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19 August 2022

Ms Anna Collyer
Chair
Energy Security Board
Level 15, 60 Castlereagh St
Sydney NSW 2000

Via email to info@esb.org.au

[Confidential information has been removed from this submission]

Dear Ms Collyer,

Re: Simply Energy Response to Electric Vehicle Smart Charging – Issues Paper

Simply Energy welcomes the opportunity to provide feedback on the issues paper for the Energy Security Board's (ESB) consultation on electric vehicle (EV) smart charging.

Simply Energy is a leading energy retailer with approximately 730,000 customer accounts across Victoria, New South Wales, South Australia, Queensland and Western Australia. Simply Energy is owned by the ENGIE Group, one of the largest independent power producers in the world and a global leader in the transition to a zero-carbon economy. ENGIE is delivering 103 fast charging stations for EVs across four regions in Australia, as part of ARENA's 'Future Fuels Fund'.[1]

In this submission, Simply Energy sets out its support for policies that facilitate the uptake of EVs and set out some key policy areas that would assist the electricity grid integrate widespread EV ownership in Australia.

The role of the retail energy market to facilitate EV uptake

In the future, an EV will be more than a transportation device and will provide consumers with benefits that have not been possible with internal combustion engine vehicles. An EV can truly be an asset for a consumer through its ability to discharge its battery to power the home and send excess electricity into the electricity grid at peak times. Ownership of an EV may enable consumers to access very low or fixed household energy costs.

In the coming years, technology that enables EVs to discharge electricity into a consumers' home or directly into the electricity grid will become more prevalent. Facilitating this technology will allow consumers to make use of cheap solar energy during the day, effectively turning EVs into mobile battery storage systems. Today there are only a limited number of EVs that are set-up for bi-directional charging, but this will likely change in the next few years as battery technology improves and more car manufacturers commit to the technology.

This enhanced functionality means that EVs can be a pathway to a new kind of energy independence for consumers, where the concern about uncertain and volatile energy costs is replaced with tangible, functional and rewarding energy assets, which provide multiple services

[1] ARENA, ENGIE Future Fuels Public Fast Charging, Accessed on 17 August 2022 at; https://arena.gov.au/projects/engie-future-fuels-public-fast-charging/

and generate much more value. To ensure that consumers that are not able to access an EV and/or bi-directional charging can still benefit from widespread EV uptake, it is critical that EV charging provides a net-positive to the electricity grid (resulting in lower network and wholesale electricity prices than would otherwise occur).

The full benefits of EVs to Australians, where vehicles are used to provide both transportation and electricity services, may only be achieved through increased coordination and collaboration between the transport and energy sectors. We expect there is a significant role for government leadership in this space to ensure that all consumers can access these benefits.

Key policies to integrate widespread EV uptake within the electricity grid

In contrast to rooftop solar PV installations, EV uptake is still relatively low in Australia, which means that we have an opportunity to work through the issues and opportunities of widespread EV and charging infrastructure ownership before they occur. The benefits of EV ownership, beyond its primary use as a transportation device, will be facilitated by the energy market and will rely on supportive policy development. The introduction of policies that support consumers benefit from their EV's battery capacity may make the purchase of an EV an attractive proposition for more Australians in a shorter timeframe.

As chargers become more ubiquitous and are deployed in a more diverse range of settings, EVs will likely begin to put pressure on existing electricity distribution networks. The level of pressure will depend on when EVs are being charged, where, and how quickly. The level of pressure will also depend on whether EVs can be utilised to provide ancillary services to the electricity grid. The key policy areas to address these pressures and support consumers' investment in EVs include:

- Accelerating the smart meter rollout;
- Network tariff reform, including connection standards; and
- Governments targeting consumer subsidies and industry funding to support the development of new services, such as vehicle-to-grid (V2G).

In terms of general principles to guide policy development, we support a focus on customer choice and cost reflective charging.

Accelerating the smart meter rollout

The use of an EV to provide services to the electricity grid will be dependent on the use of a smart meter. More broadly, smart meters can provide consumers with control over their energy assets and detailed data on their energy usage that be downloaded and shared.

Outside of Victoria, which had a mandatory smart meter rollout, the average level of smart electricity meter penetration is only around 25 per cent in all other jurisdictions of the National Electricity Market (NEM).[2] The low penetration of smart meters is one of the key reasons why many of the benefits of smart meters are not widely available to Australian consumers. Accelerating the smart meter rollout across the NEM would enable more advanced integration of energy assets (including EVs) into the market and an increased uptake of time-varying network tariffs that can encourage EVs to be charged at off-peak times.

