



# AUSTRALIAN PARENTS FOR CLIMATE ACTION

## **AP4CA Response to Consultation Paper on the Australian Fuel Efficiency Standard (FES)**

Submission to the Department of Infrastructure, Transport, Regional Development,  
Communications and the Arts

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Australian Parents for Climate Action  
Level 2, 69 Reservoir Street  
Surry Hills, NSW 2010  
Email: [info@ap4ca.org](mailto:info@ap4ca.org)

Australian Parents for Climate Action represents over 17,000 parents, grandparents and carers from across Australia. We are Australia's leading organisation for parents advocating for a safe climate. Our supporters are from across the political spectrum, across all Australian electorates, and from varied socio-economic positions. We seek non-partisan responses to climate change and its impacts.

We advocate for Australian governments and businesses to take urgent action to cut Australia's carbon emissions to net zero as quickly as possible. We encourage Australia to take a leadership role on the world stage, leading by example and calling for other nations to take the necessary action to protect our children's futures. For more information, visit [www.ap4ca.org](http://www.ap4ca.org).

Australian Parents for Climate Action (AP4CA) welcomes the opportunity to make a submission to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the Department) for the proposed Fuel Efficiency Standard (FES). The urgency and severity of the climate crisis requires a robust efficiency standard that materially addresses the impacts of vehicle emissions in Australia, noting that transport emissions accounted for 18% of Australia's greenhouse gas emissions in 2020 (CO<sub>2-e</sub>).<sup>1</sup>

If Australia is to make significant gains in meeting our obligations of 43% emissions reduction by 2030, a FES that assists in making actual emissions reductions is required, not one that allows credits and pooling and weighted averages to delay progress. AP4CA supports a strong FES that actively reduces emissions from vehicles, while accepting the need to allow flexibility and support suppliers in bringing zero emissions Battery Electric Vehicles (BEV) to more Australians. We also believe that a major part of the solution is to shift the dominant modes of transport, in particular away from cars to mass transit and active transport. This approach not only reduces emissions and pollution, but also reduces traffic, increasing space and safety for families and the broader community.

<sup>1</sup> <https://www.climatechangeauthority.gov.au/sites/default/files/2021-03/2021Fact%20sheet%20-%20Transport.pdf>

## Key Messages from AP4CA on the FES paper

- **The transition to zero emissions should be as fast as possible** – we are clearly in a climate emergency which necessitates urgent action. Australia is also starting from behind. **This means a very strong FES is required.** A fast reduction in ICE vehicles will have other benefits, including reducing deaths from air pollution and lowering fuel costs. A fast/strong FES is also optimal because (i) it is already underway (EV sales by the end of 2023 will have reduced the emissions intensity by around 9% already), (ii) there is pent-up demand in Australia for ZEVS, and (iii) a fast transition is a popular position – people want strong and fast action (eg. in a recent survey, 54% of respondents would consider an EV as their next car and over 50% would pay more for an equivalent EV, compared to an ICE vehicle)<sup>2</sup>.
- **The FES target should be zero emissions-intensity by 2035.** This is in line with the EU and, based on our modelling, will allow Australia to reach zero emissions for light vehicles by 2050. In contrast, a model based on a decline to zero emissions-intensity by 2045 suggests we would not reach zero emissions by 2050.
- **The FES should have no mass- or size-based limit curve** – it should be a flat limit, reducing steadily over time. This is due to the fact that BEVs, which have reached 6% of sales in Australia in Q1 2023, have changed the playing field relative to when previous FESs were designed. The impact of so many zero-emissions vehicles in the market skews the averages used in traditional FESs (and gives rise to the concept of a slanted limit curve). Our new FES should be based on current market trends and technology.
- **Hybrids and efficient ICE vehicles are old technology and should be phased out** – ZEVs are now available and are the fastest way to zero emissions.
- **Heavy vehicles are a significant omission in the FES proposal** – 30% of road transport emissions are being ignored. We are unaware of any other policy/mechanism to reduce these emissions.

This submission was prepared by Simon Campbell, Sam Oomens and David McEwen. It was approved by Nic Seton, CEO, Australian Parents for Climate Action.

