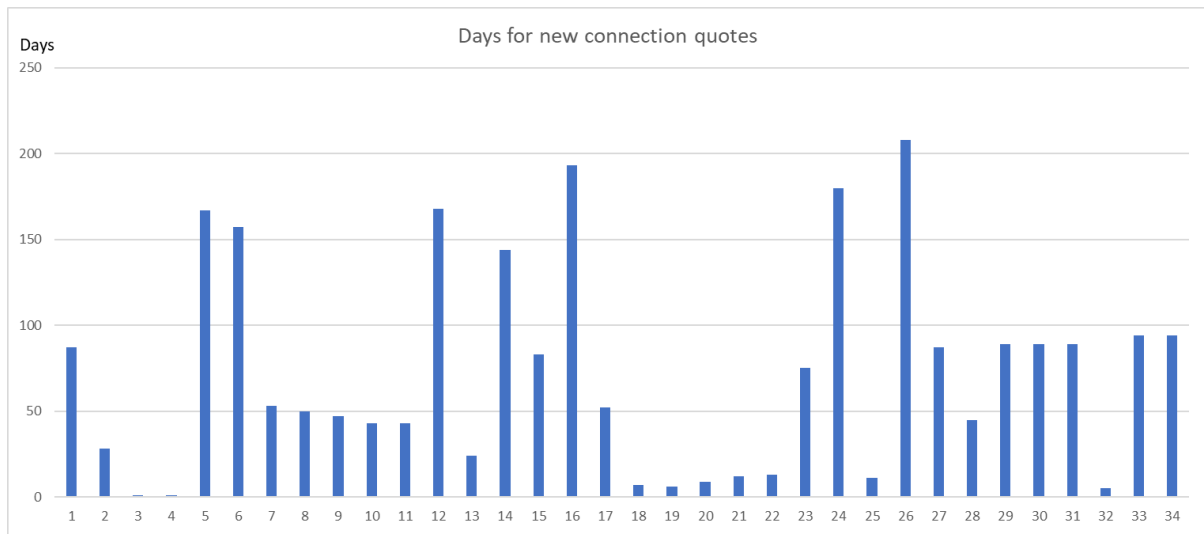
- a. CPO D reports they have achieved about 50% of their public charger roll-out against the plan since inception of their programme. This CPO is currently running a roll-out program of around 75 sites to deliver 40 sites to manage which sites can be progressed, depending on EDB responses.
  - b. CPO C reports that it started work on 75 sites and commissioned 50 of these in the last 10 months.
  - c. All CPOs report that connection costs (alongside costs of traffic management and civil works), connection processes, and lines charges are the main reasons for abandoning sites or delaying rollouts.
51. *Time to quote and deliver.*

The time taken to get a quotation from an EDB for a connection is one of the key factors that limits the roll-out success of the CPOs. One CPO (CPO A) reports the following time to quote for 34 installations that it was planning – the average time is 72 days.

Table - CPO A's quotes for new connections (Summary)

Summary	
Quotes	34
Longest Time	208
Shortest Time	1
Avg time to respond	72
Median time	53

Table - CPO A's quotes for new connections (Graph)



From the quotation, the time taken for installation also varies considerably. For example, CPO C also reports it can take three to four months for installation if transformers are available. If transformers are not available this can take up to a year to complete. CPO C reports that EDB design timeframes range from 6 to 16 weeks. Most CPOs report that connection processes take between 3 months and a year.

52. *Lack of network information*

The other concern that is shared across CPOs is the lack of ready information regarding network capacity and connection locations. CPOs identify charging sites based on likely demand from EV drivers. A lot of the time that is lost in the quoting and planning stages is due to a lack of adequate network information for CPOs about these sites. It's impossible to know the viability of a site before an application is made.

The EDBs asset management plans are not sufficient to help CPOs who report a high level of admin 'burn'. We acknowledge that several of the larger EDBs have recently appointed Public Charging-specific contact points. However, more transparent network information would accelerate the identification of economic sites.

CPOs request that EDBs provide network GIS data to avoid the time and expense associated with requests to connect where capacity is available. At a practical level, CPOs

need GIS access to simply avoid the application fee that EDBs can charge to start the process (which can be several thousand dollars).

53. *Capital costs*

All CPOs report that the high up-front capital costs of network connections are the main contributor to abandoning some installations as uneconomic. They report large variations in costs for the same size connection across EDBs, which makes investment planning for national networks extremely challenging.

*Example CPO A*

CPO A has seen variations in pricing for an 100 amp connection from \$127 up to \$119,483, and for 160 amp connections from \$127 up to \$169,700 (below). The variation in costs between sites means some of these are unable to be delivered. The CPO reports that their public charging deployment has been slowed and many locations unable to proceed due to the cost of new connections.