In relation to the Australian Energy Market Commission's current review on the regulatory framework for metering services, Simply Energy has been supportive of options that would

[2] Australian Energy Market Commission 2021, Review of the Regulatory Framework for Metering Services: Directions Paper, 16 September, p. i.

accelerate the smart meter rollout.[3] [Note: confidential information has been removed] However, we note that addressing issues with cost recovery and cost sharing will be one of the most significant challenges in developing a workable option to accelerate the rollout at a large scale. To ensure that consumers are not asked to pay significant rectification costs for defective sites, involvement from distribution network service providers and governments will be required.

Reforming network tariffs

Network tariff reform will likely be a critical element in managing the pressure on the electricity grid from a significant uptake of EVs. Without supportive policies to spread electricity demand across the day, there is a risk that peak electricity demand becomes overwhelming with the addition of EVs and necessitates further expansions of the capacity of the electricity grid. Such a result would lead to higher electricity prices for all consumers, especially those who are unable to access rooftop solar PV, batteries, and EVs.

The use of network and retail tariffs to incentivise consumers to use energy in off-peak times is critical to co-ordinating and optimising the impact of a significant number of EVs connecting to the grid. Smart charging infrastructure can be used in coordination with time-varying network tariffs to ensure that EVs are charged at times when demand (relative to energy supply), and costs to the consumer, will be lowest.

Distribution network service providers (DNSPs) will have a critical role to play in integrating EVs as a support service to the electricity grid, rather than being a stressor on network capacity. As EVs will be highly distributed across the grid, they can potentially be very valuable for managing the security and stability of the low voltage network. By making their EVs available for vehicle-to-grid services, consumers will also unlock an additional value stream from their asset.

While DNSPs are important facilitators in the market, Simply Energy does not agree that DNSPs should be considered as potential 'charge point operators' in a future market. We consider that current market participants, such as retailers, would be better placed to provide aggregation services to customers as they are already managing distributed assets on behalf of residential customers (for example, virtual power plant services).

Government support for the development of new services

While not the focus of the issues paper, Simply Energy supports governments' pursuing supportive policies that could make the purchase of an EV more attractive through facilitating the additional benefits of EV ownership. For example, this may include subsidies for the purchase of smart home chargers that support EV charging at optimal times or bi-directional chargers that enable vehicle-to-home and vehicle-to-grid functionality. As bi-directional chargers are more expensive than standard chargers, many consumers would not benefit from being early adopters of this technology without subsidies.

We expect that retailers seeking to provide services with the battery capacity of EVs will face several barriers in the initial stages. For example, utilising the V2G capabilities of EVs will depend on licensing requirements, connection standards, interoperability standards, data access rights and responsibilities, the cost and sophistication of EV charging infrastructure, and associated control software. Governments should proactively address barriers while EV uptake is still low. Providing funding for trials of EV participation in various energy markets (for example, wholesale energy

[3] Simply Energy 2021, Submission to the Review of the Regulatory Framework for Metering Services: Directions Paper, 28 October, accessible at; https://www.aemc.gov.au/sites/default/files/2021-11/public_-_simply_energy_submission_-_aemc_metering_regulatory_framework_002_redacted.pdf

markets, FCAS markets, and wholesale demand response) will help to identify any regulatory changes needed to integrate EVs into the electricity market.

Interoperability of EV charging should be a key focus area for policy makers

Ensuring that chargers available at EV charging sites are compatible with the largest number of EVs would improve customer experience and avoid the need for customers to purchase adaptors to enable the use of chargers that meet different standards. If interoperability is not prioritised, there is a risk that 'charger anxiety' could replace the current concerns with 'range anxiety'. That is, EV owners and prospective purchasers are concerned that even though there are sufficient charging sites available, that they may not be able to charge their preferred model of EV at all charging sites.

Interoperability is also critical to ensure that EVs and chargers can communicate effectively with the electricity grid. The introduction of minimum technical standards for EV chargers will likely be a critical step to enabling EVs to be able to provide vehicle-to-grid services in the future. The introduction of minimum technical standards would provide DNSPs with visibility of the assets connected to their network and provide increased ability for these assets to be operated autonomously in a manner that responds to network and broader system needs (such as, the management of voltage disturbances). Minimum technical standards would also provide certainty of the inverter performance, grid responsiveness, interoperability, and cyber security measures for EV chargers. Any minimum technical standards would be an obligation within connection agreements with distribution network businesses, which would then bind manufacturers and installers to meet these standards.

Simply Energy is supportive of international best practice, and for that reason supports Australia adopting and complying with the Open Charge Point Protocol (OCPP) and related standards. As Australia is already behind many other markets in relation to the uptake of EVs, adopting standards that are inconsistent with international markets would only likely further delay the expansion of the EV market in Australia.

Concluding remarks

Simply Energy welcomes further discussion in relation to this submission. To arrange a discussion or if you have any questions please contact Matthew Giampiccolo, Senior Regulatory Adviser, at matthew.giampiccolo@simplyenergy.com.au.

Yours sincerely

James Barton
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Simply Energy