

Comments on The Fuel Efficiency Standard Consultation Paper

There is widespread support from both the public and vehicle industry for the introduction of mandatory fuel efficiency/CO₂ emissions standards. Minister Bowen's statement to the EV Summit on 19 August 2022 clearly indicates the Government is willing to embrace such standards and to set a challenging target.

Industry and regulators also agree that the most appropriate regulatory model is an "attribute" based standard where a manufacturer's compliance is determined according to a fleet average target.

It is also broadly accepted that even though the standards are commonly referred to as "fuel efficiency" standards, any target would be specified in terms of the emissions of carbon dioxide (CO₂) per kilometre as measured under standardized testing conditions.

However, there is considerable debate over stringency, timing, design details and what other measures should be in place to support the standards. There will also need to be detailed attention paid to the legislative framework for implementing the standards.

This submission offers comments on:

CO₂ Emissions Reductions Targets and Timeline

The Key Elements of a Fuel Efficiency Standard

Other Possible Elements of a Fuel Efficiency Standard

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CO₂ Emissions Reduction Targets and Timeline

It is important to recognise that the vehicle model mix in different parts of the world may be quite different from the fleet mix in Australia, and thus it's not appropriate to simply adopt a target "off the shelf" from another country. For example, some advocates point to the targets in Europe and suggest this is where we should start, but the EU fleet is very different from Australia's and already has a much lower emissions profile than here. We are more like the US, but still have differences and lag behind their targets.

In terms of timing, it's important to get a standard in place as early as possible given the narrowing window for effective action on climate change noted by the IPCC. On the other hand, the vehicle industry needs to be given reasonable lead time to plan to meet targets imposed by new standards.

While the vehicle industry (represented by the Federal Chamber of Automotive Industries – FCAI) supports the introduction of mandatory fuel efficiency standards, there is likely to be a considerable gap between the FCAI's expectations regarding the timeline and stringency of the standard and what might generally be expected of such standards to deliver in terms of lowering overall emissions and making a meaningful contribution to meeting the challenge of climate change. And it's likely a few red herrings will be thrown around in an attempt to delay or weaken the standards¹.

Because all our vehicles are now imported, global vehicle manufacturers can respond to new standards much more quickly by changing the model and variant mix they choose to provide to the Australian market. These companies are familiar with complying with such standards given countries all around the world have such standards in place. The reality is that the zero and lower emission vehicles we need in Australia to improve our emissions profile already exist and are in production – the standards simply put pressure on manufacturers to supply them to the Australian market. In the absence of standards, other markets with standards in place will have first call on those vehicles.

Australia's emissions reduction targets should be determined via an "attribute" standards framework. I would suggest the standards be implemented using a stepwise process broadly along the following lines:

1. Set a baseline using the CO₂ emissions profile of the 2024 fleet, with CO₂ emissions data collected under Australian Design Rule 81/02 as the data source²;
2. Set progressive percentage emission reduction targets year on year, rather than widely spaced multi-year targets. This will encourage an industry culture and practice of constant improvement;
3. Set the first fleet average emissions target(s)³ for calendar year 2026 which represent(s) close to a business as usual (BAU) trajectory (BAU performance has varied widely in recent years, but a reduction around 3% on the 2024 baseline would be reasonable);

¹ The International Council on Clean Transportation (ICCT) has published a useful short [briefing paper](#) on popular misconceptions about the impact of mandatory standards.

² As noted later in this submission, the test used to provide the CO₂ data in ADR81/02 needs to be urgently updated to mandate the Worldwide Harmonised Light Vehicles Test Procedure (WLTP).

³ Depending on the final design of the standards, there may be a single fleet average target covering all light vehicles, or separate targets for passenger cars and light commercials.

4. Set progressive percentage emissions reductions from 2027 to 2030 of around 6-7% *per annum* (this rate of reduction is similar to that in the EU and US). Different rates of reduction for passenger vehicles and light commercials may be appropriate;
5. Mandate a review of progress in 2028 to set new annual percentage reduction targets for 2031 to 2035;
6. Mandate a review of progress in 2033 to consider the need for further targets.

