19 March 2020

Mr Samuel Martin
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Dear Mr Martin

RPR0012 – 2020 Retail Energy Market Competition Review: Electric Vehicles Issues Paper

Energy Queensland Limited (Energy Queensland) welcomes the opportunity to provide comment to the Australian Energy Market Commission (AEMC) on its 2020 Retail Energy Competition Review: Electric Vehicles Issues Paper (Issues Paper). This submission is provided by Energy Queensland, on behalf of its related entities Energex Limited, Ergon Energy Corporation Limited, Ergon Energy Queensland Limited and Yurika Pty Ltd.

Energy Queensland's detailed comments in response to the AEMC's consultation questions are provided in the attached submission.

Should you require additional information or wish to discuss any aspect of this submission, please do not hesitate to contact myself or Barbara Neil on (07) 4432 8464.

Yours sincerely

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Encl: *Energy Queensland's submission*

Energy Queensland Submission on the 2020 Retail Energy Competition Review: Electric Vehicles

Issues Paper

Energy Queensland Limited

18 March 2020

About Energy Queensland

Energy Queensland Limited (Energy Queensland) is a Queensland Government Owned Corporation that operates businesses providing energy services across Queensland, including:

- Distribution Network Service Providers, Energex Limited (Energex) and Ergon Energy Corporation Limited (Ergon Energy);
- a regional service delivery retailer, Ergon Energy Queensland Pty Ltd (Ergon Energy Retail); and
- affiliated contestable business, Yurika Pty Ltd (Yurika), which includes Metering Dynamics Pty Ltd (Metering Dynamics).

Energy Queensland's purpose is to 'safely deliver secure, affordable and sustainable energy solutions with our communities and customers' and is focused on working across its portfolio of activities to deliver customers lower, more predictable power bills while maintaining a safe and reliable supply and a great customer experience.

Our distribution businesses, Energex and Ergon Energy Network, cover 1.7 million km^2 and supply 34,000GWh of energy to 2.25 million homes and businesses each year.

Ergon Energy Retail sells electricity to 738,000 customers in regional Queensland.

Energy Queensland also includes Yurika, an energy services business creating innovative solutions to deliver customers greater choice and control over their energy needs and access to new solutions and technologies. Metering Dynamics, which is a part of Yurika, is a registered Metering Coordinator, Metering Provider, Metering Data Provider and Embedded Network Manager. Yurika is a key pillar to ensuring that Energy Queensland is able to meet and adapt to changes and developments in the rapidly evolving energy market.

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1 Introduction

Energy Queensland Limited (Energy Queensland) welcomes the opportunity to provide comment to the Australian Energy Market Commission (AEMC) on its 2020 Retail Energy Competition Review: Electric Vehicles Issues Paper (Issues Paper). This submission is provided by Energy Queensland, on behalf of its related entities Energex Limited (Energex), Ergon Energy Corporation Limited (Ergon Energy), Ergon Energy Queensland Limited (Ergon Energy Retail) and Yurika Pty Ltd (Yurika).

Energy Queensland notes that while the Issues Paper is largely focussed on retail issues as part of the Retail Energy Competition Review, electric vehicles (EVs) are more than just a retail issue. A successful EV market will depend on all facets of the market including networks, retailers, vehicle manufacturers and dealers, charging station operators etc. and the interactions between all these parties. The development of a regulatory framework that supports competition in this market, should be customer focussed and subject to a robust cost benefit analysis to ensure there are no unintended consequences that result in higher costs to the participants in the market and ultimately higher prices for customers.

Energy Queensland has provided responses to the questions raised in the Issues Paper in the following section and is available to discuss this submission or provide further detail regarding the issues raised, should the AEMC require.

2 Table of detailed comments

Consultation Paper Feedback Question	Energy Queensland Comment
Question 1: Context	
Are there any other contextual developments the Commission should consider in relation to EV uptake and use in Australia?	Energy Queensland suggests the AEMC consider further developments in the EV market including: trends of EV uptake in similar international markets; comparative vehicle sales in Australia (such as smaller cars and sports utility vehicles); the allocation and availability of stock to Australia; developments and costs of alternate fuel sources (e.g. hydrogen, bio-fuels and traditional oil supply); and government policy (at all levels). Furthermore, the Issues Paper appears to focus largely on residential EVs. Although this segment is likely to comprise the largest volume of EVs in the longer term, fleet and commercial markets may adopt EVs earlier, including electric buses and local delivery vehicles. These consumers will have different needs to residential consumers and should not be overlooked. Moreover, in the context of consumer attitudes and charging behaviour, we suggest further research is required into the assumptions made around charging and the information provided at the point of sale. While networks support the uptake of EVs, precautions should be taken as penetration rates rise to avoid triggering significant network investment, noting that initial impacts may be at the edges of the network which are not visible at the system level. As such, consideration must be given to overall systems impacts to ensure the market adoption of EVs occurs in the most efficient manner. Additionally, the combination of technical safety and management standards for EVs and EV chargers will be important, especially considering emerging technologies such as vehicle to grid (V2G) or vehicle to home (V2H) where the EV would essentially become a generator equivalent to solar photo-voltaic (PV) or home energy storage. The current regulatory environment does not consider the ability of EVs to be safely charged within the technical limitations of the premises. Finally, consideration should be given to appropriate cyber-security measures as mass adoption of connected EVs pose the same risks to system and network security as PVs and batteries. For example, a cyber-security issue could result in V2H EVs and V2G EVs all charging or discharging

