

Office of the Minister of Transport

Office of the Minister for Energy

Cabinet Economic Policy Committee

Supercharging Electric Vehicle Infrastructure Work Programme

Proposal

1. The purpose of this paper is to inform Cabinet of the work programme underway across government to deliver our *Supercharging Electric Vehicle (EV) Infrastructure* commitments.

Relation to government priorities

2. *Supercharging EV Infrastructure* sets out the Government's commitment to deliver a network of 10,000 public EV chargers by 2030. Cost benefit analysis will be used to inform the design and scale of delivery of this commitment, as set out in the National-Act Coalition Agreement. This will ensure maximum benefit for government investment.
3. *Electrify NZ* sets out the Government's commitment to double the supply of affordable, clean energy and to electrify key industry sectors to become a lower emissions economy. The document commits to addressing cost barriers to connecting to the electricity network, which includes public EV charging infrastructure.
4. s 9(2)(f)(iv) 
5. The roll-out will also support increased up-take of EVs with the need for charging infrastructure being a significant barrier to their uptake.

Background

6. Range anxiety and availability of charging infrastructure currently act as barriers to EV uptake. Rapidly growing the public charging network is key to supporting a growing EV fleet and to decarbonise transport.
7. As at the end of 2023, New Zealand had one public EV charger for every 88 EVs in the fleet. Most comparable countries have ratios of one public charger to less than 40 EVs. This is partly explained by New Zealand's focus on developing a network of fast chargers. Other countries have focused on installing slow public chargers as well, but there has been little demand for slow public chargers in New Zealand as most EV owners can charge at home.
8. New Zealand's public charging network currently consists of around 1,000 chargers capable of charging 1,200-1,300 vehicles simultaneously. Most of these chargers have been delivered with government co-investment through the Energy Efficiency and

Conservation Authority's (EECA) contestable funding rounds. The government, through EECA, has committed \$28 million to public EV charging projects since government support for EV charging started in 2016. Approximately 250 additional chargers, capable of charging about 450 EVs, have been approved in recent EECA funding rounds and are in development.

9. In Budget 2023, the previous government committed \$95 million to public EV charging infrastructure, currently allocated as:
 - 9.1. \$23 million in the 2023/24 financial year;
 - 9.2. \$29 million in the 2024/25 financial year;
 - 9.3. \$43 million in the 2025/26 financial year.
10. The government contestable co-investment model was put in place in 2016 to kick-start the network and provide confidence to early adopters of EVs. The initial focus was on installing fast chargers every 75km along the state highway network.
11. Since this time, significant changes have taken place in the EV and EV charging markets. EVs now make up over 2 per cent of the light-vehicle fleet and a range of charging providers have entered the market (including fuel companies, electricity generators and distributors, and dedicated EV charge point operators).
12. While the market is rapidly evolving, the business case for public EV charging infrastructure remains challenging due to barriers such as high costs to connect to distribution networks and inconsistent processes for connecting to distribution networks, and gaining resource consents.
13. The number of chargers installed each year has increased as government co-investment has increased and more charging providers have entered the market (91 chargers installed in 2021, 124 installed in 2022 and 164 installed in 2023).
14. Future installation of public chargers will need to be at a much higher rate to meet the needs of the future EV fleet. The ability to install these chargers at the pace required will depend on the attractiveness for private investment and practical considerations such as the ability of charging providers to connect to the electricity network in a timely manner.
15. To provide a reasonable ratio of EV chargers to the forecast future number of EVs¹ (one public charger to 60 EVs), it is estimated New Zealand would need to install about 10,000 public EV chargers by 2030, as shown in Table 1 below.

¹ As forecast under the Climate Change Commission's Demonstration Path.

Table 1 – Estimated number of public EV chargers needed to be installed each year to maintain a reasonable ratio of chargers to EVs

Year	2024	2025	2026	2027	2028	2029	2030
Number of public chargers	670	520	740	1,030	1,690	2,370	3,020

16. It is timely to reconsider the way the government can best enable an accelerated rollout of public EV charging infrastructure. This includes considering measures that can improve the viability of the EV charging business case, and reviewing the co-investment model to ensure it is effective and provides maximum value from government funding.