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<sup>2</sup> Electric Vehicle Council - Consumer Attitudes Survey 2021

# Executive Summary

We are pleased that the government will finally be introducing an FES, it is very long overdue. We have responded to most of the questions in the Consultation paper (see further below), but here we provide an executive summary of our main suggestions and concerns.

## 1. Intermediate Vehicle technology: Fundamental design problem of the FES?

The current FES proposal is predicated on intermediate technology – hybrids and efficient ICE vehicles – being a large part of the transition to a zero-emissions national fleet. This underlying assumption likely comes from the reliance on old FES models from other countries. The consequences of the assumption **affects the emissions intensity limit** (initial setting and decline rate) **and also the limit curve**, in which more massive (or larger) vehicles are given higher limits. In a market where BEV sales are accelerating (8% in April 2023, 6% for Q1), and now dominate over hybrids.<sup>3</sup> We believe this premise of the Australian FES should be revisited. More technically, since **BEVs give zeros in emission intensity**, they skew the averages used in the aforementioned limits. This must be taken into account in the broad design of the FES. **BEVs bring down emissions intensity 3 times faster than hybrids** – it takes 3 hybrids to offset one normal ICE vehicle, and those hybrids continue to pollute for decades to come.

## 2. The FES should be as strong as possible, for the following reasons:

### a. Urgency of the Climate Emergency

Global warming is increasing unabated, with the UN's World Meteorological Agency recently announcing<sup>4</sup> that "*there is a 66% likelihood that the annual average near-surface global temperature between 2023 and 2027 will be more than 1.5°C above pre-industrial levels*" and that "*there is a 98% likelihood that at least one of the next five years, and the five-year period as a whole, will be the warmest on record*". Time is critical in the transition to a zero-carbon economy. Winning slowly on climate is still losing.

### b. We are starting from behind – time is critical

Almost all developed countries already have an FES in place, with many having had them for a decade or more – Australia's needs to be strong for our emissions to decline in line with the rest of the world. Being a rich nation, there is no reason why we shouldn't be pulling our weight. Australia is aiming to host the next COP – we should lead by example and make our FES something to be proud of.

### c. Families will benefit sooner

- i. **Safe air for our kids:** Apart from CHG emissions, ICE vehicles including hybrids create vast amounts of dangerous pollution. The death toll alone from car pollution is greater than the road toll, causing tens of thousands of hospitalisations and asthma cases.<sup>5</sup>
- ii. **Cheaper vehicle running costs:** Given high inflation, increasing mortgage interest rates, and high fuel costs, families are really feeling the pinch financially. The much lower running costs<sup>6</sup> of BEVs will be available to families once the cost of EVs drops, which will come about sooner through a strong FES.
- iii. **Partially alleviate climate anxiety:** Climate anxiety (understandable given the emergency we are in) amongst parents and children is increasing<sup>7</sup>, and firm action by the government can help alleviate this.

<sup>3</sup><https://www.drive.com.au/news/vfacts-april-2023-electric-cars-now-outsell-hybrids-in-australia/>

<sup>4</sup><https://public.wmo.int/en/media/press-release/global-temperatures-set-reach-new-records-next-five-years>

<sup>5</sup><https://www.unimelb.edu.au/newsroom/news/2023/february/vehicle-emissions-may-cause-over-11,000-deaths-a-year-research-shows>

<sup>6</sup><https://www.racv.com.au/royalauto/transport/electric-vehicles/are-evs-cheaper-to-run.html>

<sup>7</sup>[https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(21\)00278-3/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00278-3/fulltext)

**d. The transition should be relatively easy for Australia**

The transition to a low- or zero-emissions light vehicle fleet is likely to be relatively easy and fast for Australia because:

- i. **The transition is already underway:** By our calculations (details below), emissions intensity will have already reduced by around 9% by the end of 2023. This reduction is due partly to the uptake of hybrids and partly to the very recent surge in BEV sales. Since BEVs have zero emissions intensity, the drop is rapid.
- ii. **We are a small market:** It doesn't take a large fraction of global stock to have an impact, with Australia purchasing only about 1% of global new car sales<sup>8</sup>.
- iii. **Many ZEV models already exist:** In many light vehicle segments the technological development is fairly mature and production is increasing to large scales. Many of these vehicles are already available in Australia.
- iv. **There is a huge latent demand for EVs:** We are a wealthy country and demand for EVs is clearly far outstripping supply despite the high (current) prices.
- v. **The cost of EVs will soon reach parity with ICE vehicles:** In some segments of the market this has already happened<sup>9</sup>, and taking a total cost of ownership perspective<sup>10</sup> widens the range of vehicles that have made parity. Price parity will suddenly accelerate the market transition - the job of the FES is to make this happen even earlier, since time is critical.
- vi. **We are an import market:** As an import-only vehicle market Australia is incredibly reliant on the importation of vehicles from manufacturers in Japan, Korea, China, Europe and the US<sup>11</sup>. While traditionally this has meant the importation of inefficient and dirty vehicles in lieu of an efficiency standard, this also presents a unique opportunity<sup>12</sup> – implementing a strong FES would encourage manufacturers to supply Australia with cutting-edge and affordable EV models.
- vii. **A fast transition is popular:** Polls show that people want strong and fast action on climate. For example a 2022 Ipsos poll showed 8 out of 10 Australians are concerned about climate change<sup>13</sup>, and in a survey by the Electric Vehicle Council, 54% of respondents said they would consider an EV as their next car and over 50% would pay more for an equivalent EV, compared to an ICE vehicle<sup>14</sup>. A fast transition to EVs will help facilitate needed action on climate.

**e. Achieve enhanced energy security sooner**

By relying on imported fuel to run our national fleet of ICE vehicles, we are exposed to international risks. The sooner we transition to local, renewable energy (particularly electricity for charging EVs), the sooner this risk can be mitigated.

**3. The FES should have an enforced target of 100% ZEVs by 2030, or 2035 at the latest**

- a. Using a simple model we find that it is likely impossible for the light vehicle sector to meet the government's legislated target of 43% emissions reduction by 2030 (assuming this were applied pro-rata to the transport sector). This appears to be true even if 100% of vehicle sales were ZEVs from 2024 onwards.
- b. However, a strong FES can reduce emissions to zero by 2050. To do this would require a target of reducing the emissions intensity limit to zero as soon as possible.
- c. A 2035 zero-emissions intensity target is in line with the EU.

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<sup>8</sup>Drive.com. 2023. Top 10 best-selling cars worldwide in 2022

<sup>9</sup><https://theconversation.com/thinking-of-buying-an-electric-vehicle-for-your-next-car-heres-the-market-outlook-and-what-to-consider-179293>

<sup>10</sup><https://www.racv.com.au/royalauto/transport/electric-vehicles/are-evs-cheaper-to-run.html>

<sup>11</sup> L.E.K. Consulting, 2021. Vehicles - Supply Chain Benchmarking Report

<sup>12</sup> Climate Analytics, 2019. Australia's vehicle fleet: Dirty and falling further behind

<sup>13</sup> Ipsos, 2022. Ipsos Climate Change Report 2022

<sup>14</sup> Electric Vehicle Council - Consumer Attitudes Survey 2021

- d. A 2040 target is unlikely to result in reaching zero light vehicle emissions by 2050.
- e. Since targets are not always met, and given the time-critical nature of the global climate emergency, we think it prudent to aim high so recommend a 2030 target.