The Key Elements of a Fuel Efficiency Standard

CO₂ data from ADR81/02 must be the emissions parameter underlying the base standard

The CO₂ data required to underpin a fuel efficiency standard is already collected on all new light vehicle models supplied to the Australian market under a legislative instrument called an Australian Design Rule (ADR) - in this case, ADR81/02 *Fuel Consumption Labelling for Light Vehicles*. A consistent set of data for all vehicles covered by the fuel efficiency standard is essential to enable a base year emissions profile to be established.

However, ADR81/02 must be amended *as a matter of urgency* to mandate the Worldwide Harmonised Light Vehicles Test Procedure (WLTP) as the required test procedure. This should have occurred years ago, given that the WLTP has been a mandatory requirement in the EU from January 2019 and it is widely recognised as a much more accurate representation of real-world emissions than the outdated NEDC test which is still accepted under ADR81/02. There is no reason why ADR81/02 could not be amended immediately to mandate the WLTP test for all new certifications – ahead of any timeline for the standards.

The standard should be an “attribute” based standard which implements a sales weighted fleet average target

This is the most flexible and fair design which accommodates a wide variety of vehicle types and maintains consumer choice. It does not ban any vehicle type or model. It has broad support.

Vehicle size (measured as “footprint”) is objectively the most appropriate attribute on which to base the standard⁴

Vehicle footprint is the attribute used in the US EPA standards. The alternative is vehicle mass - which is used in the EU standard and is also favoured by the FCAI.

However, a mass-based approach discourages weight reduction as a strategy to reduce emissions from conventionally fuelled vehicles. I disagree with the consultation paper’s assertion (p.19) that “A mass-based limit curve most closely reflects vehicle markets similar to Australia...”. If we are to make international fleet comparisons, then I would argue that the US (which uses footprint) is our closest match, not the EU.

⁴ See for example the ICCT report https://theicct.org/sites/default/files/CO2-reduction-technologies_fact-sheet_10102017_vF.pdf

Given we are designing an Australian fuel efficiency standard from scratch, there is no constraint on which parameter we choose. We are not obliged to use mass simply because the EU does. The industry is capable of meeting standards based on mass or footprint, and on balance the evidence favours footprint.

The standard must cover all light vehicles (passenger and light commercial)

The standard could be a single fleet average standard covering all light vehicles, or it could set two standards – one for passenger vehicles (MA and MC categories) and one for light commercials (NA category). The FCAI prefers a split approach (putting larger SUVs (MC category) in the same group as light commercials) and the EU and US also have split standards.

There is some logic to setting a separate standard for light commercials (NA category - utes and vans) as they are fundamentally different vehicle designs to passenger cars. But this logic does not apply to large SUVs (MC category). They are still passenger vehicles and the limit curve approach in an attribute standard still enables larger MC category vehicles to emit more CO₂ than a smaller passenger car.

Single or split approaches (with all passenger vehicles in one standard and light commercials in the other) are both workable, provided the boundaries are very clear – ultimately it all comes down to the emissions reduction targets.

The standard should enable manufacturers with the capacity to “bank” credits for subsequent years when they do better than the standard in a particular year, and also carry deficits provided they are offset in future years

Banking arrangements can assist manufacturers in meeting the targets over a number of years without compromising the emissions targets. Such arrangements need to be time limited – the US for example allows 5 years for credits and 3 years for deficits. Banking should only occur from the first year of the standard’s commencement onwards (not before).

The standard should specify financial penalties for non-compliance which are sufficiently high to deter non-compliance

Other Possible Elements of a Fuel Efficiency Standard

Incentives (credits or multipliers) for zero emission or very low emission vehicles

In the EU, credits are given to vehicles with emissions of 0-50g/CO₂/km which can effectively only be met by pure EVs or Plug-in Hybrids (PHEVs). The credits are awarded by “counting” each qualifying vehicle as more than one vehicle, thus making the fleet average for a particular company easier to meet. For example, in 2022 a qualifying vehicle under the EU standard would count as 1.33 vehicles. The US has a similar incentive, except that it is linked to the technology utilised (EVs and Hybrids). Both the EU and US put an annual cap on the total emissions reduction that can be claimed from the use of such incentives.