I will be reviewing the government co-investment model for public EV charging infrastructure, informed by cost-benefit analysis

17. My intention is to transition the government co-investment model so that private investment in the public EV charging network is maximised, and the main role for government is in addressing non-financial barriers (such as red tape and regulation). However, I recognise there is likely to be an ongoing role for some government co-investment targeting projects that face the biggest barriers (e.g. are less likely to ever be commercially viable). Examples of sites that will struggle for commercial viability include those:
- 17.1. where there is limited electricity network capacity, but reasonable demand (e.g. Lewis Pass);
 - 17.2. where limited network capacity exists and there is little demand, but chargers are required for a complete network (e.g. West Coast); or
 - 17.3. areas with very seasonal demand patterns (e.g. Kaiteriteri).
18. In the interim the ratio of EV's to EV public chargers is well behind other countries, and presents a need for the Government to continue to support this growth to provide a network which can support increased electrification of transport options.

The approach to delivering public chargers will be informed by cost-benefit analysis

19. Under the National-ACT Coalition Agreement, “National’s commitment to supercharge electric vehicle infrastructure with a comprehensive, nationwide network of 10,000 public EV chargers by 2030 will specifically take into account ACT’s concern that there be robust cost benefit analysis to ensure maximum benefit for government investment”.
20. Given this commitment, cost benefit analysis (CBA) will inform the design and scale of delivery of a network of chargers so that it delivers the highest return for taxpayer funding. I will work with the Minister for Regulation to develop a CBA framework for the rollout. The intention is that CBA will occur through the implementation and commercial phases to guide decisions on factors like the location and degree of subsidy provided for chargers.

21. As noted in paragraph 17 above, there will be some charging locations that have limited or no commercial return, but that provide network benefits by increasing driver confidence about their ability to recharge. This CBA approach will ensure that these locations, that bring net-benefits, are the target of any government investment. As such, CBA will not be a one-off exercise, but used as a regular tool to inform investment decisions. To support the new funding model from 2025 onwards, officials will work with the delivery agencies to ensure their investment strategy reflects the agreed CBA framework and is used to guide the rollout.

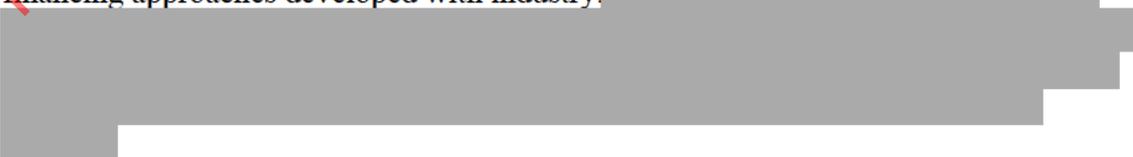
The existing co-investment model will be revised over 2024, with any changes to be implemented in 2025

22. I intend to consider a range of factors relating to a contestable co-investment process to build public EV chargers where they are most needed according to demand, including:
 - 22.1. whether the role of Government is to provide support only for costs associated with electricity connection, rather than investment in charging infrastructure;
 - 22.2. the overall scale of government co-investment;
 - 22.3. the proportion of government funding for specific projects (compared to private funding);
 - 22.4. how funding is prioritised across charger types and locations;
 - 22.5. the processes to apply for and receive funding; and
 - 22.6. how funding delivery changes over time as the market develops.
 - 22.7. how charging technology is developing; and
 - 22.8. how vehicle battery technology is developing and what charging is required to support this new technology.
23. Depending on decisions taken on the design of the funding model and the scale of changes, I expect to move to an updated funding model to be implemented in 2025.

s 9(2)(f)(iv)



We need to maintain the momentum of public EV charging roll out during the period of transition