#### 4. Zero Emissions Vehicles should be the focus (Hybrids<sup>15</sup> are old technology)

- a. **Hybrids and efficient ICE engines are intermediate technology solutions:** These vehicle types still have significant emissions since they still run on fossil fuels at some level. Typical hybrids in Australia only produce about 30% less emissions of comparable ICE vehicles<sup>16</sup>, leaving 70% of emissions to be released to the atmosphere. Any increased sales of these intermediate-technology vehicles would slow the transition to zero emissions. Further, they will create a legacy fleet that is still polluting, and will do so for their lifetimes of 15-20 years.
- b. **BEVs are the fastest way to zero emissions:** Since ZEVs/BEVs have zero emissions intensity, they give a step-change to zero emissions. It takes roughly 3 hybrids (or efficient ICE vehicles) to have the same effect on emissions as a single BEV.
- c. **BEVs are already available, and increasing exponentially:** Being zero emissions, BEVs offer the fastest way to zero fleet emissions. As we detail below, even if 100% of new light vehicles were EVs, we can not achieve the federal government's legislated target of 43% reduction by 2030.
- d. **Hybrids are now in less demand now anyway:** EVs overtook hybrids 2023 (first 4 months so far<sup>17</sup>). A strong FES could accelerate this transition away from polluting hybrids.
- e. **Hybrids and efficient ICE vehicles were part of the solution – 20 years ago:** For example, the Toyota Prius hybrid started production in 1997. In 2024 the path to net zero should be focussed on zero-emissions vehicles. Where there is a fit-for-purpose battery electric vehicle equivalent available, hybrid vehicles should not be incentivised.
- f. **A strong FES would incentivise ZEVs in currently weak market segments:** Since there is large variation in uptake between car types the FES should encourage those weak categories to move faster (eg. SUVs, utes, light cars, light vans, people movers). Models for these are already available in other countries (eg. the Ford F150 Lightning<sup>18</sup>, LDV Dual Cab<sup>19</sup>) – the FES needs to enable them to 'take off' here.

#### 5. Heavy vehicles need a plan - include them in the FES?

The current FES proposal is focused on light vehicles only. Whilst they produce about 70% of road vehicle emissions, the other 30%, which is from heavy vehicles, is also vitally important to tackle. As far as we are aware, there is no FES or other legislative tool to reduce emissions for the heavy vehicle sector. If this is correct then it might make sense to include heavy vehicles in this FES. This would be efficient to do, essentially adding one more class of vehicle. Certainly heavy-vehicle ZEVs are not as developed as for light vehicles, but this could be easily incorporated as a higher emissions intensity limit (initially). Another possibility is to delay the start date of a heavy-vehicle part of the FES. We note that regulations around vehicle dimensions or drive axle weights may need to be adjusted to facilitate the deployment of imported heavy duty BEV trucks.

#### 6. Buses should be included

Part of the rapid transition to zero-carbon transport will be mass-transit. We expect the numbers of buses to increase due to this. ZEV buses already exist, so it would be prudent to

<sup>15</sup> We note that PHEVs represent a tiny fraction of EV sales in Aus.

<sup>16</sup> <https://www.drive.com.au/reviews/2020-toyota-rav4-cruiser-hybrid-awd-review/>

<sup>17</sup> <https://www.drive.com.au/news/vfacts-april-2023-electric-cars-now-outsell-hybrids-in-australia/>

<sup>18</sup> <https://cleantechnica.com/2022/08/15/ford-f-150-lightning-cleantechnica-review/>

<sup>19</sup> <https://cleantechnica.com/2022/09/25/electric-utes-for-australia-new-zealand/>

include buses in the FES. Additional benefits with ZEV buses would be lower pollution, less noise, and also reducing traffic.

#### 7. **Avoid inadvertently encouraging people to buy more polluting vehicles**

There is the danger that an FES (and other mechanisms, such as tax breaks) could encourage an increase in sales of larger, more polluting vehicles. This appears to have happened in the US, through its CAFE<sup>20</sup> standards.

## Responses to Consultation Paper questions

### **SECTION 4:** Guiding Principles

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

We generally agree with most of the principles set out in Section 4. However our first suggestion below does question a key underlying assumption of the scheme, and the third stresses the urgency of the EV transition, indicating a strong FES is necessary.

