

Energy market arrangements for electric and natural gas vehicles

Draft advice 29 August 2012

The AEMC is providing recommendations on the energy market arrangements needed to support the economically efficient uptake of electric and natural gas vehicles. This draft advice is closely linked to analysis being done by our power of choice review. Submissions on this draft advice are due by 1 October 2012.

Electric Vehicles

A study by AECOM found that between 2015 and 2020, each electric vehicle (EV) could contribute a total of \$10,000 in additional generation and network costs in the absence of appropriate signals. Of this amount, approximately \$3,500 would be paid for by the EV consumer. The remainder (\$6,500) would be borne by all consumers. Over a five year period this equates to just over an extra \$1000 per EV per year of additional generation and network costs that would be recovered from all consumers.

To promote efficient investment in generation and networks, it is necessary to provide appropriate signals that reflect the underlying costs of supplying electricity.

Our key recommendations to benefit consumers

An EV will have a number of implications for the electricity market. In terms of both how the EV is supplied with electricity and where the EV is charged. Our draft recommendations seek to manage these interactions in the most effective way that minimises costs to all consumers.

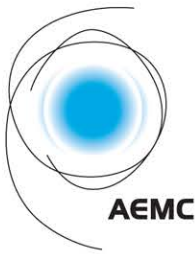
We consider that this is best achieved through pricing signals that reflect the underlying cost of supplying electricity. This will allow consumers to make informed decisions about charging that will provide the opportunity to reduce their bills in the short term and avoid the need for investment that would otherwise be required over time to serve rising demand.

An EV is an example of an appliance that creates a large load. Our overarching approach is to propose changes to the energy market arrangements that apply to all large loads – with electric vehicles as just one example. We have tried to avoid specific energy market arrangements to only cover electric vehicles.

In general, we have found that the existing energy market arrangements are capable of incorporating changes to address the uptake of EVs. However, we identified a number of areas where amendments are appropriate. We consider that it is important to put in place measures at these early stages of the EV market to facilitate efficient investment decisions for both consumers and providers going forward.

Our draft recommendations propose to facilitate appropriate consumer choice as to the location and timing of charging an EV and the development of alternative commercial offers by suppliers. Our recommendations achieve this by:

- Introducing new metering arrangement that enables consumers to separate their EV consumption from their household consumption. This will enable them to source the most appropriate mixture of retail deals to best reflect their preferences.
- Devising new metering arrangements that enable third parties to install EV charging infrastructure in commercial properties (eg. shopping centres and business parks).
- Assessing whether there are appropriate consumer protections are in place for residential consumers.



INFORMATION

Natural gas vehicles

No significant changes need to be made

We found that no significant changes need to be made to the energy market arrangements to cater for the uptake of Natural Gas Vehicles (NGVs).

About this draft advice

Context

EVs and NGVs may play a greater role in providing Australia's transport solutions in the future. The development of low emissions vehicles in international markets signals the likely emergence of these vehicles in Australia as the economic viability of these vehicles improves due to technological progress.

This is an opportune time to assess whether Australia's energy markets can facilitate the efficient uptake of EVs and NGVs.

The Standing Council on Energy and Resources (SCER) has asked the AEMC to provide advice on the appropriate energy market arrangements. This review includes the National Electricity Market, the Western Australian electricity market and the nation's natural gas markets.

This draft advice sets out our recommendations on the measures with the energy market necessary to facilitate the efficient uptake of EVs and NGVs.

AECOM report on uptake and costs of EVs and NGVs

We commissioned AECOM to estimate the likely uptake of EVs and NGVs and the costs (in terms of generation and network upgrades) that EVs could impose on the electricity system. For EVs, we examined both battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). For NGVs, we considered NGVs using compressed natural gas (CNG) and liquefied natural gas (LNG) in both passenger and commercial contexts. Our Information Sheet on AECOM's findings summarises their results.

Next steps?

Towards the end of the year, following stakeholder consultation, we will provide our final advice to the Standing Council on Energy and Resources (SCER). SCER will consider our recommendations and may propose Rule changes which will be subject to the statutory consultation and evaluation process.

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