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Mr Marc Tutaan
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Dear Marc,

Approach Paper: Energy Market Arrangements for Electric and Natural Gas Vehicles

TRUenergy appreciates the opportunity to provide a submission on the Approach Paper: Energy Market Arrangements for Electric and Natural Gas Vehicles.

TRUenergy notes that the AEMC is also reviewing demand side participation and believe that is would be more efficient to combine the two reviews in the interest of efficiency and to also allow direct comparison of the net benefits and costs of different demand side actions. However we recognise that the MCE has directed the AEMC to conduct this review into energy market arrangements for EV's and NGVs and that the AEMC running the two reviews in parallel is probably the most efficient outcome in these circumstances. However TRUenergy would like to ensure that the outcomes of both reviews are compatible and promote options that have the highest net benefit to all consumers.

TRUenergy experience in the electric and natural gas vehicle business
TRUenergy currently operates a natural gas vehicle infrastructure leasing business. We lease LNG gas refuelling infrastructure to commercial organisations. These organisations typically are major industrial customers who operate a large number of natural gas powered natural gas vehicles. The leasing business is managed separately from the supply of commercial gas, where the customer has choice to select their preferred gas supplier.

We are also in the business of retailing electricity and gas supply to customers across the NEM and have expertise in the metering, and settlement processes and the customer interface. TRUenergy is currently developing EV options for our customers.

TRUenergy is also a participant in Victorian electric vehicle trails. Furthermore our parent company China Light and Power (CLP) is involved in the EV trials in Hong Kong and we are in active dialogue with the Hong Kong based EV business.

The approach paper differentiates between EV's and NGV's. TRUenergy has chosen to address EV's and NGV's together. We want to emphasise that we believe that the electricity Rules and gas Rules should not favour one technology over another, to do so would be to provide a regulatory benefit for one technology to the detriment of the other, and by extension all energy consumers.

Question 1/6: What are they key drivers and likely uptake of EV's/NGV's in the NEM? Are there any differences in these drivers between the NEM and WA?

The key drivers for uptake include vehicle supply availability (both models and brands), range of EV's and NGV's and the availability of vehicle charging/refuelling infrastructure. A key driver is the relative up front and operating costs between petrol, gas and electric vehicles. While some drivers may choose vehicles based on emission outputs, the reality is that upfront and ongoing costs will remain the key concern for vehicle owners.

TRUenergy would also like to note the role of excise tax in the relative cost structures for vehicles. Recently the government introduced an excise tax on public re-fuelling for gas vehicles; this has changed the economics for some NGV's. Currently private gas refuelling arrangements are not subject to excise tax. Modelled scenarios for uptake may wish to take into account the impact of different levels of excise tax on the different vehicle technologies.

The other key issue that would be relevant in comparing potential uptake rates in Australia to other countries would be to compare the propensity for overseas drivers to replace vehicles more frequently (younger fleet age/km driven) relative to Australia, as well as the level of rebates and/or subsidies offered in various guises to stimulate the demand for EV's/NGV's.

TRUenergy is unable to comment on the difference in drivers between the NEM and WA.

Question 2/7: What are the costs and benefits that EV's/NGV's may introduce into Australia electricity markets?

The benefits of EV's and NGV's include providing consumers with the derived benefits from electricity and gas consumption. If consumers are able to utilise alternative sources of fuel for transportation at a lower equivalent petrol cost then there is a net benefit to the economy (assuming no other externalities exist for EV's and NGV's relative to petrol).

Specific costs for the electricity market (and similar issues for the gas market) include:

(a) In the case of uncontrolled charging
    a. the resultant peak demand increase for network companies would over time increase the level of investment required to meet peak demand or a reduction in supply security;
    b. additional costs for securing regulating reserves; and
    c. inefficiencies in the central dispatch process, when higher priced fast start generation required to meet the un-forecast demand over the 5 minute dispatch period.