These incentives are designed to encourage the early supply of zero or very low emission vehicles given they often face a competitive disadvantage in the marketplace from higher up-front purchase costs. However, they can potentially provide “windfall” benefits to manufacturers who would have supplied these models anyway and could encourage manufacturers to continue to supply higher emitting vehicles in other parts of their sales mix. For these reasons, both the US and EU are phasing out these incentives as they consider they have served their purpose.

On balance, the relatively small penetration of EVs and PHEVs in the Australian market, suggests there is probably a net benefit in providing such incentives under our standard – at least in the early years. But given the rapid recent growth in EV sales (in passenger cars at least) and the reality that standards in themselves work to encourage manufacturers to supply more zero and low emission vehicles in their model mix, such incentives should be modest and be phased down and eliminated in (say) 3-4 years after the commencement of the standard.

In essence, if Australia’s standards were to include such incentives, the challenge is to ensure that the magnitude of credits or multipliers is not excessive, that they do not lead to perverse outcomes and that appropriate maximum caps on emission reductions assigned to these credits are in place.

Credits should only be “performance” based like the EU system (i.e. not linked to technology) – and the EU’s 50g/CO₂/km would be a logical benchmark for passenger cars. A higher benchmark for light commercials (NA category) might be considered.

Incentives (credits) for “off cycle” technologies that reduce emissions (where that reduction is not captured in the standardised test under ADR81/02)

Off cycle credits are strongly favoured by the vehicle industry, but their merits and efficacy are heavily debated in the literature and they have the potential to seriously undermine the integrity of the emissions reduction targets. They include a myriad of things (particularly in the US) like low emission air-conditioning systems, efficient alternators, low energy lighting, reflective paint, solar panels etc. Like the credits for zero and low emission vehicles, both the EU and US place a cap on the total emissions reduction that can be claimed from the use of these credits.

In the EU any claim for an “eco-innovation” (as they are called under their standards) has to be applied for by each manufacturer and verified. The technologies must also not be mandated under other regulations (e.g. low rolling resistance tyres). The US EPA has evaluated a range of technologies and their rules provide a table of accepted technologies. The EU approach is likely to be administratively burdensome, and I understand it is not used much by manufacturers.

If the standards were to consider credits for off cycle technologies, a table of recognised technologies similar to the US EPA’s approach would be preferable. However, Australia should not simply accept the US list at face value. I would suggest that industry be invited to submit detailed information on what technologies they want considered, the emissions reduction claimed and evidence to support their efficacy in providing genuine off cycle emissions reductions. These technologies could then be evaluated by an independent expert appointed by the Department before inclusion on any menu of approved off cycle technologies. And as in the US, a cap needs to be placed on the total emissions reduction claimable from the use of such technologies.

Provisions for low volume manufacturers who could demonstrate an inability to comply with the fleet average standard(s).

Both the EU and US allow manufacturers who sell limited numbers of vehicles and who can

demonstrate that it would be technically difficult for them to meet the standard to negotiate an alternative arrangement to reduce emissions. And very low volume manufacturers are completely exempt from meeting the standards.

It would be possible to set a sales volume benchmark for complete exclusion which would have negligible impact on the total emissions of the light vehicle fleet and this would be the simplest step to take from an administration perspective. However, there could be presentational issues if high-end luxury cars like Rolls Royces, or exotic sports cars like Ferraris and Lamborghinis, were completely exempt - even if their very low volume makes their contribution to overall emissions negligible.

It is not clear in the Australian context whether all low volume manufacturers would have difficulty in meeting the standards, but the Department should examine the issue. It would be important to ensure that global manufacturing groups covering a range of brands do not artificially split off some of their smaller volume brands so as to avoid compliance for those brands.