

# CASANZ submission ‘The Fuel Efficiency Standard – Cleaner, Cheaper to Run Cars for Australia’

## 1. About CASANZ

The Clean Air Society of Australia and New Zealand (CASANZ) is a non-profit, professional association dedicated to improving the quality of our air. CASANZ has been active for over 50 years, and currently has more than 600 members who have a professional interest in air quality science and management.

The society has members from a wide range of sectors, including federal, state and local governments, academia, business, industry, education, the law and the general community. CASANZ embraces the expertise and knowledge of its members to advance research and innovation, and to promote awareness and understanding of the issues affecting air quality.

CASANZ facilitates training courses, workshops, webinars and events. The society also hosts a biennial conference, and grants awards to leaders in the air quality, celebrating the work being done to achieve cleaner air in our region and beyond.

## 2. CASANZ interest in the topic

CASANZ features a range of ‘special interest’ groups, including a Transport Special Interest Group (TSIG) that focuses on understanding and minimising the climate and health impacts of transport-related air pollution. CASANZ regularly engages with federal government agencies regarding the development of transport emissions legislation, and welcomes this opportunity to offer constructive feedback on the draft Fuel Efficiency Standard (FES), which we refer to hereafter as the ‘draft FES’. CASANZ TSIG interest in the draft FES stems from the fact that a well-designed FES would help to align the fuel efficiency of Australia’s future light duty vehicle fleet with globally accepted best practice. A well-designed FES would facilitate the achievement of Australia’s 2030 and 2050 carbon emission goals, whereby transport is Australia’s third most polluting sector behind the electricity and stationary energy production sectors [1].

## 3. CASANZ feedback on the draft FES

The CASANZ TSIG offer the following feedback on the draft FES:

### *Section 4 GENERAL guiding principles*

*Are these the right guiding principles? Are there other principles that you think we should keep in mind?*

- We suggest that ambition and timeliness are additional core principles that should be adopted in a future FES. Significant ambition is required to compensate for the late action taken by Australia in mitigating its transport-related carbon emissions. Timely introduction of a FES is required and CASANZ see no reason to delay such legislation beyond 2024 as noted by a recent working paper written by the International Council on Clean Transportation [2].
- Another consideration that should be embedded within the FES is evaluation of lifecycle emissions impacts. Focussing solely on tailpipe emissions does not provide a complete picture of the environmental impact of a light duty vehicle. Within a lifecycle framework, other aspects of policy

change could be evaluated such as: (i) an emissions transfer to another sector with the adoption of low emissions transport (e.g. electricity generation), or (ii) vehicle lifetime and end-of-life disposal.

#### *Section 4.1 Design Assumptions Apply to light vehicles*

- While we agree a future FES will initially apply to light duty vehicles, we emphasise that similar legislation for heavy vehicles should be implemented as soon as practicable.

#### *GENERAL Design assumptions*

*Are there any design assumptions that you think will put at risk the implementation of a good FES for Australia?*

- One of the major risks surrounds the current infrastructure required to successfully adopt some of the technologies used efficiently in other vehicle markets (e.g. Europe and the US). Insufficient data availability, inadequate enforcement mechanisms, and the potential for regulatory capture by industry stakeholders may be other risks.

#### *Section 5 FES design features*

- We consider it important that carry-over credits are not made available to another reporting window for additional mitigation of carbon emissions. Any emissions credits accrued should have an expiry date implemented.

#### *Section 5.1 The average annual emissions ceiling*

- We note that previous estimates of carbon emissions (draft FES, page 14) are based off the New European Drive Cycle (NEDC). It is well known that the NEDC does not accurately reflect how vehicles are driven, which leads to significant underestimation of tailpipe carbon emissions [3]. Any future FES should aim to have vehicles type approved under the Worldwide Harmonised Light Duty Test Procedure (WLTP) as soon as practicable (i.e. there may be a limited time window adopting NEDC type approval testing) which is supplemented by real-driving emissions testing. Such testing requirements would enable the true emissions burden of light duty vehicles to be assessed using best practices.

#### *Chart 1*

- The emissions trends shown in this graph are questionable. The shift to larger vehicles (e.g. Sports Utility Vehicles) in the Australian market over the last decade and the widening gap between laboratory and real-world carbon emissions means that passenger car emissions in Australia may have increased over the last few years [4]. The only solution to this scenario is an ambitious FES that aims to rectify these issues.