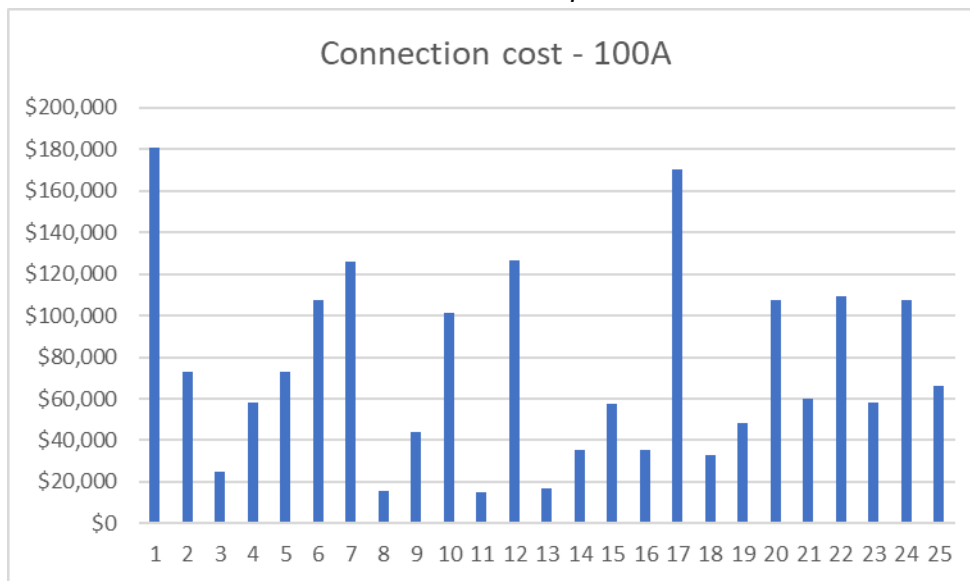
*Table - CPO A nationwide quotes for connections (100A and 160A)*

Summary				
Connection size	quotes	Avg	Min	Max
100A, 69kW	44	\$20,132	\$127	\$119,483
160A, 110kW	17	\$39,417	\$127	\$169,700

*Example CPO B - Auckland (100 Amp)*

Another CPO (B) reports similar cost variance across 25 sites in Auckland – below, where close to 50% of the total commissioning cost for a charger is connection costs. The CPO reports that the comparable costs in Australia are less than 5% of the project costs.

*Table - CPO B's connection cost indicative quotes in Auckland for 100A*



This situation with capital cost levels is compounded by a first mover disadvantage if network upgrades are required. CPO D advises that, *“There is a disincentive to be the first customer to upgrade a portion of a network as we typically get lumped with most of the cost even if we don’t use it all. If we don’t take all the new capacity because we don’t need it or don’t want to pay the higher network charges straight away, then someone else can use that capacity for a lot less than we spent.”*

CPO E is looking at installing charging stations of a higher capacity than the examples above. They report that connections for the bigger capacity chargers face the same issues, *“For a 750kVA connection, we’re experiencing costs per kVA between \$139 and \$606 + GST.”*

#### 54. *Network Use-of-System charges*

CPOs all report that the financial viability of charger installations are adversely impacted by the annual charges for network use and energy consumption. They report that when combined with high capital costs, the payback profile of the many sites that are leased is beyond the lease expiry date. One CPO reports that currently the per annum use-of-system charges exceeds the revenue for some of its sites.

Other CPOs report that they may have to derate the capacity of certain sites because they are charged as a major industrial user and billed very high annual use-of-system charges as a result. This is also very much a regional issue with significant variation across EDBs. A common challenge is that CPOs have no visibility of the costs associated with capital connections, nor can they see what EDB network costs are allocated to public EV charging. They have a difficult time assessing whether charges are fair and reasonable.

As an example, CPO D reports that, *“We have two sites that deliver roughly the same total kWhs per month and have the same peak demand. One of these sites is classified as a major user and one isn’t. The difference in network charges between the two sites is 15x or 1500 percent. The network costs at the major user classified site represent 108 percent of revenue currently, but have ranged between 90-120 percent. The impact this has is that the CPO may re-rate sites like this and offer less capacity. Up to a point customers won’t notice, but as demand grows it will constrain the customer offer until we get to the point where we have enough demand to sustain the massive step up in charges.”*

We consider that the way around this issue would be to have transparency around EDB cost allocation methodologies and a separate customer class for CPOs.