26. While advice on the co-investment model from 2025 develops, it is important not to lose momentum in the rollout of charging infrastructure to ensure we can grow a nationwide network which supports electrification of the vehicle fleet.
27. To provide industry with a manageable transition to an updated co-investment model, I intend for EECA to continue to deliver EV charging funding support in 2024. However, I also intend to clearly signal to industry that my expectation is that the government's funding role will change, and that private investment will play a bigger role in driving the rollout of public EV charging infrastructure.
28. The intention is to continue to maximise the private sector contribution, and target government funding to projects that face the biggest barriers, provide most public benefit, and are needed for an effective nationwide network.
29. EECA has a public charging funding round designed and ready to launch, and there is a desire and expectation from industry that this will progress. I intend to open this funding round for applications this week. For this next funding round, EECA's intention is to provide co-investment equal to the electricity connection costs for the project, up to a maximum of 35 per cent of total project costs.
30. I intend for EECA to deliver an additional two public EV charging funding rounds later in 2024, which are expected to continue to reduce the level of government co-investment. I will announce the opening of these two rounds.
31. In parallel to the development of an updated funding model for 2025 onwards, I expect EECA to engage with the charging industry to identify and trial new funding and financing approaches that will best enable projects, while minimising the government's contribution. Some of the potential funding approaches that may be explored include:
 - 31.1. limiting funding support to only cover the costs associated with electricity connection and a contribution towards lines charges;
 - 31.2. setting funding contribution levels to better reflect the expected commercial viability of a site (i.e. a site in a remote area that is needed for a complete network may receive a higher level of government contribution);
 - 31.3. exploring use of loan tools that overcome upfront capital barriers but are repaid.
32. I expect the funding rounds later in 2024 will implement some of the new funding and financing approaches developed with industry.^{s 9(2)(f)(iv)}

33. The funding approach is then intended to change to the updated model in 2025, as described in the previous section. Advice on the design of the approach will be included in a report back to Cabinet in six months.

Addressing regulatory barriers

34. I intend to shift the Government's primary role from funder of public EV charging infrastructure to the facilitator that enables private investment through removing regulatory barriers.

Standards for smart charging products to help manage demand on networks from EVs

35. The Ministry for Business, Innovation and Employment (MBIE) is working on amendments to the Energy Efficiency and Conservation Act 2000 to enable regulation of efficiency and smart communication protocols to support distributed flexibility to operate effectively.² These changes would enable the regulation of smart devices, including EV chargers. A high proportion of EV charging takes place at home, and having this capability could shift demand away from network "peaks".
36. This initiative is strongly supported across industry, and in particular electricity distribution businesses have consistently called for this work to be progressed.^{s 9(2)(f)(iv)}

New consenting rules to make the installation of public EV chargers a permitted activity under the Resource Management Act 1991

37. MBIE, alongside Ministry for the Environment (MfE), is progressing work to ensure the installation of EV chargers is a permitted activity under the Resource Management Act 1991 (RMA). This change is committed to under *Supercharging EV Infrastructure* and will be progressed in conjunction with wider RMA changes set out under *Electrify NZ*. The introduction of legislation to replace the RMA is expected in mid-2025.

Improving safety and design standards for public EV chargers

38. *Supercharging EV Infrastructure* contains a commitment to set safety and design standards for EVs. MBIE is progressing work to update references to standards and certification bodies in the Electricity (Safety) Regulations 2010, including updating the AS/NZS wiring rules. The rules set out the requirements for the design, construction and verification of electrical installations. The rules are 10 years out of date and must be updated to keep pace with industry. This work is expected to be completed by the end of 2024.

Better data about network capacity for public EV charge point operators

39. *Supercharging EV Infrastructure* contains a commitment to require electricity distribution businesses (EDBs) to provide relevant geographic information system (GIS) data on potential charging point locations to providers free of charge. This information will allow potential connection seekers to filter out projects that are likely to have excessive connection costs without having to engage with the local network.

² Distributed flexibility means the modification of consumption patterns and supply from distributed energy resources (such as smart devices or batteries located near homes and businesses) in reaction to an external signal (such as a change in price) to provide a service within the energy system.

40. In February 2024, the Commerce Commission (the Commission) decided to improve network capacity visibility by changing existing Information Disclosure rules for EDBs. These require EDBs to publish annual information on the current and forecast capacity or constraints, along with GIS descriptions of the areas served. This decision was made on 29 February 2024 and EDBs must comply by August 2025.
41. Looking ahead, the Commission can undertake changes to information disclosure requirements at any time (as long as the Commission meets consultation requirements).

Supercharging EV Infrastructure builds on Electrify NZ's reforms to network regulation

42. *Electrify NZ* contains several policy commitments relating to electricity network infrastructure investment regulation and new connections to networks which will support the Government's *Supercharging EV Infrastructure* aims.
43. Below, I describe the aims of several workstreams that are already underway or recently completed across the Electricity Authority (the Authority) and the Commission that are likely to address the problems identified in *Electrify NZ*. This work will be managed and reported on under the *Electrify NZ* programme.

