ENA submission to Proposals to support the uptake of smart electric vehicle charging

Submission to the Ministry of Business, Innovation and Employment

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Contents

1 Introduction

ENA welcomes the opportunity to submit on *Proposals to support the uptake of smart electric vehicle charging*.

The Electricity Networks Association (ENA) represents New Zealand's 29 electricity distribution businesses (EDBs) (see Appendix A). EDBs own and operate the local and regional electricity networks that deliver electricity to more than two million homes and businesses across the country. Together, they employ around 7,800 people and have collectively invested over $6 billion in their networks over the past five years to support reliability, resilience, and the transition to a low-emissions energy system.

ENA has been advocating for some time that the Government should introduce requirements that dedicated electric vehicle (EV) charging devices, designed and sold for use in domestic/residential settings, should contain 'smart' functionality. In this context, we consider that this means the ability for the charging of the EV to be interrupted or started/resumed by some appropriately authorised third-party. In this way, it will be possible to avoid significant demand peaks on the low voltage (LV) distribution networks and therefore avoid the need for costly and disruptive upgrades to electricity networks that would increase costs for all electricity consumers.

ENA therefore welcomes this consultation from MBIE and has engaged in the consultation questions below.

2 Context and problem definition

2.1 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?

Yes. ENA agrees that home charging currently dominates, with approximately 80% of EV charging taking place at private residences.[1]

While the proportion of public charging may grow slightly with wider EV uptake, we expect residential charging will continue to be the majority use case. Where people's habitation allows, charging methods will stay the same. Apartments, terraced housing and high-rise developments will continue to find the implementation of private facilities difficult to offer equitable outcomes for all involved in such developments unless provision is planned and built in from conception.

As the EV fleet becomes more diverse and includes more urban dwellers and renters without private off-street parking, we may see a shift toward semi-private and workplace charging, as well as greater use of public infrastructure. ENA therefore supports prioritising regulation of private smart chargers now, while phasing in public charger standards later because the flexibility value from residential charging is more immediate and significant than that of private chargers.[1] In contrast, public and

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[1]MBIE, *Proposals to Support the Uptake of Smart Electric Vehicle Charging – Consultation Document*, July 2025.

workplace charging tends to occur either during the day or at more diverse times, which generally poses less risk to network capacity and creates less urgent need for demand management.

ENA does have some concern that the consultation paper tends to frame EV uptake as a burden on infrastructure. This narrative misses a critical opportunity. New Zealand is uniquely positioned to lead the transition to low-emissions transport, thanks to its strong renewable electricity base (particularly hydro) and reduce reliance on fossil fuels.

Smart charging allows EVs to be integrated in a way that manages infrastructure costs by shifting demand and absorbing excess generation, particularly when located near intermittent sources like wind or solar. This helps avoid unnecessary investment and makes better use of the network we already have.

2.2 Q2. Do you have comments on the current state of private EV charging in New Zealand?

The current state of private EV charging in New Zealand presents both opportunities and risks.

- Uptake of EV chargers is increasing, but only 19% of residential charging uses a smart charger, indicating the market is not naturally trending toward smart adoption. [1]
- Many installed chargers lack connectivity, load control capabilities, or metering, creating a risk of locking in unmanaged load for 10–15 years, the typical lifespan of a charger. [1]
- There is no current requirement to notify EDBs when a charger is installed, limiting network visibility and impeding effective planning. [2]

Most people living with EVs find that trickle charging overnight is sufficient for regular top-ups. A few consecutive days of charging while commuting will typically result in a full battery, sufficient for larger trips. Commercial charging infrastructure supplements this when needed. However, this type of charging often relies on 3-pin plugs, which fall outside the scope of regulation and lack smart functionality.

ENA supports establishing a mandatory smart functionality standard for all private EV chargers, aligned with open communication protocols, standardised security requirements, and clear consumer labelling. Chargers should also be linked to the installation's ICP to support network visibility. This would enable demand-side flexibility and unlock both network and consumer benefits, while helping avoid costly network upgrades.

ENA notes that most electric vehicle supply equipment (EVSE) on the market today is already smart to some extent and has been for several years. The main issue is not the widespread use of "dumb" dedicated chargers, but the continued reliance on 3-pin plug charging, which sits outside the regulatory framework. Mandating smart functionality for dedicated chargers remains a sensible, future-proofing step, particularly when supported by interoperability standards and strong security settings.

