

Submission to the AEMC

Regarding AEMC consultation

Draft Advice - Energy Market Arrangements for Electric and Natural Gas  
Vehicles

Project Ref. code EMO0022

1<sup>st</sup> October, 2012

## **The Australian Energy Market Commission**

### Consultation into Draft Advice on Energy Market Arrangements for Electric and Natural Gas Vehicles

APA Group (APA) is pleased to have an opportunity to provide comments to the Australian Energy Market Commission (AEMC) on the above report. APA Group commends the AEMC for preparing the report.

The design and implementation of appropriate energy market arrangements necessary to facilitate the economically efficient take up of electric and natural gas vehicles is an important issue for the Australia and as such, APA is pleased to provide high level comment on some of the issues raised within the Draft Advice paper.

#### **About APA Group (APA)**

APA is a major ASX-listed gas transportation business with interests in gas infrastructure across Australia, including 12,700 km of natural gas pipelines, over 25,000 km of gas distribution networks and gas storage facilities. APA is Australia's largest transporter of natural gas, delivering more than half of Australia's annual gas use through its infrastructure.

APA also has investments in other energy infrastructure through minority interest in Envestra, the Ethane Pipeline Income Fund, Energy Infrastructure Investments, Gas Distribution Investments and the Hastings Diversified Utilities Fund. APA's involvement also extends to the provision of services to most of these companies.

APA operates gas distribution networks for Envestra and Gas Distribution Investments, and is committed to supporting the expansion of these networks.

#### **Benefits of Natural Gas**

Natural gas is a key fuel for the transition to a low emission economy.

Whilst natural gas is a fossil fuel, it is more greenhouse efficient than coal or oil, and is only half as emission intensive as black coal and a third of brown coal and is the cleanest burning of all fossil fuels. It is colourless, odourless, and non-toxic. Natural gas is currently the cleanest commercial form of reliable and scalable base-load generation.

Natural gas provides low emission energy for applications ranging from home appliances to vehicles to commercial buildings through to large industrial processes.

Natural gas is a suitable fuel for a range of distributed generation technologies including conventional engines, fuel cells, micro-turbines, co-generation and tri-generation.

#### **General thoughts on the AEMC paper**

**Box 6.1: Draft Recommendation**

We consider that no significant changes need to be made to the energy market arrangements to cater for the efficient uptake of NGVs and are therefore not proposing any changes at this time.

Recommendation Box 6.1 above is the sole recommendation of the report that relates to Natural Gas Vehicles (NGVs).

This recommendation states that the Draft Advice is “not proposing any changes at this time” to arrangements involving NGVs. APA generally supports this recommendation. APA does suggest however, that as these alternative vehicle fuel markets develop, both the Electric Vehicle (EV) and the NGV markets continue to be monitored and evaluated in terms of being prepared to make appropriate market arrangement changes, should the need arise.

APA’s general position in regards to preparing for the development of EV and NGV markets, as per our response of early 2012 to the initial EV and NGV consultation paper, is worthwhile restating.

In summary:

*Firstly*, our concern is that the Issues Paper’s key finding, of electric vehicles becoming established as the dominant emerging technology, is premature, particularly when considering ongoing and rapidly changing dynamics in terms of fuel price, technology development, and technology costs.

*Secondly*, whilst electric and natural gas vehicles potentially compete against each other in some market segments and not in others, the Issues Paper seems to conclude that there exists a simple choice between the technologies. This approach could inadvertently result in reduced competition through ‘picking winners’, which would also diminish consumer choice.

*Thirdly*, that the impact of electric vehicles on the electricity market could result in the need for further investment in infrastructure, particularly if charging cannot be controlled adequately. This could result in diminished consumer affordability.

*Fourthly*, rising electricity prices driven by greater investment in electricity infrastructure could see those consumers without electric vehicles subsidising those with electric vehicles.

These above points, were written from the perspective of their required consistency with the principles of the National Electricity Objective (NEO) and the National Gas Objective (NGO), which are restated:

- facilitate **consumer choice** in the way they use these technologies;
- **allocate costs** to the party that causes these costs, in as much as is feasible;
- to ensure that the **security, safety and reliability** of the electricity system and the supply of natural gas is maintained; and
- **foster competition and innovation**, including innovation among business models, in the provision of services supporting these technologies.

APA is generally comfortable with the overall recommendations of the Draft Advice however certain aspects of the report’s findings are not necessarily compatible with NEO and NGO, nor APA’s four key points above.

#### **Brief discussion about the Draft Advice**

A further finding of the Draft Advice is:

- “in general, no specific energy market arrangements should apply to EVs”<sup>1</sup>.

Upon closer consideration of the Draft Advice, APA has three particular concerns about the EV finding, relating to *firstly*, cost and affordability for consumers; *secondly*, equitable allocation of those extra costs to consumers and *thirdly*, implications for challenges already facing the electricity networks.

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<sup>1</sup> AEMC web site – Market Reviews: Open – page 1

The *first* point relates to the issue of cost and affordability for consumers. The report by AECOM found that each EV connected between 2015 and 2020 would cost a total of \$10,000 in additional generation and network costs *in the absence of appropriate price signals*. It is understood that this figure of \$10,000 per vehicle can be avoided if price signals to EV owners are designed, implemented and work as intended. AECOM suggests the consequence of failed price signals being that “approximately \$3500 would be paid for by the EV consumer. The remainder (\$6500) would be borne by all consumers”<sup>2</sup>.

After many years of consistent electricity price rises, the idea of additional substantial electric price increases to consumers is concerning.

If the suggested price signals fail, APA finds it inappropriate from the NEO and NGO principle “to **allocate costs** to the party that causes these costs, in as much as is feasible” that 65% of the cost of the failure of a price signal scheme designed to smooth the path for EVs, could be potentially borne by consumers who do not even own an EV.

The following Table sets out the estimated cost to meet additional peak demand in the NEM under the central scenario only.

**Table 32: Estimated cost to meet additional system peak demand in the NEM**

Charge management option	Estimated cost to meet additional system peak demand (\$)	
	2020	2030
Unmanaged	3.3 billion	39.5 billion
Time of use	220 million	1.9 billion
Smart charging	110 million	940 million
Controlled charging	0	0

Source: AECOM

As per the above table provided by AECOM, the stakes are very high if the price signal does not work, or does not work well. By 2030, between \$940M and \$39.5B will be required in extra investment, in generation and electricity network costs, 65% of which would be effectively paid for by consumers who do not use an EV.

APA acknowledges, however, that no extra costs will be incurred if all goes to plan. Although that outcome is always possible, energy markets have a long history of surprising planners and forecasters with ‘left field’ outcomes, which are often costly for the community.

The *third* point that APA would like to briefly make, deals with the observation that at a time when the electricity networks throughout the states have generally been under considerable growth and cost pressures, it is surprising that more non electric grid solutions have not been encouraged. Planning for an optimum transport solution for consumers, might recognise the importance of choice, and involve a greater role for NGVs.

In closing, APA would be pleased to discuss further opportunities that might arise for natural gas to provide transportation solutions.

<sup>2</sup> AEMC “Information” document – Draft Advice 29<sup>th</sup> August 2012