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By email: energyuse@mbie.govt.nz

Proposals to support the uptake of smart electric vehicle charging

Transpower welcomes the opportunity to respond to the Ministry of Business, Innovation and Employment's (MBIE) consultation *Proposals to support the uptake of smart electric vehicle charging,* published 3 July 2025. We agree with MBIE that as the number of electric vehicles (EVs) increase over time, ad hoc charging may exacerbate network peaks leading to costly further investment. Smart electric vehicle chargers provide opportunities for consumer bill savings and network demand management that can avoid future investment cost.

We support option 4, which would require fixed EV chargers to be smart. This support is based on the consideration that portable 3-pin chargers would not be subject to these requirements, allowing consumers the option of using their vehicles' scheduling functionality and avoiding the upfront charge of a fixed charger. Additionally, we acknowledge Energy Efficiency and Conservation Authority's (EECA) research which shows that there is an overlap in price between smart and non-smart chargers, suggesting that consumers may experience minimal or no additional cost as a result of this policy.

We note that there are several other barriers to increased uptake of smart EV charging (the chargers themselves):

- Cybersecurity perceptions: no regulation making power yet exists for standards for cyber-security and whether privacy and security are determinants of consumer decisions for smart charger use.
- Consumer preference for "smart" via inbuilt *direct to vehicle* communications using supplied charging cord / standard socket / Time of Use (ToU) tariffs
- Lack of consumer care and understanding on using any smart functionality for demand management.[1]

We answer the questions in the appendix.

Yours sincerely

Joel Cook
Head of Strategy and Regulation

[1] Electric vehicles regulations 2021: Smart charging process evaluation - main report. Refer section 3.2.1

Appendix – Responses to Questions

Submitter	**Transpower NZ Ltd.**

Questions	**Comments**
Q1. 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?	We agree that most EV charging is at home. In New Zealand, 97% of EV owners charge at home at least some of the time and 80% do more than half of their charging at home (EECA, EECA-Public-Charging-Research-March-2023.pdf). How the split between private and public changes depends on convenience (home charging is convenient), cost, access, and reliability of charging service.
Q2. Do you have comments on the current state of private EV charging in New Zealand?	No.
Q3. Do you agree that smart charging can support network infrastructure needs, and in turn realise benefits for end consumers?	Different charging requirements from EV owners will require a range of charging services – home, workplace, destination, and journey charging. One area that will require particular focus is around peak energy demand management at the low voltage distribution network level where currently, visibly is limited. Without management, increases in peak demand could trigger significant investment in transmission, distribution, and generation. At a system level, peak demand is currently growing faster than energy demand, this supports the opportunity for smart demand response. This opportunity to reduce electricity costs for all New Zealanders can be realised with availability of smart EV charging for private (home) charging with peak demand management, or services provided back to the grid (e.g., through a flexibility service provider). The 'direct to vehicle' technology means 'smart' can be either at the charge point station and/ or direct to vehicle. Access to smart EV chargers or using *direct to vehicle* will enable consumers that want to, to respond to signals such as energy prices, system capacity or network congestion that can help minimise the impact on peak demand periods.

Questions	Comments
Q4. What are your views on whether the supply of chargers in New Zealand would move to predominantly smart charging without regulation?	EECA's research indicates that there is an overlap already between the price of non-smart and smart chargers. This indicates that over time the smart functionality will likely become standard (as seen in other products). A key requirement of the regulation should be to ensure that smart chargers have appropriate functionality, interoperability and data access provisions to ensure that consumers do not pay for smart chargers that quickly become obsolete or unusable if consumers switched to different retailers or flexibility providers. We do note that there will almost certainly be a duplication of functionality with the smart chargers and an EV's inbuild smart abilities. Therefore the price differential between the smart and non-smart chargers need to be small enough so that they do not outweigh the benefits to consumers of a, potentially, more functional and interoperable smart charger. Refer to our response on Q13.
Q5. Do you have any comments on the availability of private EV charging for varying demographics for example, homeowners versus renters	We have no specific comments on the varying demographics of private EV charging. However, we note that if a fixed smart charger cannot be installed, the option remains available for households with access to a three-pin plug near their parking spot, to use 3-pin charging and their vehicle's scheduling or smart charging functionality.
Q6. [whether there is a case for device-level requirements to manage cybersecurity risks associated with smart EV chargers.] Is there any other relevant context, such as industry developments or international practice that we should consider?	We note MBIE comment that New Zealand currently has no clear regulation-making power to require that Smart EV Chargers to have minimum communication cybersecurity and privacy requirements based on accepted standards. However, cybersecurity risks may be perceived as being managed through remote access connected via SIM cards, in the same way phone operating systems can be wirelessly updated for security patches.
Q7. What cybersecurity risks do you see with greater uptake of smart EV chargers?	The risk that any cybersecurity issues become a barrier to future uptake of installing smart chargers and instead consumers rely on three-pin trickle home charging which may help reduce grid demand but not support further network management opportunities.