	simultaneously, concentrating their load and potentially resulting in system security issues. Along with cyber-security, consideration should be given to how consumer data protections should apply, and which body is most appropriate to manage data protections under Consumer Data Right provisions if EVs are integrated as part of the national electricity market.
Question 2: Role of retailer	
What challenges and opportunities, given the current role of retailers in the NEM, are EVs likely to provide retailers?	Energy Queensland places customers at the core of our business, including enabling EV ownership. While an EV can potentially perform many functions for a customer, care should be taken not to assume all these functions will offer enough customer benefit to be disaggregated from the current electricity supply. Notwithstanding, Energy Queensland expects the role of retailers will need to evolve as this market develops. The role and relationship between retailer and customer is currently fixed to the premises and this will need to adapt to be responsive to different charging options. We suggest the challenges and opportunities should be considered in the context of technical, financial, regulatory and engagement: *Technical* There are a range of technical challenges associated with connecting EVs in a seamless consumer-centric manner depending on the EV capability and capacity. For example, consumers' access to faster level two chargers in the residence may be limited by their service connection to the network or the capacity of their switchboard. Metering requirements to support this service should also be considered. An EV will also significantly increase a consumer's energy consumption as well as their demand profile, both of which can have an impact on their final energy cost. As an EV is likely to be one of the largest single loads in residential premises its impact on the consumer energy cost is likely to be related to the ease and simplicity of the management of the charging profile as compared to the rest of the premises' load. This underlines the need for network and retail tariffs that provide consumer choice but with appropriate pricing signals. In higher density living, especially embedded networks where there is one primary retailer, the large potential demand profile of multiple EVs may significantly impact the entire embedded network demand charges which must then be appropriately shared across all embedded network users.

	Financial The increased consumption and demand as a result of charging EVs will also impact retailer hedging practices. This highlights the greater need for better alignment of retail and network tariffs to minimise this risk. As detailed further in our response to Question 3 below, the potential for multiple trading relationships (MTRs) creates risk through more complexity in market settlements, and retailers will need to adapt and evolve to compete with new service providers and business models. *Regulatory* The existing regulatory framework may need to be revised to ensure an even playing field. In particular, consumer protection obligations and the relevance of existing terms and roles may need to be redefined to enable the transition to a new framework. *Engagement* Charging of EVs is an important new element for vehicle ownership that consumers are likely to have limited knowledge on especially when compared to the traditional operation of an internal combustion engine vehicle. In the early stages of EV adoption, information and education are likely to form an important part of the EV purchasing and operation decision. In order to ensure that EV owners have a positive experience we consider it is important for consumers to be informed about the impacts of EVs on their energy costs, the implications of connecting chargers at their premises and the availability of public charging infrastructure. This will increase the need for consumer information to be supplied at the point of purchase and for the electrical industry to engage and collaborate closely with the automotive industry.
Question 3: Regulatory environment	
a) Do you consider that regulatory changes, like multiple trading relationships, that improve a consumer's ability to engage with multiple FRMPs at a household would enable innovative services and products to develop for EV consumers?	Energy Queensland strongly cautions against implementing regulatory changes in a small and emerging market that could over-complicate the market and create barriers to adoption. In particular we suggest that introducing an MTR may over-complicate the market, creating significant confusion for consumers through the increased number of companies they are required to deal with, each who may potentially convey conflicting messages. An MTR would also reduce visibility of network cost-reflective tariffs and dilute the value of the retailer-customer relationship through splitting product offerings. Retailers would be incentivised to focus only on products which make the most money rather than considering the value of the total relationship. Furthermore, reducing the ability to spread risk or product matching will create single product regimes.

