Submission on Proposals to Support the Uptake of Smart EV Charging

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Executive Summary

Drive Electric welcomes the Ministry of Business, Innovation and Employment's (MBIE) consultation on proposals to support smart EV charging uptake. As advocates for electric vehicle adoption in New Zealand, we support measures that enhance the EV ownership experience while ensuring grid stability and consumer benefits.

We are supportive of Option 4A (smart functionality with labelling) as it appears to best balance our core objectives of accelerating EV uptake while ensuring safe, efficient charging infrastructure and importantly it sets New Zealand consumers up to benefit from a new dynamic energy system. We are aware of ‘dumb EV chargers (non-smart chargers) being promoted and sold to consumers and would recommend MBIE move at pace. However, we emphasise that implementation should be carefully managed to avoid creating any barriers to EV adoption during this critical growth phase for transport electrification.

While we would like to see all dedicated EV charging installations be smart, due to the increased pressure they can put on the energy system we recognise there is an ongoing need for portable 3-pin chargers when people are travelling or in emergency situations where dedicated charging infrastructure is not available.

Detailed Responses to Consultation Questions

Context and Problem Definition

1. Research indicates that most EV charging occurs at home. Do you have any comments on the split between private (home) and public charging and how this may change into the future?

The 80% home charging figure reflects current EV owner demographics - predominantly homeowners with dedicated parking. However, this split represents a valuable economic opportunity for New Zealand that we should work to preserve and expand where possible.

Economic Case for Home/Work Charging: Home and workplace charging delivers substantial cost benefits. This makes home charging economically attractive and supports mass adoption. Smart chargers could amplify these savings by enabling time-of-use pricing optimisation.

Infrastructure Provisioning Opportunity: As EV adoption expands to include more renters, apartment dwellers, and those without home charging capabilities, we have an opportunity to maintain this economic advantage by addressing infrastructure considerations. International examples demonstrate effective approaches:

- Australia: National Construction Code now includes EV charging infrastructure provisioning in new apartment buildings and commercial developments
- UK: Building regulations include EV charging capability in new residential and commercial buildings
- Norway: "Right to charge" legislation supports tenant requests to install AC chargers

Future Considerations: Without building code enhancements and tenant support measures, we anticipate the home/public charging split will shift significantly toward greater public charging reliance as urban density increases and EV ownership broadens beyond current early adopters. In New Zealand, a 2023 EECA survey found that 76% of EV owners now use public charging (up from 49% in 2021), reflecting both increased availability and changing user needs. As EV adoption moves beyond the early-adopter phase—predominantly homeowners with dedicated parking—populations without access to home charging will increasingly need public charging support. However, with appropriate infrastructure provisioning and tenant support, we could maintain the economic benefits of home charging while expanding access.

We suggest the smart charger proposals could be complemented by building code enhancements for EV charging infrastructure provisioning in multi-unit developments and commercial buildings, plus supportive measures for tenant charging access.

2. Do you have comments on the current state of private EV charging in New Zealand?

The relatively low uptake of smart chargers, with EECA research showing only 19 percent of charging at home is done using a smart EV charger, represents an opportunity for both consumers and the grid. Many EV owners may not be fully aware of smart charging benefits, while others might be concerned about perceived complexity or additional costs.

We support smart charging requirements for dedicated EV chargers, particularly those over 3.5kW and IEC 60309 connectors (commonly known as 'Commando plugs'), as these represent the majority of fixed home installations and provide the greatest potential for grid benefits. However, we accept that portable 3-pin charging options need to remain available for travelling, emergency situations, and basic accessibility where dedicated charging infrastructure is not feasible.

3. Do you agree that smart charging can support network infrastructure needs, and in turn realise benefits for end consumers?

Yes, we believe smart charging could be valuable for managing the transition to mass EV adoption without excessive infrastructure costs. The potential for 1.9GW peak demand reduction by 2035 represents significant value for all electricity consumers.

While it seems optimistic that New Zealand will achieve EECA's projection that by 2035, 100% of cars entering the New Zealand fleet will be electric, Drive Electric supports accelerating the rollout of EV chargers and smart charging infrastructure where practical.

New Zealand already has experience with demand management through ripple control systems for hot water cylinders, where networks remotely switch appliances during peak periods while delivering cost savings to consumers. Smart EV chargers could represent a natural evolution of this concept, offering similar remote control capabilities but with enhanced two-way communication and consumer override functions.