[2] Boston Consulting Group (BCG), *The Future is Electric: A Decarbonisation Roadmap for NZ's Electricity Sector*, October 2022.

However, a mandate alone is unlikely to significantly shift consumer uptake. It will need to be paired with broader incentives and programmes to encourage meaningful behavioural change and increase the adoption of dedicated, smart charging systems.

2.3 Q3. Do you have comments on the current state of private EV charging in New Zealand?

Yes, ENA agrees that smart charging can support network infrastructure needs, and in turn realise benefits for end consumers.

Smart EV charging is one of the most cost-effective tools available to help manage growing electricity demand. According to:

- Transpower, smart EV charging could reduce peak demand by 1.9 GW (18%) by 2035.[1]
- EECA modelling shows smart EV charging could deliver $4 billion in system savings by 2050.[1]
- Sapere, in ENA-commissioned modelling, found that smart charging could reduce new EV-related peak demand by over 1.5 GW and avoid up to $1.1 billion in network upgrade costs by 2050.[3]
- BCG estimates that "smart system evolution" could yield $1.9 billion in savings and reduce household energy bills by around $70 per year.[2]

Smart chargers also improve network resilience, provide data visibility, and support innovative consumer-friendly services. ENA strongly supports mandatory smart functionality as a way to realise these benefits.

However, we do not agree that a highly complicated method of smart charging is needed for residential charging. ENA supports a simple and practical approach for the residential context. This includes:

- Restricting the level of charging capacity in residential single charging points to around 3kW maximum, comparable to any large appliance that can be purchased and plugged into a home.
- Ensuring chargers have a basic load-shedding ability, chunky and not to a high resolution, that allows a network to control load at the 11kV feeder level during times of high usage.
- Ensuring all fast charging takes place through public or commercial/industrial charging points, not at residential properties

The benefit for end customers is the deferral of upgrades to localised distribution systems in residential areas, which delivers cost savings to all consumers.

Smart EV charging delivers benefits beyond network peak management, including improved energy efficiency, reduced carbon intensity, and lower household energy costs.

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[3] Sapere Research Group, *Future Network Requirements to Support Electrification Scenarios in 2050*, commissioned by ENA, 2023.

Findings from Powerco's Smart EV Charging Project also show that consumer override capability and the ability to pre-select charging times were essential functionalities. These consumer preferences should be reflected in how smart charging is supported, particularly by allowing flexibility through software solutions, rather than mandating functionality only at the device level.

2.4 Q4. What are your views on whether the supply of chargers in New Zealand would move to predominantly smart charging without regulation?

Without regulation, it is unlikely that the market will naturally transition to smart chargers at the scale or speed required. Currently, only 19% of home charging uses smart devices, despite growing awareness and EECA's educational efforts. Many low-cost chargers available on the market are non-smart and lack open communication standards, which undermines the development of demand-side flexibility.[1] Without a clear requirement, suppliers may continue to import and install non-compliant or incompatible devices.

While some sales pitches and messaging around EV use suggest that the market will eventually shift towards smart charging even without regulation, ENA considers that this transition is unlikely to occur uniformly or quickly enough to support national electricity system needs. As noted in ENA's previous submissions, the cost difference between smart and non-smart chargers is modest, especially when compared to the long-term infrastructure and consumer savings enabled by smart functionality.[2]

Furthermore, even if the majority of chargers currently supplied to market are technically smart or partially smart, regulation is still essential to ensure these devices meet consistent minimum standards, support interoperability, and deliver value through open communication protocols. Without regulatory intervention, the wide variation in control protocols and levels of control would limit the ability of distribution networks, and ultimately Transpower, to manage load in a coordinated way. This would significantly dilute the system-wide benefits of smart charging.

A regulatory requirement would also improve clarity for both suppliers and consumers, ensuring greater consistency and confidence in the market.

2.5 Q5. Do you have any comments on the availability of private EV charging for varying demographics, for example, homeowners versus renters?

Yes. ENA notes that access to private EV charging is not evenly distributed across different demographics.

Homeowners with off-street parking are more likely to install EV chargers and benefit from smart charging incentives and dynamic pricing. In contrast, renters, apartment dwellers, and residents of social housing often face higher upfront and logistical barriers to installation.[1]

Apartments, terraced housing, and high-rise developments will continue to face challenges in providing private charging facilities unless provision is planned and incorporated from the outset.