#### *GENERAL Starting emissions level limit and approach*

- Given where the Australian vehicle fleet is positioned in terms of carbon emissions intensity, we propose setting an ambitious target that prioritises early action. Major electric vehicle manufacturers (e.g. Hyundai, Volvo and Tesla) have a footprint in the Australia market and a suitably designed FES would allow such manufacturers to import a greater number of low emission vehicles into the country. Such an arrangement would reduce the time taken for such vehicles to be available in the second-hand vehicle market. Technological and economic feasibility and alignment with existing climate policy need to be considered too.

#### *GENERAL Adjustments of limit level*

- We recommend that a 7-year emissions target be set spanning the years 2024-2030. This window would align well with the 2030 emissions target set by the federal government. A mid-point review should be undertaken in 2027 to assess the rate of progress towards stated goals which would provide the opportunity for recalibration of policy settings if required.

#### *Disadvantages of a mass-based limit curve over vehicle footprint*

- The disadvantages of a mass-based limit curve outweigh its advantages. Neither of the advantages for the mass-based limit curve are related to a positive environmental impact.

#### *TECHNICAL Attribute-based emissions limit curve*

- Is there an opportunity to combine both mass-based and footprint-based limit curves?

#### *Dual vehicle classes/targets*

- We see no need to separate passenger cars and SUVs in terms of their CO<sub>2</sub> emissions ceiling with separate emissions limits. Adopting this measure would help to promote downsized, fuel efficient vehicles for the Australian fleet that are urgently needed.

#### *TECHNICAL Multiple targets*

##### *Should an Australian FES adopt two-emissions targets for different classes of vehicles?*

- Having separate emissions targets may be reasonable provided the larger vehicles incur an equitable emissions tax based on its usage. The taxation framework would distinguish between the needs of a larger vehicle for a large family compared to single use by an individual.

##### *Are there other policy interventions that might encourage more efficient vehicle choices?*

- There may be scope to introduce an additional emission tax depending on the purpose of use for the vehicle.

#### *Section 5.2 Additional flexibility mechanisms to minimise impacts on consumers*

- Timing of emissions abatement is critical, so we disagree with the statement in the first paragraph that suggests otherwise. Early abatement of carbon emissions is the best approach from an environmental, economic and social perspective. This viewpoint is reinforced by our earlier comment that the policy response and carbon mitigation need to be implemented in a timely fashion.

#### *TECHNICAL*

##### *To what extent should the Australian FES allow credit banking, transferring and/or pooling?*

- It is possible that a supplier credit cap could be introduced. This would encourage suppliers to comfortably meet the FES rather than relying on credit banking to achieve their emission reduction goals.

##### *Should credits expire? In what timeframe?*

Credits associated with over-achievement on the carbon emissions targeted by the FES should expire at the end of the first implementation window i.e. 2030. No carry over credits should be permitted.

#### *Section 5.3 Bonus credits for new/innovative technologies*

- The provision for super-credits may have some merit, but we suggest that they should not apply for fuel cell electric vehicles (FCEVs). Meaningful carbon emissions reduction is unlikely to be achieved with light duty FCEVs in the initial time period of relevance (i.e. 2030 target) for a future FES. With the Australian electricity grid mix, firstly, the powertrain efficiency of FCEVs is much less than their battery electric vehicle counterparts [5]. Secondly, in Australia most hydrogen production involves steam reforming of natural gas [6] which is an intermediate technology step until green hydrogen becomes readily available.

#### *TECHNICAL Multipliers for LZEVs*

##### *Should an Australian FES include multiplier credits for LZEVs?*

- This option could be considered, but if it is included in the FES it should be based on lifecycle emissions and not just tailpipe emissions. This would act to discourage low (tailpipe) emissions vehicles that have poor lifecycle emissions performance.

#### *TECHNICAL Off-cycle credits*

Should an Australia FES include off-cycle credits for specified technologies?

- These aspects could be considered separately by introducing a FES and a Technology Efficiency Standard.

*Low global warming potential air-conditioning refrigerant*

- We would prefer that low emissions refrigerants be handled by separate legislation.

*TECHNICAL When should a FES start?*

- We believe a FES should start no later than 2024.

*Should the Government provide incentives for the supply of EVs ahead of a FES commencing? If so, how?*

- Yes, incentives should be considered to increase the supply of efficient vehicles. This could initially be done by reduced import tax on these vehicles.

*TECHNICAL Penalties for each gram per kilometre*

*What should the penalties per gram be? Would penalties of AUD\$100 per gram provide a good balance between objectives? What is the case for higher penalties?*

- A starting penalty rate of AUD\$100 per gram is reasonable. Over time penalties could be increased to incentivise compliance with the FES as suppliers adapt their business model to sustainable practices.

