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# Ministerial Forum on Vehicle Emissions

MAY 2017

The Business Council of Australia is a forum for the chief executives of Australia's largest companies to promote economic and social progress in the national interest.

## About this submission

This is the Business Council of Australia's submission to the Ministerial Forum on Vehicle Emissions' consultation on vehicle emissions and fuel quality standards. This submission will respond to the following three documents:

1. The draft regulation impact statement for introducing fuel efficiency standards for light vehicles (CO<sub>2</sub> emission standards).
2. The draft regulation impact statement on strengthening noxious emissions standards for light and heavy vehicles (NOX emission standards).
3. The discussion paper on improving fuel quality standards.

The Business Council supports the introduction of stricter CO<sub>2</sub> emission standards for new light vehicles in Australia. Multiple studies have found that vehicle fuel efficiency represents some of the lowest cost abatement in Australia. Furthermore, three-quarters of the passenger vehicles that will be on Australia's roads in 2030 are yet to be purchased, so the opportunity exists to lower transport emissions and assist in delivering a lower emission future for Australia.

The Business Council does not support the introduction of stricter noxious emissions and fuel quality standards at this point in time. While the Business Council supports policy measures that are aimed at improving Australia's air quality, the introduction of stricter noxious emission standards and fuel quality standards requires further analysis to ensure all of the relevant benefits and costs are properly accounted for.

## Key recommendations

1. *Australia should adopt the US standard of 105g CO<sub>2</sub>/km by 2025 for new light vehicles with an appropriate interim target at 2020*

Emissions from the transport sector currently account for approximately 17 per cent of Australia's emissions (~90 Mt CO<sub>2</sub>-e per year). Light vehicle emissions account for more than 60 per cent of emissions in the transport sector (and approximately 10 per cent of Australia's total emissions). Given climate change policy instability, it is very difficult for purchasers of passenger vehicles to cost future carbon prices into their vehicle purchasing decisions.

Research suggests that the introduction of CO<sub>2</sub> emission standards is the most efficient method of reducing emissions from new light vehicles. The International Energy Agency (IEA)<sup>1</sup> notes that light vehicle emissions standards are proven to reduce large amounts of emissions at low-cost. CSIRO modelling<sup>2</sup> found that light vehicle standards offer significant, low-cost emission reductions with fuel savings likely to provide a private

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1. International Energy Agency, Technology Roadmap: *Fuel Economy of Road Vehicles*, Paris, 2012, p. 10.

2. Climate Change Authority (CCA): *Reducing Australia's Green House Gas Emissions – Targets and Progress Review Final Report*, February 2014, p. 165. (Note: CCA cites the 2013 CSIRO report by L Reedman & P Graham, *Sensitivity Analysis of Modelling of Light Vehicle Emission Standards in Australia*.)

payback in just a few years. The finding in the Department of Infrastructure's draft Regulatory Impact Statement (RIS) on this subject supports these findings.

Unnecessary delays in introducing a CO<sub>2</sub> emissions target will reduce the amount of carbon abatement that can be achieved through this policy measure and will entrench a less fuel-efficient passenger car fleet on Australian roads for the next two decades.

*2. The introduction of more stringent noxious emission should not be progressed at this point in time*

The Business Council does not support the introduction of more stringent noxious emission standards at this point in time. Australia only recently adopted the Euro V noxious emission standard and the case for now moving to the Euro VI standard has not been supported to date. Australia has some of the cleanest air in the world and while it is critical that we maintain such air quality by limiting noxious vehicle emissions, the 2010 data relied on in the relevant RIS needs to be updated. It is important that policy makers define the problem they are trying to address by using up-to-date data about Australia's air quality.

*3. Any changes to Australia's fuel quality standards should be progressed very gradually to avoid unnecessary job losses*

If the Australian Government introduces stricter fuel standards over too short of a timeframe, then the flow on costs incurred by Australia's refineries (capital upgrade costs) will be significant. This could result in job losses and less economic activity in the regions where Australia's refineries are located. Further work needs to be done with Australia's refinery industry to ensure the transition path to stricter fuel quality standards is appropriately designed. Furthermore, over time Australia's fuel quality has improved and this will continue as the market for cleaner vehicles will demand this.