Consumer benefits are already emerging in the market, with electricity retailers offering innovative programmes that demonstrate value for flexibility, such as low off-peak pricing, free charging trials, and discounted public charging. This activity is already showing the ability to shift load and reward customers for participating in demand management.

However, benefits realisation would be further enhanced with complementary policy measures including dynamic pricing and consumer education. We recommend developing a comprehensive consumer education initiative, and Drive Electric would be pleased to collaborate with MBIE on this important component of successful smart charging implementation.

4. What are your views on whether the supply of chargers in New Zealand would move to predominantly smart charging without regulation?

Market forces alone may be insufficient to ensure consistent adoption. While premium EV buyers may choose smart chargers, broader market adoption could benefit from regulatory guidance to ensure consistent standards and interoperability.

Without some guidance, there's a risk of a fragmented market with proprietary systems that may limit consumer choice and grid integration capabilities.

This is already evident in current market practices where some vehicle manufacturers provide ‘dumb’ (or non-smart) chargers with new vehicle purchases, and consumers typically accept these recommendations without fully understanding the benefits of smart charging alternatives. Regulation would help drive greater uptake of smart charging by ensuring consumers have access to the best available technology rather than simply accepting what they're offered without informed choice.

5. Do you have any comments on the availability of private EV charging for varying demographics, for example, homeowners versus renters?

This represents an important consideration for EV adoption. Current arrangements favour homeowners, potentially creating different access levels where only those with dedicated parking can access cost-effective charging.

International approaches demonstrate effective solutions: the UK includes EV charging infrastructure requirements in new buildings under Part S Building Regulations (2022); the EU's Energy Performance of Buildings Directive encourages Member States to address regulatory barriers to charging point deployment; Norway's Housing Associations Act (2021) supports residents' right to request charging access; and Australia's National Construction Code includes EV infrastructure provisioning in new developments.

We would support:

- Building code enhancements for EV charging infrastructure in new multi-unit developments
- Streamlined consent processes for rental properties
- Supportive measures preventing landlords from unreasonably declining tenant requests to install AC chargers

Without addressing these considerations, the economic benefits of EV ownership may remain limited to homeowners, potentially slowing overall EV adoption.

Proposal Context

6. Is there any other relevant context, such as industry developments or international practice that we should consider?

It would be valuable to consider the rapid evolution of V2G technology and home energy management systems. Regulations could be designed to accommodate bidirectional charging and integration with solar/battery systems where these develop.

Given the rapidly evolving nature of EV charging technology, any proposed standards must avoid locking in specific technologies and should be designed to evolve as the market develops. This will ensure New Zealand's regulatory framework remains relevant and doesn't inadvertently stifle innovation or create barriers to adopting improved charging and energy flexibility solutions in the future.

7. What cybersecurity risks do you see with greater uptake of smart EV chargers?

Potential considerations include:

- Data privacy concerns that might deter adoption
- Network vulnerabilities that could affect grid stability
- Consumer confidence impacts from security concerns

8. Do you see a role for cybersecurity to be managed alongside any requirements relating to smart functionality, or should this be managed by another mechanism?

The cybersecurity risk associated with smart chargers is generally considered manageable when charging personal EVs at home using dedicated home internet connections.

However, the security considerations may increase when company vehicles or personal vehicles connect to corporate Wi-Fi networks for charging purposes. In such scenarios, the charging infrastructure could require additional security measures.

Objectives and Options

9. Do you agree with the objectives?

We support the stated objectives but suggest considering additional elements:

- Consumer confidence and trust - ensuring regulations enhance rather than complicate the EV ownership experience
- Market development - supporting a competitive, innovative charging market that utilises open-source communication protocols
- Accessibility considerations - ensuring smart charging benefits are available across demographics

10. Are there any additional objectives you think we should also adopt?

- **Technology neutrality** - avoiding standards that favour particular manufacturers or technologies
- **International competitiveness** - maintaining New Zealand's attractiveness for EV investment
- **Transport electrification acceleration** - ensuring any requirements actively support rather than hinder the transition to electric transport

11. Which option do you prefer and why?

We are generally supportive of Option 4A, for any ‘dedicated’ EV charger installation over 3.5kW, though we emphasise that consumer experience benefits from the certainty and future-proofing it could provide. Consumers benefit from knowing any charger they purchase will have consistent smart capabilities that are more likely to enable them to partake in the value available from the emerging energy system.

