

**10 April 2017**

Vehicle Emissions Working Group  
The Department of Infrastructure and Regional Development  
GPO Box 594  
Canberra ACT 2601  
By email: [vemissions@infrastructure.gov.au](mailto:vemissions@infrastructure.gov.au)



Dear Working Group,

**AGL submission to the draft Regulation Impact Statement for Vehicle Efficiency**

AGL Energy (AGL) welcomes the opportunity to make a submission in relation to the Commonwealth Government's draft Regulation Impact Statement on *Improving the efficiency of new light vehicles* ('the draft RIS').

AGL is one of Australia's leading integrated energy companies, operating across the supply chain with investments in coal-fired, gas-fired, and renewable electricity generation and upstream gas production and storage projects. AGL is also a significant retailer of energy, providing energy solutions to over 3.7 million customers in Victoria, New South Wales, South Australia and Queensland. AGL's New Energy division has been established to focus on the delivery of distributed energy services and solutions. Our goal is to be a leader in the transformation of how customers engage with energy, the development of new business models and innovative energy offerings to customers, as well as the integration of new technologies and digital capabilities.

AGL New Energy works with customers of all sizes (residential, business and networks) to understand their energy requirements and design tailored solutions. We offer customers 'beyond the meter' energy solutions, new and emerging technologies including energy storage, electric vehicles, solar PV systems, digital meters through our subsidiary business Active Stream, and home energy management services delivered by digital applications. We are also working with customers to develop a network services capability involving load management solutions.

AGL supports the Commonwealth Government's commitment to work towards a global agreement to limit global warming to less than 2°C above pre-industrial levels (2 degree goal). Achieving this outcome will require complete decarbonisation of the world economy by 2100 and very substantial emission reductions by mid-century. AGL supports the use of both regulatory and market-based policy mechanisms to deliver the required emission reductions, and targeted policies may be required for key industries, including power generation and transport. Alternative transport, including Electric Vehicles (EVs), can help to reduce greenhouse gas emissions from the transport sector over time, and along with policies to improve energy productivity, can meaningfully contribute to the transition to a decarbonised economy.

Our detailed responses to the draft RIS follow.

## **Benefit-Cost Analysis for Electric Vehicles**

AGL supports the role of alternative transport fuels and technologies in increasing the diversification of Australia's fuel usage. Australia is becoming increasingly reliant upon imports of petroleum products for domestic transportation and mining applications, with net imports forecast to reach almost 90% of Australian demand by 2035<sup>1</sup>.

Substituting some of this use of imported fuels for domestically produced alternatives can offer significant benefits beyond those captured in the BITRE modelling undertaken for the draft RIS. Improvements to Australia's energy security and terms of trade, protecting and enhancing local employment and economic development, and improved utilisation of existing infrastructure are all benefits that are not recognised in the draft RIS. These benefits will grow in line with regulation which forces increased use of domestically-produced electricity, thereby increasing the benefit-cost argument in favour of the strongest regulatory option, Scenario S1 corresponding to a fleet average target of 105 gCO<sub>2</sub>/km in 2025 for all new vehicles up to 3.5 tonnes.

## **Targeting Carbon Reduction**

As stated in the draft RIS, a standard based on CO<sub>2</sub> emissions would reflect the Government's primary objective of reducing greenhouse gas emissions. Consistent with this view, AGL recommends that regulation be designed around the policy objective.

As the regulation relates specifically to vehicles, the design should be based on tailpipe emissions. With regards upstream emissions from electricity production, AGL notes that during the early-market development phase the full fuel cycle for electric vehicles consistently translates to zero emissions.

In November 2016 AGL launched the "\$1 a day, unlimited charging" plan for EV households<sup>2</sup>. Consistent with the early-market purchasing preferences of EV buyers, the plan is fully carbon offset through AGL's Future Forests program. AGL is not alone in this approach, as EV public charging networks in Australia and elsewhere are also "carbon neutral".

As the EV market both scales and matures, AGL notes the relationship between efforts to decarbonize the electricity sector and the concurrent impacts on upstream emissions for electric vehicles. AGL is simultaneously Australia's largest corporate emitter with an emissions footprint of approximately 44 Mt carbon dioxide equivalent (CO<sub>2</sub>e) and Australia's largest private owner, operator and developer of renewable generation. AGL's 2015 Greenhouse Gas Policy outlines a renewed commitment for AGL to contribute to Australia's climate change objectives. For further information about the electricity sector's role in reducing greenhouse gas emissions, please refer to AGL's 3 March 2017 submission to the Independent Review into the Future Security of the NEM<sup>3</sup>.

## **Addressing the Supply Constraint**

While the global EV market is growing, Australian customers currently have limited access to electric vehicles, prices remain high and choice low. Feedback from manufacturers indicates the Australian market is not being targeted as there is a lack of policy support.