1 Addressing high connection costs, first-mover disadvantage, and changing cost recovery rules for new distribution network connections

- 1.1 The Electricity Authority can implement changes to the Electricity Industry Participation Code 2010 (the Code) to address these issues. The Authority is working on options for regulating connection pricing for EDBs. These include regulating to limit the type of costs that may be recovered by EDBs from new EV charging operators. Options to manage first-mover disadvantage for connections to distribution networks are also within the scope of the Authority's current work programme. This includes consideration of whether to require EDBs to offer clawback or rebates, as set out in *Electrify NZ*.
- 1.2 First-mover disadvantage occurs in networks because when connecting new load, the connection asset is often built larger than a new connector needs, to enable future load to use the asset. "Oversizing" an asset in this way is substantially cheaper than building two connection assets if future load turns up at a later time. However, this can deter new load from connecting, because the first investor connecting (the "first mover") bears the cost of the "oversizing".
- 1.3 The Authority is an independent regulator. Proposals for regulatory change and eventual decisions cannot be guaranteed to deliver the commitments in *Electrify NZ* or within timelines which align with Government's priorities. Currently, I am advised that the Authority may make relevant changes to the Code in 2025.

2 Addressing long lead times to connect to distribution networks

- 2.1 The Authority is also working to improve the efficiency of network connections through developing standardised application processes, standardised application fees, dispute resolution processes, maximum timeframes for EDBs to approve applications and addressing network capacity/constraints.

- 2.2 The Authority are also considering improving prioritisation processes to filter out more speculative applications and making the pipeline of network connections more visible to stakeholders. I am advised that the Authority expects to make decisions on Code changes in October 2024, with changes coming into effect in 2025.

3 Potential review of Part 4 of the Commerce Act 1986

- 3.1 The above two workstreams are likely to deliver the outcomes to the specific (non-RMA) initiatives set out in *Electrify NZ*. These initiatives were more focused on changes to Part 4 of the Commerce Act, which regulates monopoly businesses. Preliminary advice to me suggests that the two regulatory workstreams above could achieve the outcomes more rapidly and efficiently than changes to the Commerce Act.
- 3.2 Officials are providing me with further advice on delivering *Electrify NZ* commitments. However, I note that the Minister of Commerce and Consumer Affairs is considering a review of Part 4 of the Commerce Act. This would be an opportunity to check whether regulatory processes had delivered the outcomes set out in *Electrify NZ*, and if not, to consult on amendments to Part 4 that did deliver such outcomes.

Supercharging EV Infrastructure Cross-agency Taskforce

44. MBIE, the Ministry of Transport (MoT), and EECA meet regularly to coordinate their respective EV charging infrastructure related work programmes. These agencies also meet regularly with industry groups, and MBIE with the Electricity Networks Aotearoa (ENA), the Authority and the Commission, on this topic.
45. I have asked MBIE, MoT, and EECA to formalise their existing collaboration and establish a cross-agency *Supercharging EV Infrastructure* Taskforce. This taskforce will be co-led by MoT and MBIE and will report to me on progress delivering the government's aims.
46. There are interdependencies across *Supercharging EV Infrastructure* and *Electrify NZ*, which MBIE is leading. This cross-agency taskforce will also include the Authority and the Commission and may be further expanded to include the NIA once it is established.
47. The taskforce will continue engagement with industry and other relevant organisations to progress this work, including with local government and consumers.

Indicative work programme timeline

48. The delivery of the *Supercharging EV Infrastructure* Work Programme involves several government ministries, agencies, and independent regulators. The table below sets out the key workstreams under *Supercharging EV Infrastructure*.
49. As noted above, *Supercharging EV Infrastructure* builds on *Electrify NZ* - specifically the aspects relating to making the installation of public EV chargers a permitted activity and improving regulations relating to electricity networks. ^{s 9(2)(f)(iv)}

50. I will report back to Cabinet in six months with an update on the *Supercharging EV Infrastructure* Work Programme, including on actions taken and replacement of the existing *Charging Our Future* strategy, and to seek Cabinet’s decisions on the change in delivery model for EV charging infrastructure.