An education campaign would be valuable for successful implementation. Drive Electric would be happy to work with MBIE to help develop this. Many OEMs, dealerships, and EV sales people may not fully understand the importance of smart chargers.

Any regulatory implementation should be accompanied by comprehensive industry education to ensure the automotive retail sector understands and promotes smart charging benefits. While we support smart charging requirements for dedicated installations, we recognise that portable 3-pin charging options need to remain available for travelling, emergency situations, and circumstances where dedicated charging infrastructure is not

feasible and would be concerned about potential barriers created, especially for second hand EV vehicle adoption.

However, implementation timing is absolutely critical - regulations must not create supply shortages or price increases that could deter EV adoption or slow transport electrification. We recommend that an education initiative be implemented as a priority to avoid customers being locked into obsolete technology before smart charging requirements take effect.

12. Do you agree with our assessment of the options against the objectives?

Generally yes, though we suggest Option 4A could score well on consumer experience due to the certainty and future-proofing it provides. However, it's important that any requirements are not overly onerous and do not significantly increase costs for consumers, as this could create barriers to EV adoption.

13. What are your views on the functionality outcomes that could be adopted?

a. **Outcomes that could be beneficial:**

- Interoperability (valuable for market competition)
- Consumer override (important for user confidence)
- Measurement and visibility (enables informed decisions)
- Continued charging during communication loss (ensures reliability)

b. **Implementation considerations:** All listed outcomes appear appropriate.

c. **V2X chargers:** V2X chargers could benefit from additional considerations for:

- Grid connection standards
- Safety disconnect mechanisms
- Export measurement capabilities
- Grid services communication protocols

14. Do you think there is a case for voluntary or mandatory labelling of EV chargers?

Labelling could be valuable to complement smart functionality requirements, helping consumers:

- Compare products effectively
- Understand capability differences

- Make informed purchasing decisions
- Trust that labelled features are standardised

However, any labelling requirements should be designed to minimise compliance costs to avoid pushing up prices for consumers, which could create barriers to EV adoption.

Scope Considerations

15. What types of chargers should your preferred option be applied to?

We would support coverage that includes:

- AC chargers 7.4kW and above where practical
- >3.5kW IEC 60309 connectors - commonly known as 'Commando plugs'
- Workplace charging installations where appropriate
- Multi-unit residential installations
- Commercial charging installations

17. If you agree with option four – requiring EV chargers to be smart:

a. **Charger types:** All private dedicated chargers could be appropriate, with exemptions only for portable emergency charging equipment. This captures dedicated charging while maintaining flexibility for basic emergency charging and avoiding adoption barriers.

Costs and Benefits

18. Do you agree with our assessment of the costs and benefits of each option?

Generally agree, though the assessment may understate the consumer confidence benefits of standardisation. The transition costs may be manageable given international market trends towards smart charging are already driving product development.

19. Are there any impacts you believe we should consider?

- **Innovation effects** - clear standards may encourage local R&D investment
- **Transport electrification pace** - ensuring any requirements support rather than slow the transition to electric vehicles

20. Are there any unintended consequences we should consider?

Potential considerations include:

- **Any impact on EV adoption rates or transport electrification momentum**

Mitigation requires careful transition planning and stakeholder engagement.

21. How do you see the proposal affecting different people and groups?

Potential positive impacts:

- EV owners: Enhanced charging options and potentially lower operating costs or access to new value from the energy system
- All electricity consumers: Optimised infrastructure costs
- Technology suppliers: Clear market guidance

Areas requiring attention:

- Renters: May need support to access smart charging
- Budget-conscious households: Higher upfront costs could be a consideration

Implementation

22. Do you have any feedback on the next steps for this proposal?

We recommend:

- Extended industry consultation on technical requirements
- Phased implementation with clear milestones
- Regular review mechanisms to adapt to technological change
- **Careful coordination with the EV industry on timing to ensure continued transport electrification momentum. Drive Electric would like to offer to be involved in this process.**

23. Do you have any comments on implementation or a transition period?

A minimum 12-month transition period would be valuable to allow:

- Supplier preparation for compliance
- Market education and awareness building
- Coordination with international standards development
- Integration with other policy initiatives
- **Ensuring no disruption to EV sales or transport electrification progress**

Consider arrangements for products already in the supply chain to avoid immediate market disruption.However, we would like to reiterate that implementing at speed is crucial to avoid locking the market into obsolete technologies or products that will not maximise the benefit of smart charging.