## **Key policy issues**

### **1. Australia needs to reduce emissions from its transport sector**

A historic agreement was reached in Paris in 2015 to limit global temperature rise to below two degrees Celsius. To achieve this will require deep reductions in global emissions with most countries, including Australia, eventually reducing their emissions to net-zero. The Australian Government has ratified the Paris Agreement and set a target to reduce Australia's emissions by 26-28 per cent below 2005 levels by 2030.

The latest projections from the Australian Government suggest we need to reduce our emissions by around 1000 Mt CO<sub>2</sub>-e over the period 2021 to 2030 to meet this target.

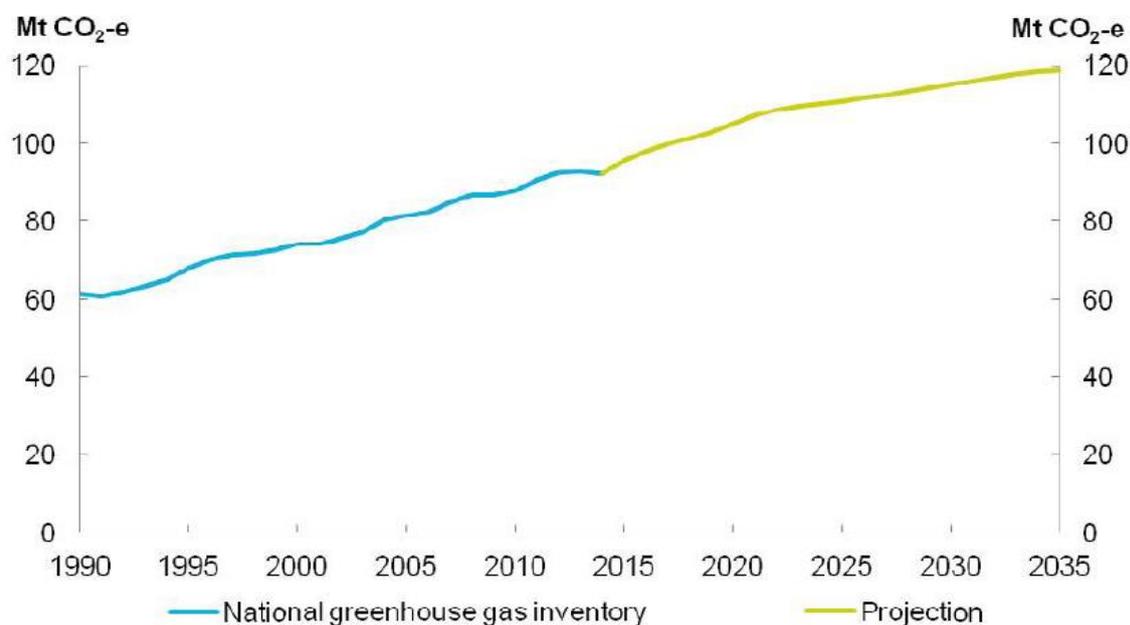
### **An initial focus on the light vehicle sector**

Emissions from the transport sector currently account for approximately 17 per cent of Australia's emissions (~90 Mt CO<sub>2</sub>-e per year). As shown in Figure 1, under current policy settings transport emissions are projected to increase by 20 per cent to 115 Mt CO<sub>2</sub>-e in 2029-2030.<sup>3</sup>

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<sup>3</sup> Department of the Environment, Transport emissions projections 2014–15.

Figure 1 Transport emissions 1989–90 to 2034–35



Sources: DoE 2015, DoE analysis.