Maintain momentum of public EV charging roll out during the period of transition			
The future contestable co-investment model	<ul style="list-style-type: none"> Engagement with charging industry on alternative funding and financing approaches 	EECA	Apr-May 2024
	<ul style="list-style-type: none"> Implement new funding model 	MoT	Early 2025
2024 Funding	<ul style="list-style-type: none"> Urban infill destination EV Charging funding round open for applications 	EECA	Apr-May 2024
	<ul style="list-style-type: none"> Public charging infrastructure funding rounds open for applications 	EECA	s 9(2)(f)(iv)
Address regulatory barriers			
Amendments to EEC Act	<ul style="list-style-type: none"> Enable EECA to set standards for smart devices 	MBIE	s 9(2)(f)(iv)
New consenting rules	<ul style="list-style-type: none"> Make the installation of public EV chargers a permitted activity. Managed under the <i>Electrify NZ</i> work programme of changes to national direction 	MfE / MoT	2025
Improving safety and design standards	<ul style="list-style-type: none"> Update the AS/NZS wiring rules 	MBIE	s 9(2)(f)(iv)
Optimising data capture and use	<ul style="list-style-type: none"> Ongoing work to support and enable data access and sharing where appropriate to support commercial investment, standardisation and interoperability. 	EECA / MoT / NZTA	2024-2025
Related work			
<i>Electrify NZ</i>	<ul style="list-style-type: none"> Network regulations and new connections: lower connection costs, speed connection processes and ensure better network capacity data is available. Managed and reported on under the <i>Electrify NZ</i> work programme 	MBIE oversight: Commerce Commission, Electricity Authority and EECA	2024-2025

s 9(2)(f)(iv)

Impact Analysis

51. Impact Analysis requirements are not implicated for this paper as it is an information paper and is not seeking specific policy decisions in relation to the above work programme. Where required, a Regulatory Impact Analysis and or Climate Implications of Policy Assessment will be undertaken in the context of seeking policy decisions for the items in this paper.

Population Implications

52. There are no specific population implications from this paper.

Human Rights

53. There are no human rights implications from this paper.

Financial Implications

54. There are no financial implications from this paper. ^{s 9(2)(f)(iv)}

Legislative Implications

55. There are no legislative implications from this paper.

Use of external resources

56. External resources have not been used in the development of this paper.

Consultation

57. The following departments and agencies have been consulted: Department of the Prime Minister and Cabinet, The Treasury, Energy Efficiency and Conservation Authority, Commerce Commission, Electricity Authority.

Proactive Release

58. I intend to proactively release this Cabinet paper subject to any necessary redactions. This would be done within 30 business days following confirmation of Cabinet's decisions.

Recommendations

The Minister of Transport and the Minister for Energy recommend that the Committee:

1. **Note** that a cost-benefit analysis framework will be developed in consultation with the Minister for Regulation and the intention is that CBA will be used as a regular

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tool to inform decisions on government investment in public electric vehicle (EV) charging infrastructure;

2. **Note** that the Minister of Transport and the Minister for Energy will seek decisions from Cabinet on an updated government contestable co-investment model to be implemented in 2025, the design of which will be informed by cost benefit analysis;
3. **Note** that to maintain momentum, the Minister of Transport and the Minister for Energy will shortly announce the opening of one of three additional public EV charging funding rounds that the Energy Efficiency and Conservation Authority (EECA) intends to deliver in 2024, with each expected to continue to reduce the level of government co-investment;
4. **Note** that work is currently in progress at the Electricity Authority (the Authority), Ministry of Business, Innovation and Employment (MBIE) and Ministry for Environment that could address regulatory barriers to private investment in public EV charging infrastructure;
5. **Note** that the Commerce Commission (the Commission) has recently released decisions on information disclosure requirements that address network capacity and that it could undertake further changes at any time;
6. **Note** that MBIE and MoT will establish a cross-agency *Supercharging EV Infrastructure* Taskforce, which will include EECA, the Authority, and the Commission. The taskforce will lead engagement with key stakeholders;
7. **Note** that the actions in this Cabinet paper and the *Supercharging EV Infrastructure* policy document are our most immediate actions, and the intention is that this work programme will eventually replace the 'Charging Our Future' strategy;
8. **Invite** the Minister of Transport and the Minister for Energy to report back to Cabinet in six months with an update on the *Supercharging EV Infrastructure* Work Programme, including how it replaces the existing strategy, advice on the cost benefit analysis, and seeking decisions on future design of the rollout;
9. s 9(2)(f)(iv) 

Authorised for Lodgement

Hon Simeon Brown

Minister of Transport

Minister for Energy