



Energy market arrangements for electric and natural gas vehicles

Background

We are investigating what energy market arrangements are needed to support the economically efficient uptake of electric and natural gas vehicles.

Why is the AEMC conducting this review?

Given the challenges presented by climate change and reducing greenhouse gas emissions, it is envisaged that electric vehicles (EVs) and natural gas vehicles (NGVs) may play a more prominent role in Australia's transport mix. The economic viability of these vehicles is improving due to technological advancements and because of such factors as the increase in the price of conventional fuel substitutes, namely petroleum and diesel. Indeed, from an international perspective, there is growing momentum for the development of low emissions vehicles.

With these forces at play, this is an opportune time to assess the impacts and to ensure that Australia's energy markets properly support the efficient uptake of electric and natural gas vehicles.

What have we been asked to investigate?

The Ministerial Council on Energy (MCE) asked us to provide advice regarding the energy market arrangements (such as rules) needed to support the efficient uptake of EVs and NGVs. This requires the AEMC to consider the costs and benefits to energy market arrangements brought about by the efficient uptake of electric and natural gas vehicles.

The AEMC will:

- investigate electric vehicles that connect to the electricity system; namely, plug-in hybrid electric vehicles and battery electric vehicles;
- investigate natural gas vehicles; namely, those vehicles that use compressed natural gas and liquefied natural gas;
- consider both electricity and natural gas markets, including Western Australia's electricity market, while noting any overlapping energy market issues. The technological, environmental and economic aspects of EVs and NGVs are not expected to be addressed unless considered necessary; and
- provide its advice in parallel with its [Power of Choice Review](#).

What are some of the key issues to be addressed?

Some of the issues we will consider include (but are not limited to):

- What are the potential electric and natural gas vehicle usage patterns and penetration rates, including any peak demand impacts?
- What is the appropriate metering arrangements/protocols and settlement issues that need to be addressed for both electric vehicles and natural gas vehicles?
- What impacts do electric vehicles have on network protection? What impact would natural gas vehicles have on gas balancing requirements?
- If there is widespread uptake of electric and natural gas vehicles, what are the implications for connection to the electricity grid and for new network infrastructure?
- What are the issues relating to the pricing/tariff arrangements that would encourage appropriate recharging behaviour to minimise impacts on the electricity or natural gas systems?

Our primary objective is to advise the Ministerial Council on Energy on how energy market frameworks can support the uptake of electric and natural gas vehicles in the most economically efficient manner.

Who should be interested in this review?

Our work would be relevant to consumers, the natural gas and electricity supply industry (generation, networks and retailers), recharging/refuelling infrastructure providers and governments and regulatory institutions.

What are the time frames for our work?

The AEMC proposes the following publication dates for key milestones the review of energy market arrangements for electric and natural gas vehicles.

Publication Milestone	Proposed Date
Approach paper	September 2011
Submissions on approach paper due	27 October 2011
Directions paper	December 2011
Draft advice	May 2012
Final advice	September 2012

How can you participate?

We are committed to engaging with all interested parties and invite you to participate in our work.

There are various opportunities for you to participate:

- Make a submission;
A main way of participating is by providing us with submissions at the Approach Paper, Directions Paper and Draft Report stages of our work. We take submissions seriously and will respond to them.
- Request a meeting;
- Attend a public forum (this may be organised); and
- Participate in our Power of choice review.

The AEMC is conducting another review called Power of choice: giving consumers options in the way they use electricity. The Power of Choice review aims to identify opportunities for consumers to make informed choices about the way they use electricity and to encourage efficient demand side participation in the National Electricity Market. Electric Vehicles are a source of extra demand to be managed and also could become a potential source of storage of electricity. We intend to manage these two work streams together to provide consistent and comprehensive advice to the MCE.

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