#### **The FES should cover all fossil-fuel-based vehicles**

- The FES is proposed to be limited to light vehicles. This excludes a significant fraction of road transport emissions (around 30%) – which come primarily from heavy vehicles and buses.
- We believe that all fossil-fuel-based road transport should be included in the FES. This is because the ultimate aim is to reduce emissions to zero, so any vehicle type left behind will undermine the progress made with the types included in the FES.
- We realise that EV or other zero-emissions technology for heavy vehicles is not as advanced as that for light vehicles, however there is progress being made - and an FES provides an incentive to accelerate that progress.
- Indeed there are already EV trucks on the market, for example the 8.5t eCanter<sup>21</sup> by FUSO, the up to 22.5t SEA 500 EV<sup>22</sup> and the Volvo electric truck range<sup>23</sup>, to name just a few. There is also a world-first trial running in South Australia of an electric triple road-train<sup>24</sup>.
- Although the FESs of other countries have generally focused on light vehicles, Australia is in a different position since it is coming to the market quite late. This is an advantage, since, as just mentioned, there is now technology to cover heavy vehicles, whereas this was not the case when, for example, the EU designed its FES in 2012. Australia can lead the way here.
- Electric buses are also available, and in some countries all public transport buses are already being transitioned to EVs. EV buses are in use in some places in Australia already, the FES can accelerate this also.
- Although buses create a small fraction of emissions, with the upcoming changes in transport modality through other net-zero policies, bus numbers will increase.
- On a practical note, if the FES is going to incorporate at least 2 vehicle categories with varying limits, then adding heavy vehicles and buses would be a simple extension.
- The design of the Limit Curve would take into account the fact that EV technology is not as advanced for heavy vehicles, i.e. it would start with a higher limit, but ratchet down with time.

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<sup>20</sup> <https://www.thedrive.com/news/small-cars-are-getting-huge-are-fuel-economy-regulations-to-blame>

<sup>21</sup> <https://www.fuso.com.au/range/electric/>

<sup>22</sup> <https://www.sea-electric.com/products/sea-500-ev/>

<sup>23</sup> <https://www.volvotrucks.com.au/en-au/trucks/electric-trucks.html>

<sup>24</sup> <https://autotalk.com.au/industry-news/electric-triple-road-train-launched-in-sa>

### **The FES should make it clear that the ultimate aim is net-zero emissions**

- The FES should make it clear that the reason for doing this is climate change, and give an explicit long-term aim which aligns with the national targets.

### **The FES should be very strong/ambitious: Compelling reasons**

- A (simple) cost-benefit analysis suggests that the transition to zero-emission vehicles should be made as fast as possible, since:
  1. The risks/costs with climate change are very high (some negative effects are being seen already) – climate risk must be a key factor in any FES cost-benefit calculation.
  2. Another well-known cost is the ongoing death and health toll created by our polluting vehicles. As stated in the Consultation paper, the death toll from car pollution is greater than road toll. In this light, the faster the transition the more lives will be saved.
  3. One of the key barriers to BEV uptake is the upfront cost, however BEVs have lower running and maintenance costs<sup>25</sup> offering ongoing relief to Australian drivers. The sooner a FES is introduced, the quicker the market can incentivise lower upfront cost vehicles and accelerate BEV uptake
- All three of these facts point to fast transition, and thus a very strong FES<sup>26</sup>.
- We agree the transition should be equitable. Given the known (high) costs of ICE vehicles above, we suggest that the government should assist as much as possible to make EVs affordable. There are many forms this can take: EV subsidies at the lower price-points, tax breaks, and working with suppliers, for example. Extra investment by the government can make it more equitable whilst driving the transition as hard as possible.
- The Consultation paper lists an aim to "protect the continued sale of vehicles Australians love, including utes and 4WDs". We hope that this is not used as a reason for weakening the FES for these types of vehicles, since it is a small benefit considering the costs/risks outlined above. Moreover, the vehicles that Australians buy are primarily a function of advertising and availability, both of which can be changed. It would be much better to increase supply of BEV utes and 4WDs than to weaken the FES for these vehicle types as the primary function of the FES is to reduce emissions, not maintain ICE vehicle supply.

### **SECTION 4.1: Design assumptions**

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

#### **The FES will apply only to new vehicles**

- That the FES will only apply to new vehicles is reasonable. Since the annual attrition rate<sup>27</sup> is around 4% (similar to the roughly 5% new vehicle rate<sup>28</sup>), most ICE cars bought today will be retired by 2050 (the net-zero target year) – assuming the FES is successful in reducing and ultimately halting (by 2035) the sales of ICE vehicles. Any ICE vehicles purchased in the next 5-10 years will undermine the trajectory. This is another reason to have a fast transition/strong FES.