Without integrated design, it will be difficult to deliver equitable outcomes for all residents in such developments.

As the EV fleet expands, smart charger regulation may need to be paired with complementary, equity-focused policies, such as:

- Subsidies or support for landlords to install chargers in multi-unit dwellings
- Incentives for semi-private charging at workplaces or shared parking areas
- Development of smart public infrastructure that can provide similar demand management benefits

Without such measures, regulation risks reinforcing existing inequities in the energy transition. ENA supports the inclusion of targeted support programmes alongside smart charger mandates to ensure a just and efficient rollout.

ENA agrees with the consultation's recognition of inequities in access to private charging infrastructure. However, we note that charger mandates alone will not address these challenges. Targeted interventions, such as subsidies for multi-unit dwellings or investment in shared charging infrastructure, will be critical to ensuring a fair and inclusive transition.

3 Proposal for smart EV chargers

3.1 Q6. Is there any other relevant context, such as industry developments or international practice that we should consider?

Simplicity and Equity

Simplicity will deliver the most consistent and equitable outcomes. Highly bespoke or complex systems risk disproportionately benefiting early adopters or wealthier consumers, while increasing complexity and cost for others.

Data Availability and Use

Improved data visibility is essential for effective network planning and management. The greatest value is realised when EDBs have access to data at, or within, the ICP.

While aggregated and anonymised data offers some utility, it is insufficient for critical functions such as:

- Investment planning – understanding where and when EV charging occurs, identifying unmet charging needs, and designing cost-effective network solutions
- Dynamic pricing design – tailoring price signals to encourage off-peak charging in areas or times of peak constraint
- Emergency response – adjusting loads in real time (milliseconds to seconds) to prevent cascading failures and operate networks closer to their limits

To be effective, networks must understand not just the presence of EV load, but also its behaviour in relation to specific assets and constraints. This level of visibility supports smarter, more responsive infrastructure development and operational decisions.

International Precedents

International experience shows that a mix of EV charging control models can support customer flexibility while maintaining network reliability.

The UK, for example, mandated smart functionality in all new home and workplace charger installations under the *Electric Vehicles (Smart Charge Points) Regulations 2021*. These regulations include load shifting and cybersecurity requirements.

Examples of international smart charging control models include:

- Price Signal-Based Control: Consumers adjust charging behaviour in response to dynamic pricing, smoothing demand and enabling EVs to absorb excess renewable generation.
- Platform-Based Dispatch: Chargers respond to network signals or prioritisation queues (e.g. urgent vs flexible charging). Devices default to safe fallback profiles when not integrated. Examples include:
    - South Australia Power Networks' flexible solar export arrangements
    - Driivz's smart charging orchestration
    - Blink Charging's automated demand response (ADR) features
- Event-Based or Emergency Control: Devices respond automatically and rapidly (milliseconds to seconds) to grid signals during emergencies or faults. This can:
    - Prevent overloads and equipment failure
    - Support frequency and voltage stability
    - Limit the scale and duration of outages

These models demonstrate the need for smart chargers to be capable of responding in multiple ways, depending on network needs and conditions.

ENA Research: Journey Charging Needs

A study commissioned by ENA and South Island lines companies, conducted by DETA Consulting, confirms that the South Island is on track to meet its public journey charging needs by 2030. However, the research highlights the importance of a smart, targeted rollout to avoid unnecessary investment.

Key findings:

- Only 107 additional 50kW journey chargers are needed across key South Island locations to meet peak EV demand by 2030.
- Given the South Island accounts for ~24% of New Zealand's population, this implies fewer than 500 journey chargers may be needed nationwide, far below the Government's current target of 10,000 public chargers.

- While the study excludes destination and home chargers, it underscores the need for evidence-based, demand-driven planning.

Operational Experience

Numerous EDBs are already deploying low-voltage (LV) monitoring to assess hosting capacity and inform their asset planning decisions. This work is supporting real-world understanding of where, when, and how EV-related load is impacting the network.

Industry Programmes

ENA's *Future Networks Forum* is developing a common load management protocol to enable the integration of EV chargers and other distributed energy resources (DERs) at scale. This will help ensure that smart charging systems can interact consistently across networks.