### **Access Arrangements**

55. For ease of understanding we have framed our feedback changes to electricity network access arrangements around the specific questions that the Authority asks in Chapter 7 of the Issues Paper. The feedback we provide sets out our views regarding the outcomes we expect from a mandated access regime for network connections, simply because we are not in a position to be prescriptive on such things as contributions to connection costs and specific pricing arrangements in different regions.

56. Drawing on the evidence and issues analysis from the previous section of this submission, we respond to the Authority questions as follows.
57. **Q 19 Authority assessment** - From our perspective, the issues set out are relevant. But as we point out in this paper, we cannot underestimate the dampening effect on investment that is occurring right now in EV charging:
- a. The inconsistency of connection cost and ongoing charges between EDBs makes it very difficult for national public charging operators to prepare business cases.
  - b. Lack of network information makes it hard to determine where best to invest.
  - c. The level of connection costs, in some places, makes investment uneconomic, which is resulting in a postcode lottery.
  - d. Lines charges can further hinder business cases or may impact the actual charging services provided to consumers.

Public charging is unique class as an access seeker because CPOs are trying to establish consumer-facing national networks, relying on the 29 distribution networks to do so. It is clear that the status quo is not working.

58. **Q20 Problem statement** we agree with this.
59. On the Authority's **Preferred connection pricing [paras 7.19 to 7.27]** - we provide the following comments:
- a. We consider that the Authority should be more definitive than is set out in **7.19**. Compared to the high-level issues summary in paras 7.14 to 7.17 of the Issues paper, the evidence base that we set out above leads us to consider that the Authority has underestimated the scale and scope of the current issues referred to in Q19. The issues we face are 'live' and urgent and need a remedy that is structured and enduring. We believe that an Authority response that is 'less definitive' will not facilitate the outcomes New Zealand is expecting. In our view, EDBs need to be mandated to:
    - i. provide connections based on efficient costs and be made to disclose that they are doing so.
    - ii. price connections as a separate 'Public EV Charging' customer class and not a subset of 'non-residential' or such like class of customer, as at present.
    - iii. allow provisioning and installation services to be contestable.
    - iv. price connections in a consistent manner – that is, the pricing structures are consistent and predictable across EDBs, but the price levels reflect each EDBs costs and local network circumstances.
    - v. have consistent policies for capital contributions to connection costs for public charging.



- vi. provide flexibility - that is, one size may not fit all.
- b. The level of capital contributions access seekers should be expected to make, [paras 7.20 to 7.23] should be specific to customer type and use case. What is important here for CPOs is that the EDBs have a full understanding of their costs and that cost allocation across classes of customers is undertaken in a consistent and transparent manner for all EDBs. This is not the case at present and leads to seemingly 'random' connection arrangements that we describe above. Costs and therefore prices will vary across networks but the methodology for identifying types of costs and the level of capital contributions should be standardised.
  - c. We consider that the Authority proposal regarding standardised connection pricing for bulk connections in para 7.25 has considerable merit. CPOs anticipate installing thousands of public charging points over time which is a different provisioning and pricing challenge than a single industrial site or a subdivision connection.
  - d. CPOs agree with the Authority's view in para 7.26 regarding contributions to future demand for connection/capacity. We believe that the Authority's comments are valid because all EDBs are likely to not have a robust view of costs and cost types for different classes of customer. If this is the case, then the connection pricing outcomes are likely to be as the Authority suggests – unpredictable and inefficiently high.
  - e. The Authority's view in para 7.27 regarding consistency is a given for CPOs and we consider that this is more a 'must do' rather than a 'would like to see' that the Authority suggests.
60. **Q21 response:** drawing on a. to e. above, our summary response is that CPOs are in agreement with some aspects of the Authority's approach but firmly believe that the Authority has to mandate aspects of access arrangements for connections to local electricity networks. Not doing so puts the outcomes from transport electrification at risk.
61. **Q22 response:** here we draw on our IM decision comments to the Commission regarding 'complementary measures' para 7.28, as follows.
- a. Better information on EDB networks will assist charge point access seekers find the best locations to connect. Two information types that can significantly assist access seekers would be:
    - i. Geographic information – that is, understanding where transformers and cables are located, and their key attributes can help CPOs as access seekers find locations that won't require costly cable runs. The most helpful approach is for EDBs to make GIS data available.
    - ii. Capacity information – that is, understanding where network capacity is limited can help access seekers find locations that won't trigger upgrades and system growth charges. The most helpful approach is for distributors to make network 'heat maps' available, though more limited information

can also assist. This information must be made available at a very specific level for it to be useful for CPOs.