*TECHNICAL Small volume and niche manufacturers*

*What, if any, concessional arrangements should be offered to low volume manufacturers and why? If so, how should a low volume manufacturer be defined?*

- A low volume production threshold of 1000 may be appropriate for local manufacturers to promote the Australian made market. Alternatively, a threshold of 10 vehicles would be more appropriate for international manufacturers.

*TECHNICAL Information that suppliers will need to keep and supply*

*What should the reporting obligations be? What information should be published and how regularly?*

- In terms of reporting obligations, suppliers should be required to report the number of vehicles sold, their CO<sub>2</sub> emissions per kilometre, and the specifications of each vehicle. These obligations should be reported regularly, such as on an annual basis, to ensure that data is up-to-date and reflects current market conditions. The information that should be published includes brand performance, sales breakdowns, use of off-cycle credits, super-credits (if adopted as part of an Australian FES), and credit banking or exchanges. This information should be made available publicly to promote transparency and accountability.

*Is a penalty of 60 penalty units appropriate for this purpose?*

- A penalty of 60 penalty units per record for failure to keep records under the FES aligned with the obligation to provide and keep records under section 30 of the Road Vehicle Standards Act 2018 [7] seems appropriate for this purpose. However, it is important to regularly review and adjust penalties to ensure they remain effective in incentivising compliance with the FES.

Emissions testing

- We note that Australia should adopt the Euro 6 emissions standard as soon as possible. This action would enable type approval testing of vehicles to align with the WLTP cycle as soon as is practicable which will more accurately reflect the real driving fuel consumption performance of a vehicle [3].
- We also note that the FES should be based off WLTP test results as soon as is practicable and supplemented with real driving emissions data. This approach would enable the discrepancy between laboratory and on-road test results to be quantified accurately. Alignment of this activity

with the real-world testing program announced by the Australian Automobile Association is recommended [8].

#### *Additional comments*

CASANZ also consulted with the Electric Vehicle Council (EVC) regarding the draft FES. CASANZ and the EVC agree that:

- The federal government should model electric vehicle uptake rates to ensure compliance with the 50% 2030 sales figures adopted in several jurisdictions,
- The federal government should also ensure the FES aligns with 2030 and 2050 emission reduction targets.

#### **4. Authorisation**

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#### **5. References**

[1] Commonwealth of Australia. 2023. Quarterly Update of Australia's National Greenhouse Gas Inventory: September 2022, pp 1-36, <https://www.dccew.gov.au/sites/default/files/documents/nggi-quarterly-update-sept-2022.pdf> (accessed 29th May 2023).

[2] International Council for Clean Transportation. 2022. Fuel efficiency standards to decarbonize Australia's light-duty vehicles, Working Paper 2022-31, pp 1-17.

[3] Fontaras, G. et al. 2017. Fuel consumption and CO<sub>2</sub> emissions from passenger cars in Europe - Laboratory versus real-world emissions. Progress in Energy and Combustion Science, 60, 97-131, <http://dx.doi.org/10.1016/j.peccs.2016.12.004>

[4] Transport Energy/Emission Research. 2019. Real-World CO<sub>2</sub> Emissions Performance of the Australian New Passenger Vehicle Fleet 2008-2018 – Impacts of Trends in Vehicle/Engine Design, pp 1-24, [https://www.transport-e-research.com/files/ugd/d0bd25\\_00dcaa41d8d046d3a7b84a65a2135bb7.pdf](https://www.transport-e-research.com/files/ugd/d0bd25_00dcaa41d8d046d3a7b84a65a2135bb7.pdf) (accessed 29th May 2023)

[5] Smit, R. et al. 2018. Where Are We Heading With Electric Vehicles? Air Quality and Climate Change, 52 (3), 18-27.

[6] Advisian Pty Ltd for the Clean Energy Finance Corporation. 2021. Australian hydrogen market study - Sector analysis summary, pp 1-104, <https://www.cefc.com.au/media/nhnhwlu/australian-hydrogen-market-study.pdf> (accessed 29th May 2023).

[7] Australian Government. 2018. Road Vehicle Standards Act 2018, No. 163 2018, <https://www.legislation.gov.au/Details/C2018A00163> (accessed 29th May 2023).

[8] <https://www.aaa.asn.au/realworld/> (accessed 29<sup>th</sup> May 2023).