Clarification Needed

ENA seeks clarification on how MBIE will ensure that smart EV charging regulations align with:

- The Electricity Authority's DER integration work
- The EA's pricing reform programme
- EDB access to smart meter data

Alignment across these areas is critical to operationalise smart charging as part of the broader network transformation agenda.

3.2 Q7. What cybersecurity risks do you see with greater uptake of smart EV chargers?

One key risk is the potential for unauthorised access to data collected by smart EV chargers. These devices can log sensitive information such as location, usage patterns, and charging behaviour, which could reveal details about consumer routines, vehicle movements, and occupancy. If not properly secured, this data may be vulnerable to misuse, including privacy breaches or broader system-level attacks.

As smart chargers become increasingly connected to home networks, energy management systems, and potentially distribution network platforms, they could also provide entry points for malicious actors seeking to disrupt services or compromise wider energy infrastructure.

Ensuring robust, up-to-date cybersecurity protections is therefore critical as smart charger uptake grows. At the same time, maintaining a simplified regulatory system helps reduce cybersecurity risks by limiting unnecessary complexity.

3.3 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

ENA considers that cybersecurity risks can be effectively mitigated by adopting a simple, low-resolution load shedding approach. Specifically, by limiting control to a single item per electricity supply (on/off only) and using secure communication mechanisms for load shedding signals, the attack surface is reduced.

However, further clarification is needed on several implementation matters, including:

- Which agency will lead enforcement (e.g., MBIE, the Electricity Authority, the Authority's Innovation and Participation Advisory Group, or CERT NZ)
- The planned cadence for updating cybersecurity requirements to keep pace with evolving threats
- How EDBs and other parties will obtain assurance of compliance, potentially through certified supplier registers or independent accreditation processes

ENA also supports that consumers should have the right to 'opt-out' of using the smart functionality of smart devices. Some consumers are highly sensitive to the access and use of their personal information, including data from smart devices like meters and TVs. If smart chargers are mandated, consumers should still be able to use the charger for basic functionality, even if they do not consent to the communication and interoperability features that provide benefits to the consumer and the electricity industry.

4 Objectives and options

4.1 Q9. Do you agree with the objectives? If you agree or disagree, please explain why.

ENA agrees with all four proposed objectives. Encouraging off-peak charging is essential to reduce pressure on local networks and support the efficient use of existing capacity. Interoperability is also critical, as smart chargers must function reliably with network systems and evolving market platforms to ensure long-term flexibility and integration. ENA supports the objective of enabling pricing reforms, which are a key lever for encouraging flexible demand and empowering consumers to respond to cost-reflective signals. Cybersecurity protections are likewise vital to maintaining public trust and ensuring system resilience as EV charging becomes increasingly connected and data-driven.

Additionally, ENA suggests including a further objective: enhancing network visibility and control. This would support the broader goal of enabling distribution networks to more effectively manage emerging demand and maximise the system value of smart charging technologies.

4.2 Q10. Are there any additional objectives you think we should also adopt to inform decisions on this proposal?

ENA recommends adding an explicit objective to ensure data privacy for consumers. Since smart EV chargers collect detailed information about usage patterns, location, and behaviour, protecting this data from unauthorised access and misuse is essential to maintain consumer trust. Clear privacy safeguards will support broader acceptance of smart charging technologies and help prevent potential harms related to personal data breaches.

Additionally, ENA suggests adopting a principles-based regulatory framework rather than prescriptive rules. International experience, such as the UK smart meter rollout around 2010, demonstrates that overly specific requirements, like mandating particular WAN technologies, can lead to unnecessary costs and lock in suboptimal solutions. A flexible, technology-neutral approach will better support innovation and future adaptability.

Finally, while the consultation currently lists three objectives, ENA recommends adding a fourth: **"enhancing network visibility and control."** This reflects the critical need for improved data and operational insight to enable proactive and efficient network planning.

4.3 Q11. Which option do you prefer and why? Are there other options you think should be considered?

ENA prefers **Option 4A**—mandatory smart functionality combined with labelling because it maximises benefits to EDBs and helps mitigate peak demand. Labelling provides consumers with clear visibility of charger capabilities and security features, supporting informed purchasing decisions. The UK has mandated similar smart functions since 2021, with positive early results demonstrating the effectiveness of this approach.