- b. A more contestable connection environment that allows contractors that are not EDB nominated to build network connections. This will likely deliver both more cost-efficient outcomes for consumers and deliver services that meet consumer preferences.

It is likely that most EDBs will not be able to provide us with this information, or a contestable contracting environment, in the near term so we urge the Authority to assist EDBs in developing short term solutions while resources are brought to bear on developing permanent solutions.

62. **Q23 response:** As we have reiterated throughout our submission, CPOs are seeking a mandated access regime for public EV charging that should be structured around a framework that draws from the Authority and the Commission's market and regulatory outcomes. For example:

- a. Principle based – eg: the Authority's statutory objective, pricing principles or the DG access regime in Part 6 of the Code.
- b. Solid regulatory economic base – eg: Commission economic regulation principles/approach
- c. Applicable to all access seekers in an equitable manner – eg: standardised

The solutions that the Authority summarises in the box on P52 of the Issues paper are not entirely consistent with the structured access regime that we believe needs to be established. The Authority does mention mandating specific approaches, but we consider that a mandated approach needs to cover the broader access arrangements.

63. **Q24 response:** CPOs are committed to the need for a structured access regime which is not listed as one of the Authority options in para 7.31 to 7.37, however we comment on the other options as follows:

- a. 7.31 We agree with the Authority that doing nothing is not an option.
- b. 7.32 We agree with the Authority that extending the existing oversight regime is unlikely to work for the same reasons that it has only been partially successful to date.
- c. 7.33 We also agree that mandating only particular aspects of connection pricing may not work.
- d. 7.34 We agree that mandating access arrangements including pricing methodologies and linking these with Commission economic regulation tools may be a way forward. The scope of what is mandated needs to be broad enough to resolve CPO access issues which is what we have set out above.
- e. 7.35 We agree that a call-in approach could target specific EDBs for improvement, but it is unlikely to solve the wider issues that CPOs face and we

question whether we will have an access regime that is enduring and consistent over time.

- f. 7.36 While the Authority wants to be able to use all options as necessary, CPOs see little value in the options that do not involve a mandated regime across all EDBs.

## **Outcomes and conclusion**

- 64. We trust that this submission has raised the awareness of both the Authority's and stakeholders of the challenges that the CPOs face in meeting demand for EV charging today and the serious risks in being unable to meet future demand. In particular, we feel compelled to point out that without a supportive regulatory environment, the wider industry will be unable to manage the factors that are contributing to both the current market failure and to CPOs not being able to meet future demand.
- 65. The priority outcomes that we are seeking are:
  - a. An access regime that reflects the scale and importance of CPO connections across New Zealand
  - b. A regulatory environment that enables charging investment
  - c. More consistency across EDBs in their approach to network access
  - d. Transparency of network connection opportunities
- 66. If we want to realise these outcomes and be able to deliver a better end customer (EV driver) experience, we believe a mandated access regime is needed. There are unique circumstances surrounding CPOs needs for public charging network access:
  - a. Each of these businesses is looking to install hundreds / thousands of charge points, building a national infrastructure network of public charging,
  - b. Given time, all New Zealanders will likely use this charging infrastructure,
  - c. Load management is also dispersed with chargers drawing load when used rather than a traditional consistent peak load; and
  - d. The diverse load of public chargers contributes to the efficient use of energy networks, during the day, rather than at home at the same evening time.
- 67. As we have summarised, public charging investment in New Zealand is falling behind global comparator countries. Investing in charging infrastructure needs to be ahead of, rather than behind demand. We are now at the point where the challenges faced by CPOs to connect to networks, quickly and affordably, are curtailing investment and therefore services to the public. This will mean that infrastructure starts to inhibit EV uptake in New Zealand. There is a real and pressing need to ensure the regulatory regime enables EDBs to support CPOs to invest in the charging network.
- 68. We appreciate that there are a range of pressures on EDBs arising from decarbonisation. Public charging must be a priority for them, and for the regulators, as this is a market failure

issue now. Without a functioning charging market that meets demand, it will directly impact New Zealanders as they shift to - or consider their shift to - electric vehicles.

69. In closing, we note that the Authority is to decide on distribution pricing and connection arrangements that will apply for many years into the future. We are deeply concerned that network access for CPOs could be locked into an EDB pricing and regulatory environment that does not support the market we describe above and will likely be administratively difficult, and therefore costly, to change in the future. This could result in a materially inefficient EV charging market that will fundamentally impact the ability for private sector players to invest in the network, without ongoing and significant public subsidies.
70. Drive Electric welcomes the opportunity to meet with the Authority to discuss our submission in more detail. If there is any further information that would be helpful to the Authority as it considers options to remedy this situation, please do not hesitate to contact us.