(b) In the case of controlled charging (where an organisation is able to control and communicate the level of demand) the increased costs would include;
    a. the increased marginal value of electricity at the time of consumption, that would need to be paid by all consumers;
    b. additional IT and communication systems to be implemented by AEMO and distribution companies;
    c. development of EV tariffs and the cost of maintaining tariffs within both retailer and distributor systems; and
    d. additional costs for reconciling and settling parent/child metering arrangements if the EV supply is separately metered and supplied, plus the costs for retailers who have to participate in this arrangements (i.e. retail the parent meter) but do no supply the child meter

Question 3/8: What are the appropriate electricity market regulatory arrangements necessary to facilitate the efficient uptake of EVs and NGVs?

TRUenergy proposes that the AEMC consider the issue of appropriate electricity market regulatory arrangements necessary to facilitate the efficient uptake of EVs be included in the consideration of market arrangements in the demand side participation review. In doing so the AEMC would be able to compare the relative value to customers of different options with a view to progressing the highest value options earlier. This would maximise net benefit to all consumers.

TRUenergy does not believe that specific arrangements for EV's are warranted, as this promotes one form of technology over another. The NEM was founded on principles that do not favour one form of

technology over another and the principle is aligned with the NEO efficiency objective. Allocative efficiency is hampered when technology for specific groups of customers is effectively subsidised by the remaining consumers.

Question 4/9: What are the required changes to the current electricity market regulatory arrangements and suggestions for reform to facilitate the efficient uptake of EVs/NGVs?

In conjunction with other demand side options (assuming that one technology is favoured over another) the relevant sections of the Rules for consideration are chapters 5 – network connections and chapter 7 metering. TRUenergy's current interpretation of the Rules suggests that the Rules already facilitate EV's as load in the NEM.

We would also like to note that it is important that charging points were connected are residential premises in accordance with the electrical limits imposed by residential network connection agreements. Our concern arises from the impact of reduced reliability and higher network costs for all customers due to the additional unplanned load on a network. As a retailer our customers may suffer due to the actions of their neighbours.

Also TRUenergy is concerned about the the roll-out of quick charging stations (ones that aim to recharge cars in a very short period of time). The high level of current drawn from the network over a short period of time has the potential to degrade network performance. We would urge that network company's work together to ensure suitable standards and network connection arrangements for these types of charging stations are in place.

In the future it is possible that EV's may represent a reasonable portion of network load. While this load is distributed it is reasonable to expect there may be elements of central control. TRUenergy would like to see some development in the Rules that requires controllers of centrally controlled distributed load (and generation) to participate in the provision of information to AEMO and local network companies. Also we note that AEMO takes into account EV growth in the NTNDP scenarios.

We believe one of the significant costs in the central dispatch process is in the errors on the demand side forecasts. The provision of information relating to centrally controlled load would allow for improved optimisation of the dispatch algorithm, which seeks to produce the lowest cost for consumers.

Apart from increasing dispatch inefficiency as a cost (if relevant information provisions are not in the Rules), some consideration would also need to be given for the allocation of regulating reserves costs to ensure that inefficient cross subsidisation between participants does not occur.

Question 5/10: Are there any electricity market regulatory arrangements that affect EV's/NGVs which may also apply to NGVs/EVs?

The current network arrangements for gas supply for public and commercial refuelling for private organisations appear to be satisfactory. We are aware that technology exists for in-home gas re-fuelling although it does not appear to have wide-spread application at this time. In an ideal world any consideration of Rule changes for electricity should also consider similar provisions in the gas rules. This is to ensure that a customer's choice is not swayed by the "more favourable" regulatory arrangements.

TRUenergy thanks the AEMC for the opportunity to provide a submission in relation to the Approach Paper. Please feel free to contact me on (03) 8628 1632 should you wish to further discuss this submission.

Yours Sincerely,

Lana Stockman
Manager, Wholesale Regulation
TRUenergy Pty Ltd