Key Recommendations

1. **Support Option 4A (smart functionality with labelling) for any 'dedicated EV charger installation over 3.5kW with careful attention to implementation timing and transition arrangements to avoid any negative impact on transport electrification**
2. Consider comprehensive scope including both private chargers where appropriate
3. Coordinate with international standards to benefit from global market developments
4. Address accessibility considerations through complementary policies supporting access for renters and multi-unit dwellings
5. Maintain technology neutrality whilst encouraging robust interoperability
6. Commit to maintaining standards as the market and technology evolves
7. Implement staged rollout with clear milestones and regular review points
8. Prioritise comprehensive consumer and industry education to support uptake and ensure continued EV adoption momentum
9. Monitor and review any impact on EV sales and transport electrification rates, with mechanisms to adjust requirements if needed.

Thank you for considering our submission.

Yours sincerely,

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References

1. **Energy Efficiency and Conservation Authority (EECA) (2023).** *Electric Vehicle Charging Survey*. Retrieved from https://www.eeca.govt.nz/insights/eeca-insights/electric-vehicle-charging-survey/ - Referenced for 76% public charging usage figure (up from 49% in 2021) and EV owner survey data.
2. **Energy Efficiency and Conservation Authority (EECA) (2024).** *Plugging into the future: How New Zealand is electrifying its roads*. Retrieved from https://www.eeca.govt.nz/insights/eeca-insights/plugging-into-the-future-how-new-zealand-is-electrifying-its-roads/ - Referenced for the Climate Change Commission's modelling suggesting 550,000 light passenger and light commercial EVs by 2030.
3. **Gen Less (2022).** *Top tips for your electric road trip*. Retrieved from https://genless.govt.nz/stories/top-tips-for-your-electric-road-trip/ - Referenced for charging cost comparisons and the $1.60/L equivalent cost figure.
4. **Energy Efficiency and Conservation Authority (EECA) (2025).** *Residential smart EV chargers and demand flexibility*. Retrieved from https://www.eeca.govt.nz/insights/eeca-insights/residential-smart-ev-charging-and-demand-flexibility/ - Referenced for smart charging benefits and grid integration.
5. **UK Government (2022).** *Infrastructure for charging electric vehicles: Approved Document S*. Retrieved from https://www.gov.uk/government/publications/infrastructure-for-charging-electric-vehicles-approved-document-s - Referenced for UK Building Regulations Part S requirements.
6. **Virta (2024).** *Here's how EU legislation accelerates the EV revolution*. Retrieved from https://www.virta.global/blog/this-is-how-eu-regulation-accelerates-the-electric-vehicle-revolution - Referenced for EU Energy Performance of Buildings Directive.
7. **California Air Resources Board (2020).** *EV Charging Infrastructure Nonresidential Building Standards*. Retrieved from https://ww2.arb.ca.gov/sites/default/files/2020-08/CARB_Technical_Analysis_EV_Charging_Nonresidential_CALGreen_2019_2020_Intervening_Code.pdf - Referenced for California building code requirements.

8. **Elbilgrossisten (2025).** *The regulations - Charging of electric cars in housing associations and condominiums*. Retrieved from https://www.elbilgrossisten.no/en/pages/regelverket-lading-av-elbil-i-borettslag-og-sameie - Referenced for Norway's Housing Associations Act and right to charge legislation.
9. **Meridian Energy (2024).** *Charging EVs*. Retrieved from https://www.meridianenergy.co.nz/ev/charging - Referenced for home charging cost examples.
10. **Powershop (2025).** *Charging an electric vehicle*. Retrieved from https://www.powershop.co.nz/electric-vehicles/charging-electric-vehicles/ - Referenced for charging cost examples and electricity retailer programmes.
11. **JMW Electrical (2025).** *Electric Car Costs & Benefits*. Retrieved from https://jmwelectrical.co.nz/about-us/blog/electric-car-costs-and-benefits/ - Referenced for cost comparison data.
12. **Drive Electric (2025).** *The Public Charging Network*. Retrieved from https://driveelectric.org.nz/knowledge-hub/the-public-charging-network/ - Referenced for public charging network information.
13. **EVSE New Zealand (2025).** *How much does it cost to charge an Electric Car*. Retrieved from https://evse.nz/blog/how-much-does-it-cost-to-charge-an-electric-car/ - Referenced for charging cost analysis.