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<sup>1</sup> Derived from statistics and forecasts from the former Bureau of Resources and Energy Economics

<sup>2</sup> <https://refer.agl.com.au/electric-car-plan/>

<sup>3</sup> <http://aqblog.com.au/wp-content/uploads/2017/03/AGL-submission-on-Finkel-Prelim-Report.pdf>

For example, Nissan Australia, having previously expressed frustration with the lack of government support for importers of zero-emission cars<sup>4</sup>, have held back on local market introduction of the second-generation Nissan LEAF<sup>5</sup>. The Volkswagen e-Golf was made available in markets which adopted California's approach to zero-emissions vehicle regulation<sup>6</sup>, however it is not currently scheduled for Australian market introduction<sup>7</sup>.

AGL has committed to purchasing EVs for our own business fleet, with 10% of the AGL fleet to be electric by mid-2018. As of March 2017, the AGL light-vehicle fleet breakdown is:

Passenger vehicles	SUVs	Light commercial vehicles	Total
34	119	226	379
9%	31%	60%	100%

AGL does not normally consider "prestige" vehicles for fleet use, entailing that the 10% target will be met using vehicles available in "volume" sales segments. These vehicles will still carry a total-cost-of-ownership premium compared to fit-for-purpose alternatives.

AGL announced the 10% EV fleet purchase commitment in April 2016, since which there has been a single volume electric vehicle purchase option available in the form of the Mitsubishi Outlander PHEV. At the time of writing, the lack of any firm commitments from manufacturers suggests that AGL may be constrained for choice to the Mitsubishi Outlander PHEV alone in the period through to the mid-2018 AGL fleet EV target date.

Volume sales vehicles such as the Renault ZOE, Nissan LEAF, GM/Chevrolet Volt and Bolt are not currently available to Australian buyers willing to incur the early-adopter costs associated with supporting new market development. This will have the impact of delaying mainstream market adoption beyond the point at which the economic benefits for Australia would be optimised.

Based on the ABMARC analysis commissioned by the Commonwealth Government in support of the draft RIS, the strongest regulatory option (Scenario S1 = 105 g/km in 2025) will have the greatest "technology forcing" impact. Drawing on the AGL fleet case study above, all light vehicles – passenger, SUV and light commercial – should be addressed so as to most effectively remove the supply constraint.

## Complementary Measures

While outside the scope of the draft RIS, the importance of complementary measures should not be overlooked. The proposed regulation is a supply-side mechanism, which

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<sup>4</sup> *Industry alone can't help the environment: Nissan*, Motoring.com.au, 11 April 2015, <http://www.motoring.com.au/industry-alone-cant-help-environment-nissan-50448>

<sup>5</sup> *Nissan boosts LEAF battery range to 250km*, GoAuto News, 11 September 2015, <http://www.goauto.com.au/mellor/mellor.nsf/story2/EAA7A631421FB772CA257EBC0081D50E>

<sup>6</sup> *2015 VW e-Golf coming to ZEV states for \$35,445 this November*, Autoblog, 25 August 2014, <http://www.autoblog.com/2014/08/25/2015-vw-e-golf-jetta-pricing/>

<sup>7</sup> *No change to Volkswagen's diesel strategy in Australia despite hybrids ready to roll*, The Motor Report, 14 October 2015, <http://www.themotorreport.com.au/62390/no-change-to-volkswagens-diesel-strategy-in-australia-despite-hybrids-ready-to-roll>

should be complemented by demand-side measures to ensure the objectives of the regulation are met via the most economically-efficient approach.

AGL has previously advocated for measures to address the early-market obstacles for electric vehicles, so to re-iterate:

### **1. Set a national target**

Establishing a national target for EV uptake is the centerpiece of most international government policy support frameworks, with other policies and their relative settings crafted to achieve the target. AGL supports Australia setting a national target for the adoption of EVs that is consistent with broader economic, environmental and security objectives.

Economic analysis conducted by Energeia<sup>8</sup> suggests that an economically efficient target for EVs in Australia is around 1 million by 2025, increasing to 2.3 million by 2030 and 4 million by 2035. According to this research, the sale of each EV is estimated to add over \$1000 in GVA to Australia's economy, around five times higher than an equivalent petrol vehicle, and over the 20 year period, achieving the targets would create an extra 400,000 jobs in Australia relative to petrol vehicles.

Achieving this target will also reduce greenhouse gas emissions by an estimated 2.3 million tonnes CO<sub>2</sub>e over the next 20 years if charged with 'average' grid electricity. Over time policies that are introduced to reduce the carbon intensity of the electricity generation sector (such as the Renewable Energy Target) will translate into lower emissions from the use of EVs, so that over their useful lives, the greenhouse gas emissions related to EVs that are purchased today will continue to decline. Even greater greenhouse gas abatement is possible if vehicles are preferentially charged using renewable energy, as well as opportunities for energy independence for EV owners with solar PV.