We support limiting residential charging to 3kW (similar to any large household appliance) and enabling simple, low-resolution (on/off) load shedding control at the 11kV feeder level. Fast charging should be provided via public or commercial/industrial infrastructure. This approach defers costly upgrades to local networks and delivers benefits to all customers.

We also strongly recommend that any cybersecurity mandates align with relevant international standards to avoid creating unnecessary barriers for suppliers in New Zealand.

4.4 Q12. Do you agree with our assessment of the options against the objectives? If you agree or disagree, please explain why.

Generally yes, the consultation's option evaluations align with ENA views. The benefits of low-resolution load shedding and restricting residential charger capacity (3kW max) should be given more weight, especially for cost-effectiveness and practicality.

4.5 Q13. What are your views on the functionality outcomes that could be adopted?

4.5.1 A. Are there any outcomes that you think should be required?

ENA supports including several key functionality outcomes as mandatory requirements to ensure smart chargers contribute meaningfully to network flexibility and consumer safety.

These should include:

- **Time-of-use load shifting capabilities**, such as delayed start and stop functions, enabling charging to align with off-peak periods or pricing signals.
- **Dynamic load control** to help prevent household overloads and ensure charging stays within the consumer's connection capacity.
- **Robust cybersecurity protections** to safeguard customer data and maintain trust as electricity infrastructure becomes increasingly digitalised.

A further required outcome is the ability for networks to apply simple, low-resolution load shedding (on/off only) to residential chargers, controllable at the 11kV feeder level. Coupled with a 3kW maximum charging capacity for residential single-phase supply, this approach helps defer costly local network upgrades, reduces implementation complexity, and minimises cybersecurity risks by limiting control to a single function per supply.

Smart functionality should apply to chargers rated at **2.4 kW or above**. This threshold reflects the scale of demand relative to typical household appliances and aligns with the point at which EV charging begins to materially impact network capacity.

ENA supports a tiered approach to charger functionality:

- Low-capacity chargers (e.g., ≤2.4 kW) should be "waved through" with minimal oversight, as their impact is comparable to other household loads.
- Higher-capacity chargers should be subject to smart functionality and coordinated control, especially where they pose a risk to local network constraints.

This approach allows most consumers to operate without constraint while focusing regulatory and enforcement efforts where the impact is greatest.

ENA also supports flexible functionality requirements to allow for future vehicle-to-everything (V2X) capabilities. Mandating specific V2X formats is premature given the emerging nature of the technology. As a future-proofing step, we recommend labelling to indicate V2X compatibility. Powerco has noted that their involvement in an upcoming Concept Consulting V2G study will help inform policy thinking in this area.

Finally, ENA highlights the distinction between smart hardware and smart software, and recommends that regulations allow for these components to be separately assessed and certified. This will ensure EV chargers remain compatible with evolving platforms and software providers over time, supporting long-term innovation and interoperability.

4.5.2 B. Do you think any functionality outcomes above should not be included, and if not why?

No, ENA sees benefit in all the proposed outcomes.

4.5.3 C. Are there any different types of requirements we need to consider for V2X chargers?

ENA supports including vehicle-to-grid (V2G) as a core functionality outcome for smart charging infrastructure. V2G enables EVs to act as distributed energy resources, delivering benefits to both consumers and the electricity system.

In particular, we see value in:

- **Backup Supply and Resilience:** V2G can provide critical backup power during planned or unplanned outages, especially for life-support customers, particularly if limited to supplying only critical appliances. This enhances community resilience and reduces reliance on traditional backup systems, such as diesel generators.
- **Grid Services:** V2G-capable chargers can support the grid through services such as Fast Instantaneous Reserve (FIR), voltage support, and peak shaving. However, consideration should be given to potential impacts on vehicle life, including increased battery cycling, and reduced vehicle utility if the vehicle's charge level is frequently drawn down when needed.

We recommend that ENA explicitly recognise V2G as a desired functionality outcome, and ensure that any technical requirements or standards do not inadvertently exclude or limit its deployment.

4.6 Q14. Do you think there is a case for voluntary or mandatory labelling of EV chargers, and why or why not?

ENA considers that mandatory labelling is ultimately preferable to ensure consistency and support the wider uptake of smart, compliant EV chargers. Clear and standardised labelling helps consumers understand key features such as smart functionality, cybersecurity protections, and technical compatibility, which in turn builds confidence in their purchase decisions. It also enables installers and electricity distribution businesses to quickly identify a charger's capabilities and verify compliance with relevant standards.