An initial focus on reducing emissions from new light vehicles is warranted because:

- Light vehicle emissions account for more than 60 per cent of emissions in the transport sector (and approximately **10 per cent** of Australia's total emissions) and are so diffuse they are unlikely to be captured by the Safeguard Mechanism
- Heavy vehicle fuel efficiency standards and testing are relatively more complex and the benefits from their application are still being understood.
- The opportunities from shipping are limited because emissions are driven by long-distance carriage of bulk commodities for export.
- The bulk of aviation emissions are international and these will be addressed via the International Civil Aviation Organisation.
- While lower emission vehicles may have a higher upfront cost than those fuelled by oil, modelling shows that the ongoing benefits from lower fuel costs will more than outweigh these upfront costs.

### A fleet average fuel efficiency standard for new light vehicles in Australia

Australia's light vehicle emissions per capita and per GDP are very high relative to other developed nations. This is partly due to Australia's large land mass and relatively low-density cities. It is also the result of large, fuel inefficient vehicles being popular among Australians. Passenger vehicle emissions per kilometre in 2012 were 40 per cent higher than in the European Union (EU) and 7 per cent higher than in the United States (US), which both have mandatory vehicle fuel efficiency standards.

Australia is one of only six OECD countries without vehicle fuel efficiency standards. However, even without a mandatory standard, vehicle emissions have been reducing and are now at a fleet level of approximately 190g CO<sub>2</sub>/km (down from 247g CO<sub>2</sub>/km in 2004). This is expected to continue to decline and, with the exit of Australian vehicle

manufacturers from 2018, Australia will increasingly be exposed to the regulations imposed in countries where our vehicles are manufactured.

However, Australia is still expected to lag relative to other developed economies. Australia's business-as-usual projection is 169g CO<sub>2</sub>/km in 2020 and 156g CO<sub>2</sub>/km in 2024. Even with this slight reduction in emissions intensity, Australia's emissions from transport will continue to rise, given expected increases in overall light vehicle activity and fuel use. In contrast, the US and the EU have committed to achieving the equivalent of 144g CO<sub>2</sub>/km by 2020 (95g CO<sub>2</sub>/km) and 105g CO<sub>2</sub>/km by 2025 (73g CO<sub>2</sub>/km).

Japan, the EU, US, Canada, China, South Korea, Mexico, Brazil, and India all have established or proposed fuel economy or greenhouse-gas emission standards for passenger vehicles and light-commercial vehicles/light trucks. The regulations in these markets, covering 80 percent of global passenger vehicle sales in 2013, influence the business decisions of major vehicle manufacturers around the world.<sup>4</sup>

Enacted regulations in these countries will result in passenger vehicle emissions 20-45 per cent below Australia's business-as-usual projection in 2020 (depending on the country).

At least in the short to medium term, any standard for new light vehicles adopted in Australia might more suitably align with that in the US rather than the EU or Asia, given the similarity in vehicle fleets (greater penetration of SUVs and a preference for automatic transmission systems), the longer distances travelled and the similarity in density of our cities.

### **Cost of introducing a fleet average standard for fuel efficiency**

The principal cost of a fleet average standard for new light vehicles is the higher production cost, and therefore retail price, of vehicles incorporating fuel-saving technologies adopted in response to standards. There is also a potential non-financial cost from the loss of consumer choice through vehicle manufacturers changing their fleet mix or offering different variants of the same model to meet the fleet standard. A third, and significantly smaller cost, would be the administrative and compliance costs of the scheme.

The Department of Infrastructure's RIS estimates the additional capital and compliance costs per passenger vehicle for meeting the US standard of 105g CO<sub>2</sub>/km is between \$827 and \$1921 in 2025. The draft RIS found that this upfront cost would be more than offset by the expected fuel savings that would follow. Specifically, the RIS estimates that the net benefit to the Australian economy in 2040 of the introduction of a standard requiring light vehicles to reach the target of 105g/km CO<sub>2</sub> by 2025 would be \$13.9 billion, and would avoid a cumulative total of 231Mt of Co<sub>2</sub>. The net cost of abatement is estimated at -\$48.70/tonne CO<sub>2</sub>-e.<sup>5</sup>

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4. The International Council on Clean Transportation: <http://www.theicct.org/info-tools/global-passenger-vehicle-standards>.