Questions	Comments
	A cyber attack at an aggregator / e-mobility provider level, with charging schedules compromised and potentially private data being hacked, could have adverse consequences for network security if breached, and on consumer appetites to purchase a charge point.
Q8. 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?	Yes. In the UK, the government intends to apply a standard **ETSI EN 303 645** as a basis for cyber requirements. ETSI EN 303 645 is a globally recognized cybersecurity standard for consumer Internet of Things (IoT) devices. It establishes a baseline for manufacturers to ensure cybersecurity is incorporated into IoT products from their design phase. Delivering a smart and secure electricity system: implementation - government response We note MBIE comment that New Zealand currently has no clear regulation-making power to require that smart EV chargers to have minimum communication cybersecurity and privacy requirements based on accepted standards.
Q9. [Three objectives: - EV owners and electricity networks have tools to manage peak electricity demand. - Electricity consumers benefit from managed EV demand. - Consumer experience and ease of charging is maintained or enhanced] Do you agree with the objectives? If you agree or disagree, please explain why	Yes, although the objectives should focus on the consumer value proposition first "*Consumer experience and ease of charging is maintained or enhanced,"* such that messaging about why a consumer would want to buy a smart charger is persuasive (against using the three-pin plug to charge overnight on Tou rates or using the car smart functionality). If consumer experience is poor to the extent that the smart functions are not used, then the other objectives like network benefits can not be achieved.
Q10. Are there any additional objectives you think we should also adopt to inform decisions on this proposal?	Cybersecurity and privacy.

Questions	Comments
Q11. Which option do you prefer and why? Are there other options you think should be considered?	Option 4 (not option 4A). The benefit described for applying the regulations to private chargers is "*Better peak load management – smart public chargers could enable the load to be flexible assets for the wider power system, helping to reduce overall grid costs."* However, this "benefit" may come at a cost to the user experience, if they turn up to a public charger for charging and the charging is restricted / not available for peak load management reasons.
Q12. Do you agree with our assessment of the options against the objectives? If you agree or disagree, please explain why.	Do not support mandatory labelling, this will add further cost to manufacturers and then onto the cost of the charger.
Q13. What are your views on the functionality outcomes that could be adopted? a. Are there any outcomes that you think should be required? b. Do you think any functionality outcomes above should not be included, and if not why? c. Are there any different types of requirements we need to consider for V2X chargers?	a) Functionality could include common and open-standard communication protocols for interoperability and being able to interrupt charging temporarily for any issues with network stability. "Out of the box" smart chargers should come with its smart functionally already enabled, vs the current state whereby an EV owner has to pay to have these unlocked, adding more cost. Functionality could also adopt a 'common load management protocol' similar to the one currently being develop by EDBs (LMP Project is an example) in managing hot water cylinders and other distributed and consumer energy resources (DER/CERs in response to network and or grid emergencies. Charges that are managed by e-mobility service providers (another name for flexibility service providers) would be required to use an open-standard communication protocol for customer onboarding and for charger management within their EV Management Platforms. This will allow and enable EV customers to switch freely between e-mobility service providers, providing freedom of choice, not locked in a single provider. We also support payment standardisation. Chargers could also have the capability to input local network upper and lower voltage and or frequency set point limits and respond automatically if there is any breach. Similar to solar PV hybrid inverters, chargers that have the capability to inject back to the network would be required to automatically disconnect during network outages.