	Such reforms create additional complexity and costs for retailers and the market, in terms of IT systems and platforms and additional metering, which is ultimately recovered from customers through prices. We note that an MTR was considered for implementation following the Power of Choice review and was discounted for these reasons. While other, somewhat related reforms have been implemented, such as embedded networks, they are proving to be more difficult and costly than expected. It is likely this will also apply to an MTR. Energy Queensland expects that a comprehensive review of MTR, including a detailed cost-benefit analysis, is necessary to inform this discussion. Energy Queensland suggests that standard retail contracts prescribed under the National Energy Customer Framework (NECF) may also need to be reviewed in light of EVs.
b) Do you have any views on an appropriate method (e.g. through a change to the SGA framework or an alternative metering configuration), and relevant costs, to facilitate this?	Energy Queensland suggests that detailed modelling of the economic benefits of enabling multiple trading partners at a single residence should be performed prior to the implementation of any rules to enable such an activity. There needs to be clear benefits to consumers detailed prior to embarking on the creation of a market that, at this stage, may not be one consumers even want.
Question 4: Residential charging	
a) Are there other offers in the retail market, or are you developing any others, aimed at EV consumers?	Energy Queensland's retailer, Ergon Energy Retail, currently offers a load control product for EV charging. It is expected that our network businesses' tariff strategy will encourage more daytime charging to absorb excess solar generation during the day. However, the extent to which consumers will react to this is unclear at this stage, particularly given that Queensland currently has no clear flow through to retail tariffs due to low market adoption rates of EVs. Notwithstanding, Energy Queensland is considering how best to meet the needs of its customers in developing new products.
b) Are there retail market barriers in developing residential products and services for EV consumers?	The suitability of existing network tariffs and the ability of potential new network tariffs to flow through into retail tariffs is a significant barrier to developing products and services appropriate for the EV market. Non-residential charging is also expected to exacerbate this problem. The development of products is largely determined by the regulatory environment. Retailers will continue to evolve and develop products for their customers as technology changes, and EVs will largely become a part of that when the market justifies product development. The regulatory framework around retailers will place bounds on what can, and is appropriate, to be developed.

Question 5: Non-residential charging	
a) Are you providing or developing any non-residential charging products or services?	Energy Queensland's related entity, Yurika, operates a range of high-speed public chargers that stretch from Cairns to the Gold Coast to support our EV customers. Phase 1 of this network included 18 stations in a range of locations across Queensland, including 36 publicly accessible chargers generally consisting of a 50kW DC and a dual port 22kW AC charger. Phase 2 of the project will include the installation of a further 13 charging stations of the same configuration across regional Queensland and aims to be completed over the coming 12months. The chargers are located over a range of site ownership models, including council easements, embedded networks and behind the meter private installations. The network includes a customer care solution utilising a mobile phone application-based customer portal to manage a range of customer interactions including charger availability and billing for charger usage.
b) Are there retail market barriers in developing non-residential EV charging products and services?	There is potential for new entrants to offer EV products and services exclusively. However, it is unclear if a new entrant providing non-residential charging, that is not a retailer, would be subject to price regulation or NECF-related obligations, including consumer protections. Energy Queensland suggests that public charging should be a fully contestable service and not initially subject to price protections. However, a watching brief on public charging costs is required to ensure fair pricing practices. The costs of establishing public charging infrastructure may overshadow the actual costs of the energy and it will therefore be difficult to price regulate the service. In the longer term there are likely to be fewer barriers to establishing public EV charging compared to establishing a petrol station. This is due to conventional petrol stations requiring local planning approval, environmental considerations and significant capital expenditure, as opposed to an individual EV charger which may be sited at pre-existing connections such as retail or convenience outlets providing there is sufficient electrical connection capacity. This lower establishment cost should enable a competitive market to form quickly as EVs increase in popularity. Barriers may also arise through associated rules such as the Embedded Networks rule and how that applies to vendors which are establishing charging infrastructure in public or shared car parks. One barrier for public charging infrastructure may be the application of appropriate tariffs. As EV chargers can have a low energy volume and a high demand, network capacity may become underutilised, making an appropriate tariff difficult to fully tailor.

Question 6: EV value streams	
a) Are you currently developing products and services to harness EV value streams?	Energy Queensland acknowledges the potential of EVs to provide additional value streams beyond transportation, and that this potential may be enabled by digitalisation. However, appropriate incentives, including through pricing and other means, is required to realise this potential. Well considered regulation informed by robust economic analysis, may play a role in enabling these value streams, where there are demonstrated consumer benefits.
b) Are there retail regulatory barriers for retailers or new energy service providers accessing these value streams?	Energy Queensland suggests there is a need to balance the regulatory transformation with the technical transformation in a consumer-friendly way.