5. 'Improving the efficiency of new light vehicles', Commonwealth of Australia 2016, p. 38

In March 2017, President Donald Trump directed the US Environmental Protection Agency to review the fuel efficiency standards that apply to car manufactures located in the US. While it is not clear exactly what this will mean for the technical specifications of the vehicles that will be made in the US from 2025 onwards, there is a risk that the US could end up manufacturing less cars that are compliant with the new light vehicle standard of 105g/CO<sub>2</sub>/km. This could increase the cost of achieving targets for countries that import vehicles from the US.

However, the future direction remains unclear and even if the vehicle emission standards in the US are loosened, US car manufacturers may continue to build more fuel efficient cars to be exported around the world. In addition, not all US states have committed to unwinding their vehicle emission standards.

### **Deep reductions in emissions will require the progressive electrification of transport**

Given climate change policy instability, it would be very difficult for purchasers of vehicles to cost future carbon prices into their passenger vehicle purchasing decisions. However, these decisions will have a long-term impact on Australia's emission outcomes.

Emissions from vehicles can be significantly reduced by switching from oil to alternative fuels with lower emissions such as electricity, natural gas, hydrogen and sustainable biofuels, all of which have substantial abatement potential. As the fuel source for electricity generation progresses towards zero emissions, the scope to achieve deep reductions in transport emissions through electrification is particularly promising.<sup>6</sup>

There are a range of measures (direct and indirect) through which to boost low-emission vehicle uptake in Australia.

The IEA's statistics show that global sales of electric vehicles increased by 50 per cent in 2014<sup>7</sup>, a trend that the CSIRO attributes, at least partially, to the availability of subsidies.

Outside of direct financial incentives, which could be either rebates or tax concessions such as the luxury car tax, the Energy Supply Association of Australia<sup>8</sup> noted that government support could also take the form of direct and indirect infrastructure provision; implementing appropriate planning arrangements; support for research and development; and consumer education.

### **Government fleet procurement policy should lead the way**

To help with the costs of adopting new technologies, all governments should move towards procuring electric and/or more fuel efficient vehicles. In 2015, out of the

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<sup>6</sup> McKinsey & Company, *Pathways to a Low-Carbon Economy, Version 2 of the Global Greenhouse Gas Abatement Curve*, 2009, p. 100.

<sup>7</sup> CSIRO and Energy Networks Association 2015a, *Electricity Network Transformation Roadmap: Future Grid Forum – 2015 Refresh*, technical report, p. 13.

<sup>8</sup> Energy Supply Association of Australia, *Sparking an Electric Vehicle Debate in Australia*, discussion paper, November 2013, p. 6.

1.1 million new light passenger vehicles that were sold in Australia, over 40,000 of these were purchased by government bodies.<sup>9</sup>

An electric and/or alternative fuel efficiency procurement policy for all government fleets would play a vital role in addressing some of the barriers to the uptake of these technologies, such as providing a source of demand for the importation of new models and the availability of recharging and refuelling stations. While this option may involve a higher up-front cost to government, the lifetime benefits from lower fuel costs should more than offset this.

### **Discrepancy between laboratory and real-world vehicle emission testing**

In 2011 the Volkswagen emissions scandal shone a light on the unacceptable discrepancies that exists between real-world and laboratory vehicle emission testing results. Recently, the Australian Automobile Association (AAA) released the preliminary results of a study it commissioned by consultant ADMARC, which found that, on average, the real world fuel consumption of all vehicles tested was 20 per cent higher than the official fuel results.<sup>10</sup>

The Business Council shares the AAA's concerns about the effect that inaccurate laboratory results have on sound policy-making. Whenever the introduction of new standards is being considered by policy-makers, it is vital that real world results match laboratory results as closely as reasonably possible. Without such an alignment, it is impossible to accurately assess the costs and benefits of introducing new standards. The Business Council therefore supports AAA's efforts to push for an improvement in the accuracy of vehicle emission testing.