Questions	Comments
	b) Consider labelling should not be mandated. c) Continue to apply the European standards as is the approach currently. Example, CE marking is a mandatory conformity marking for products placed on the European market. It signifies that a product meets EU health, safety, and environmental requirements.[2]
Q14. Do you think there is a case for voluntary or mandatory labelling of EV chargers, and why or why not? a. If you support labelling, what content do you think should be incorporated in the label?	No. If a supplier wants to sell its chargers, it is more likely to use descriptions and labelling that sells the functionality benefits. Developing a labelling scheme would be a costly exercise for any manufacturer.
Q15. What types of chargers should your preferred option be applied to? For instance, if you think different types of chargers (for example public vs private, or chargers smaller or larger than 2.4kW) should be subject to different parts of your preferred option, please explain	Any smart chargers that have the capability of Vehicle to Grid (V2G) and Vehicle to home (V2H). The risk of regulating the market for public chargers is to reduce innovation for the commercial providers. However, incentivising public charging providers to invest in ways to reduce their impact on peak demand can reduce the need for large investment in electricity network infrastructure (e.g., through a battery energy storage system, or BESS). EECA's information Residential smart EV chargers and demand flexibility | EECA
Q16. Do you agree with our assessment of the scope against the objectives? If you agree or disagree, please explain why	Yes, apart from the two ticks for the private AND public chargers (see answer to Q17). Of the three objectives for the regulations, the "*Consumer experience and ease of charging is maintained or enhanced – there is no reduction in consumer experience or the ability to charge effectively*" should be paramount, particularly when charging on their journeys.

[2] Guide to Electric Vehicle Standards EU & US | Injet New Energy

Questions	Comments
17. If you agree with option four – requiring EV chargers to be smart: a. What types of chargers should the requirements apply to? For example, should there be a minimum or maximum size? b. Is there a case to regulate public chargers as well as private, and what are the risks of including or excluding public chargers?	Consider no minimum or maximum size otherwise this could create incentives for manufacturers to avoid the regulation. The benefit described for applying the regulations to private charges is "*Better peak load management – smart public chargers could enable the load to be flexible assets for the wider power system, helping to reduce overall grid costs."* However this "benefit" may come at a cost to the user experience, if they turn up to a public charger for charging and the charging is restricted / not available for peak load management reasons. Incentivizing public charging providers to invest in ways to reduce their impact on peak demand can reduce the need for large investment in electricity network infrastructure (e.g., through a battery energy storage system, or BESS).
Q 18. Do you agree with our assessment of the costs and benefits of each option?	Yes, apart from the two ticks for the scope being private AND public chargers (see answer to Q 17). Consider the risk of poor consumer experience at a public charger that could be being used for network management also means one tick for "*All chargers, including public, are able to be managed flexibly enabling more efficient distribution of load across networks*."
Q.19. Are there any impacts you believe we should consider that are not covered?	The risk is that parties buy smart chargers for higher charging speeds but choose not to use the functionality. This risk could be reduced if "out of the box" chargers had the smart functionality enabled.
Q20. Are there any unintended consequences on the market for EV chargers or wider EV market you think we haven't considered?	People may not want to buy smart EV chargers because they think their charging behaviours will be visible to both trusted parties as intended but untrustworthy parties not intended. Suppliers proposing functions for third party control means the consumer may think it does not have autonomy for its charging decisions and chooses not to use the smart functionality. What will make the consumer choose to buy a smart charger if its car already comes with the smart functionality and the consumer benefits from that through ToU pricing?

Questions	Comments
Q21. How do you see the proposal affecting different people and groups (e.g., business users, manufacturers, consumers)?	No comment.
Q22. Do you have any feedback on the next steps for this proposal?	No.
Q23. Do you have any comments on implementation or a transition period for potential regulations?	During the transition period, the risk to suppliers is they still have a stock of chargers that would be non-compliant following when the regs come into force. A long transition period would allow stock to be cleared but risks people buying it at discounted prices which then removes a set of consumers that might have otherwise bought a smart charger (albeit more costly to them.) A short transition period means the economic cost of unused stock could be recovered through the prices of the new smart chargers and drives prices higher (and demand lower). Electric vehicles regulations 2021: Smart charging process evaluation - main report" *Getting rid of non-compliant stock when industry was not given a period to sell through old stock after the Regulations were introduced*." "*The short lead time between signing and implementing of the Regulations making it difficult for the industry sector to study, interpret and develop compliant products…When asked about the ideal lead time, most stakeholders suggested a lead time of at least 12 months to 18 months.*