That said, a voluntary labelling scheme could serve as a useful transitional step if paired with incentives or public education, allowing the market to adapt as the regulatory framework matures.

ENA supports mandatory labelling in the long term, with voluntary implementation as an interim option. Labelling should clearly indicate power rating, smart features, cybersecurity protocols, and V2X readiness.

4.6.1 A. If you support labelling, what content do you think should be incorporated in the label?

ENA supports the inclusion of labelling as a tool to help consumers make informed purchasing decisions and encourage uptake of compliant smart chargers. At a minimum, the label should clearly identify the charger's smart features, such as load scheduling and dynamic control capabilities. It should also specify the charger's power rating and connector type to ensure compatibility. Additionally, relevant information on cybersecurity standards or protections should be included.

Presenting this information in a consistent and simple format will help build consumer trust and support broader policy objectives around flexibility and interoperability.

Labels should explicitly indicate the maximum power draw and whether the charger supports basic load control (on/off).

4.7 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.

ENA considers that all private residential and workplace chargers with a capacity of 2.4 kW or greater should be required to meet smart functionality requirements. These chargers account for most charging activity and offer the greatest potential for peak demand shifting and load flexibility.

In addition, larger commercial and public DC fast chargers, particularly those above 7 kW, should also be included due to their significant and often concentrated impact on local network capacity. Applying smart functionality requirements to both private chargers and high-capacity public infrastructure will help ensure consistent integration with network management strategies and maximise system-wide benefits.

ENA supports applying regulation to all chargers with rated power above 2.4 kW, as this threshold captures all significant non-trickle charging devices while avoiding unnecessary complexity in distinguishing chargers by use, location, or AC/DC type.

4.8 Q16. Do you agree with our assessment of the scope against the objectives? If you agree or disagree, please explain why.

ENA generally agrees with the assessment of the scope against the stated objectives. However, we see an opportunity to strengthen the scope by explicitly including the retrofit or replacement of non-smart chargers. Enabling or incentivising upgrades of existing legacy chargers would help accelerate the transition to a more flexible and responsive EV charging system and ensure that the benefits of smart functionality are not limited solely to new installations.

That said, ENA does not support mandating upgrades to existing chargers. The number of non-smart dedicated chargers is likely small, and the costs of mandatory upgrades may outweigh the benefits. Instead, we suggest exploring incentives to encourage voluntary upgrades.

4.9 Q17. If you agree with option four – requiring EV chargers to be smart:

4.9.1 A. What types of chargers should the requirements apply to? For example, should there be a minimum or maximum size?

Consistent with our response to Q15, ENA sees no need to distinguish between journey, destination, public, or private charger uses. The threshold of greater than 2.4 kW provides a clear and effective boundary for applicability.

4.9.2 B. Is there a case to regulate public chargers as well as private, and what are the risks of including or excluding public chargers?

There is a strong case for regulating public chargers, particularly given their high visibility and potential to shape consumer expectations and behaviours. If included, public chargers, especially fast chargers, can actively support system flexibility and demonstrate best practice.

Conversely, excluding public chargers risks unmanaged demand peaks, especially in high-traffic areas or locations with limited network capacity. This could undermine broader network load management strategies and reduce the overall effectiveness of demand-side flexibility initiatives.

5 Potential costs and benefits

5.1 Q18. Do you agree with our assessment of the costs and benefits of each option?

Yes, ENA generally agrees with the assessment of the costs and benefits of each option.

5.2 Q19. Are there any impacts you believe we should consider that are not covered?

One impact not noted is the end-of-life management for legacy EV chargers. As the market transitions to smart charging, many non-compliant devices may be decommissioned, raising questions around secure disposal, recycling, or potential repurposing. Without clear guidance or systems in place, this could contribute to increased e-waste or inconsistent handling of legacy equipment. However, e-waste concerns related to legacy charger replacement are expected to be minor.

Another consideration is the cost and resourcing implications of installer training. Introducing smart functionality will require upskilling electrical contractors and installers to ensure safe and consistent installation and integration. This may present particular challenges in areas where technical capability is constrained or where training pathways are not yet well developed. Installer training requirements are also likely to be minimal, as installation remains largely consistent with that of other electrical appliances. The main additional task for installers may be supporting user setup of telecommunications, which is typically intuitive.