However, the continued difference between real-world and laboratory vehicle emission testing results should not delay the Australian Government from adopting vehicle emission standards. Inaccurate laboratory vehicle emission testing is a global problem and Australia should work towards playing its part in developing a global solution. Unnecessary delays in adopting vehicle emission standards will simply reduce the amount of carbon abatement that is achieved through this reform and entrench a less fuel-efficient passenger car fleet on Australian roads over the next two decades.

### **Addressing congestion can reduce vehicle emissions**

Policies to reduce road congestion can also have the effect of reducing vehicle emissions by improving the efficiency of vehicle use. Addressing congestion is primarily aimed at reducing unproductive traffic congestion, but it will also have the benefit of reducing any additional associated emissions.

Road congestion can be addressed in essentially three ways: providing new transport infrastructure; better utilising the capacity of existing transport infrastructure; or managing demand.

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<sup>9</sup> *'Improving the efficiency of new light vehicles'*, Commonwealth of Australia 2016, p. 12

<sup>10</sup> ADMARC, *'Real World Driving – Fuel Efficiency & Emission Testing'* (prepared for the Australian Automobile Association), November 2016

There are significant steps that can be taken to provide new transport infrastructure or better use existing infrastructure. Investment in the public transport and road transport projects is also vital.

Infrastructure Australia's priority project list will improve traffic flow and provide positive net returns to the community. For example, out of the seven 'High Priority Projects' identified by Infrastructure Australia in its most recent priority list, five were aimed at alleviating urban congestion.<sup>11</sup>

In the longer term, implementing cost-reflective road pricing reforms – as proposed by Infrastructure Australia and the Competition Policy Review (2015) – can assist in addressing congestion by ensuring a sustainable revenue base for providing infrastructure and by better aligning the provision of infrastructure with user demand.

## **2. Vehicle emissions standards for cleaner air (noxious emission standards)**

As stated by the Department of the Environment, by world standards Australia has very clean air<sup>12</sup> and the Business Council supports measures to ensure Australia's air quality remains this way. However, on the evidence that has been presented, the Business Council does not believe a case for introducing stricter noxious emissions standards at this point time has been made.

For example, when defining the problem that the government is seeking to address, the relevant draft RIS relies on data from 2010 to demonstrate the detrimental health effects of poor air quality.<sup>13</sup> These figures are not only six years out of date, but since 2010 the Australian Government has introduced stricter noxious emissions standards. For light vehicles, the Australian Government mandated Euro 5 emissions standards for newly approved models first manufactured from 1 November 2013, and for all light vehicles manufactured from 1 November 2016.

The Australian Government is considering implementing even more stringent noxious vehicle emissions standards before the effects of the introduction of Euro 5 emission standards can be properly assessed. Because the health benefits data is significantly out-of-date, more recent analysis should be carried out to ensure the problem that is being targeted by the proposed regulation is accurately quantified and properly understood.

## **3. Fuel quality standards**

At the Stakeholder Forum on Vehicle Emissions, which was held in Canberra in February 2017, stakeholders were generally supportive of the government strengthening Australia's fuel quality standards in the future. However, there remains disagreement about how quickly the stricter fuel quality standards should be introduced.

The Australian Institute of Petroleum (AIP) has advised that if stricter fuel quality standards are introduced too rapidly, the capital costs required to comply with the proposed standards would be so great that it could lead to the closure of Australia's

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<sup>11</sup> Australian Government, *Infrastructure Australia Priority List*, February 2017

<sup>12</sup> [www.environment.gov.au/protection/air-quality](http://www.environment.gov.au/protection/air-quality)

<sup>13</sup> 'Vehicle emissions standards for cleaner air', Commonwealth of Australia 2016. p. 9

refinery industry and significant job losses as a result. While it is difficult to estimate these costs at a facility level, the AIP estimates these costs are likely to be at least \$700 million, but potentially up to \$1.4 billion.

Over time Australia's fuel quality has improved, and this will continue to occur as the market for cleaner vehicles will demand this. Therefore, the Business Council urges the Australian Government to consult further on proposed changes to Australia's fuel quality standards. If it decides fuel quality standards should be introduced in Australia, then an appropriately structured implementation timeframe should be used to ensure Australian jobs are not unnecessarily lost.

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