In its consideration of a framework to support an economically efficient approach to EV adoption, AGL invites the Commonwealth Government to engage with the EV Council<sup>9</sup>. AGL is supporting the EV Council via a funding agreement with ClimateWorks, and through this approach is committed to working with other EV market stakeholders to address coordination issues for industry and government alike.

### **2. Government EV Fleets**

Around 4% of new cars sold each year in Australia are purchased for Government fleets, equating to around 40,000 vehicles per year. By mandating that new government fleet purchases include EVs, governments can play an active role in facilitating EV uptake. For example, if a target were to ramp up to 50% of new government fleet procurement in 2020, up to 50,000 new EVs could enter the Australian market in 5 years.

AGL supports governments of all levels setting targets for the inclusion of EVs in their fleets, to help to build familiarity and develop markets for EVs (and related infrastructure). This will send important signals to vehicle manufacturers that EVs can be sold in reasonable volumes in the Australian market, encourage investment in supply chain capacity, and to make the most popular EV models available here. Over time, this will help to build familiarity with EV technology and its benefits, and will also

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<sup>8</sup> *Review of Alternative Fuel Vehicle Policy Targets and Settings for Australia*, Prepared by Energeia for the Energy Supply Association of Australia, July 2015.

<sup>9</sup> <http://electricvehiclecouncil.com.au/>

deliver a significant number of depreciated EVs into the second-hand market for purchase by households and small businesses.

### **3. Tax treatment**

Several taxes (and other charges) that are applied to motor vehicles are based upon the purchase price of the vehicle, including the Luxury Car Tax, Goods and Services Tax, stamp duties, and Fringe Benefits Tax (FBT). As for many new technologies, energy efficient and low/no emissions vehicles have higher upfront costs than conventional models (which are often partially offset by lower operating costs). While concessions to some of these taxes are available for efficient vehicles, higher levels of tax, coupled with higher underlying vehicle prices, can create disincentives for potential EV purchasers.

AGL supports the Commonwealth undertaking a full review of policies along the supply chain of alternative transport vehicles, to identify and remove barriers and perverse incentives, including within the tax system. Opportunities to simplify tax record-keeping requirements for EV owners should also be considered, noting that current rules may be more complicated to apply to EVs than for conventional vehicles (for example, measuring the electricity charging costs for EVs may require sub-metering and sub-billing which is more difficult and costly than tracking petrol purchases).

It is relatively common for Australian employers to offer the private use of company-owned (or organisation-owned) vehicles to employees, and therefore FBT can represent a significant fleet-related cost. The higher upfront costs of EVs means the annual FBT payable is significantly higher than for conventional vehicles. AGL supports extending FBT exemptions currently available for certain vehicles (including taxis, and some panel vans and utilities) to include EVs, which could help to bring the cost of leasing an EV roughly in line with leasing a conventional vehicle for many employers. As EV technology costs decrease over time and their purchase prices become comparable to conventional vehicles<sup>10</sup>, FBT exemptions would no longer be required and could be gradually phased out. AGL recommends that FBT exemptions for EVs are also extended to novated lease arrangements.

### **4. Charging infrastructure**

Charging infrastructure is an enabler for EVs to leverage existing investments in electricity networks, allowing for increased capacity utilization which can place downward pressure on the unit costs of electricity for all customers. Charging takes place where vehicles park, which is primarily the home and workplace, but also potentially in publicly-accessible locations such as shopping centres and airports. Visible charging infrastructure can play an important role in familiarising drivers with EV technologies and overcoming issues of “range anxiety”.

There are a range of challenges for the effective planning, installation and operation of charging infrastructure, with barriers relating to information on vehicle use, land-use planning, electricity network integration, gaps in standardization, split incentives between builders and occupants in new developments, and market coordination issues. AGL recommends that a national strategy on EV infrastructure be established including measures to address each of these issues. By drawing on international best practice and the learnings from “first-mover” markets and Australian trials, the strategy should promote an economically efficient approach to the rollout of EV charging infrastructure.

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<sup>10</sup> It is currently estimated that EVs will reach price parity with conventional vehicles by 2022.

## **Closing remarks**

Australia does not currently have a coordinated framework to support electric vehicles and other alternative transport, which have the potential to boost economic activity and employment in Australia, improve environmental and greenhouse gas performance, improve energy security and lower operating costs for drivers. Under current policy and market conditions, higher upfront EV costs are borne by purchasers, who do not realise benefits and cost reductions related to a range of externalities (including environmental performance).

AGL supports the adoption of a strong regulatory approach to vehicle efficiency, the development of a national EV target as part of an EV Roadmap for Australia, the inclusion of EVs in government vehicle fleets, exemptions from FBT for EVs to reduce the cost differential for EV leasing relative to conventional vehicles, and a national strategy for EV charging infrastructure.

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Yours sincerely,

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**Stephanie Bashir**

Senior Director Public Policy