5.3 Q20. Are there any unintended consequences on the market for EV chargers or wider EV market you think we haven't considered?

One potential unintended consequence is the emergence of a fragmented market composed of both legacy (non-smart) and compliant smart chargers. This situation could create consumer confusion, complicate purchasing decisions, and undermine confidence in the value of smart functionality if it is not clearly signalled and supported. Additionally, it may pose challenges for achieving interoperability and consistent network benefits from demand-side flexibility if the uptake of compliant chargers is slow or uneven.

5.4 Q21. How do you see the proposal affecting different people and groups (e.g., business users, manufacturers, consumers)?

GROUP	BENEFITS	COSTS/RISKS
Consumers	Lower electricity bills through smart load management; increased convenience via automation and better control.	Higher upfront purchase cost of smart chargers; potential learning curve with new technology and interfaces.
EDBs	Improved ability to manage peak demand and defer costly network upgrades; better integration with emerging grid technologies.	Need for enhanced visibility and communication systems; investment in interfacing and data management
Manufacturers	Clearer regulatory framework offering competitive differentiation; opportunities for innovation in smart charger features	Compliance costs; product redesign and testing to meet new standards
Installers	Opportunities for upskilling and offering advanced installation services; potential for business growth.	Additional training and certification requirements; costs and time investment.
Public providers	More predictable load profiles improving grid reliability; alignment with network management strategies.	System integration challenges; ongoing cybersecurity compliance and audits.
Electricity retailers	Retailers are central to unlocking the value of smart charging by offering customer-facing electricity plans and value streams.	
Vehicle dealerships	Dealerships are often the point at which consumers receive information about home chargers and can help accelerate uptake through bundled offers or education at point of sale.	

6 Next steps, implementation and monitoring

6.1 Q22. Do you have and feedback on the next steps for this proposal?

The next step should be to define a standard and agree on technical specifications for chargers and their integration. This includes interoperability requirements, fallback profiles, and prioritisation mechanisms. It is also important to consider how the coordination platform will be implemented—whether it will be led by EDBs, nationally coordinated, or operated by a third party according to agreed standards.

There are several international examples of similar platforms, including:

- SAPN's flexible solar exports (South Australia),
- Driivz's smart charging platform (Europe/North America), and
- Blink Charging's automated demand response (ADR) features (USA).

These platforms demonstrate how coordinated control, dynamic load management, and safe fallback operation can be implemented in practice, and could help MBIE visualise how smart charging might operate in New Zealand.

6.2 Q23. Do you have any comments on implementation or a transition period for potential regulations?

Experience from Australia with AS4777 compliance for household solar illustrates the difficulty of ensuring consistent configuration and operation of distributed energy resources. In Ausgrid's area, it is estimated that 40–60% of systems do not have the required settings implemented. This highlights the importance of designing systems that are easy to configure correctly and that support ongoing visibility.

Rather than relying on extensive compliance audits and prescribing penalties, which can be costly and adversarial, the focus should be on creating a framework that:

- Makes compliance straightforward and attractive, through clear standards, pre-configured devices, and integration at the point of manufacture.
- Supports network businesses with the tools and data they need, such as access to smart meter and installation data. Broader access to smart meter data enables desktop analysis and the use of algorithms to detect anomalies, infer missing data, and flag potential risks. This approach is significantly more cost-effective than relying on field inspections and manual audits.
- Focuses enforcement where there is actual risk or harm, such as exceeding network capacity, interfering with other customers, or undermining coordinated control needed for system stability and emergency response.
- Encourages OEMs to build products that support coordination and customer engagement.

Appendix A

Electricity Networks Aotearoa makes this submission along with the support of its members, listed below.

- Alpine Energy
- Aurora Energy
- Buller Electricity
- Centralines
- Counties Energy
- Firstlight Network
- Electra
- EA Networks
- Horizon Networks
- Mainpower
- Marlborough Lines
- Nelson Electricity
- Network Tasman
- Network Waitaki
- Northpower
- Orion New Zealand
- Powerco
- PowerNet (which manages The Power Company, Electricity Invercargill, OtagoNet and Lakeland Network)
- Scanpower
- Top Energy
- The Lines Company
- Unison Networks
- Vector
- Waipa Networks
- WEL Networks
- Wellington Electricity
- Westpower