#### **The FES will apply on average to vehicles sold**

<sup>25</sup> <https://www.racv.com.au/royalauto/transport/electric-vehicles/are-evs-cheaper-to-run.html>

<sup>26</sup> [https://res.cloudinary.com/plenti/image/upload/v1648166523/prod/Plenti\\_Solar\\_charged\\_E\\_Vs\\_in\\_Australia\\_March\\_2022\\_29e122138b.pdf](https://res.cloudinary.com/plenti/image/upload/v1648166523/prod/Plenti_Solar_charged_E_Vs_in_Australia_March_2022_29e122138b.pdf)

<sup>27</sup> <https://www.abs.gov.au/statistics/industry/tourism-and-transport/motor-vehicle-census-australia/latest-release>

<sup>28</sup> <https://www.fcai.com.au/news/index/view/news/787>

- We see a potential danger in this method given the current marketplace.
- Zero-emissions vehicles easily come a long way below any limit curve. Since there are now many BEVs being sold (in some vehicle categories), a supplier that operates across a number of vehicle categories will easily be able to meet the FES requirements without any effort in other categories. For example, in the medium-sized car category, BEVs are now the majority<sup>29</sup> (58%) of new car sales, and will no doubt increase further. This means that, for example, a supplier that sells polluting large ICE SUVs will be able to continue doing so. It would be better to have limits on each vehicle category that suppliers need to adhere to. This would push each category down, at individual rates, and disincentivise 'offsetting'. We realise this would be a more complex system. A way to simplify it would be to group some of the vehicle categories (eg. light+medium+large cars vs SUV+Ute+4WD vs Heavy vehicles).
- We need to be cautious in copying FESs from different times, since the market/technology is changing so fast. We would like to see detailed modelling performed in this regard. In relation to this we note that Chart 3 (limit curves) is 9 years old – ZEVs have changed the market and therefore the FES approach should be updated to reflect this.

### Hybrids & efficient ICE technology should not be part of the mix from now onwards

- It is stated in the consultation paper that the "FES will provide good **incentives for ... efficient ICE technology, including hybrids**".
- As mentioned in the Consultation paper, Australia is starting late on the EV transition. This fact also has its benefits – the current market situation for EVs is totally different than when, for example, the EU started its FES – there are hundreds of BEVs available. Although only some of them are available in Australia so far (something that is changing very fast), they already represent large fractions of new sales of some vehicle types. Indeed, for medium-sized cars they are now the majority<sup>30</sup> (58%).
- There is clearly a pent-up, latent demand for BEVs in Australia, as evidenced by the very rapid increase in BEV sales over the past 2.5 years: 2% in 2021, 3.8% in 2022, and 6% in Q1 2023 (8% in April 2023)<sup>31</sup>
- Further, BEVs have recently outpaced Hybrid new car sales<sup>32</sup>.
- The issue of 'range anxiety' appears to be reducing since EV range has been continually improving, now typically around 400 km, and reaching up to 1000 km<sup>33</sup>. The government's National EV charging network initiative (worth \$39.3 million) will further combat range anxiety by providing fast charging stations at 150 km intervals between major cities.
- Based on these facts, we believe **hybrids (and certainly ICE vehicles) should be seen as old technology and discouraged** – they would slow the transition and create a legacy fleet that is still polluting (some hybrids have similar CO2 emissions to efficient ICE cars).
- **The FES should encourage a move directly to BEVs**, since they are zero emissions. As shown in Figure 1, even if 100% of new cars are BEVs, it is impossible to achieve a 43% reduction by 2023.
- **A strong BEV-focussed FES could accelerate a transition away from polluting hybrids**, to mainly zero-emissions vehicles.
- Hybrids and efficient ICE technology were part of the solution 10-20 years ago (eg. the Toyota Prius hybrid started production in 1997), but the path to net zero should now be focussed on zero-emissions vehicles.
- **In summary, where there is a fit-for-purpose battery electric vehicle equivalent available, hybrid vehicles should not be incentivised.**

<sup>29</sup> <https://data.aaa.asn.au/ev-index/>

<sup>30</sup> <https://data.aaa.asn.au/ev-index/>

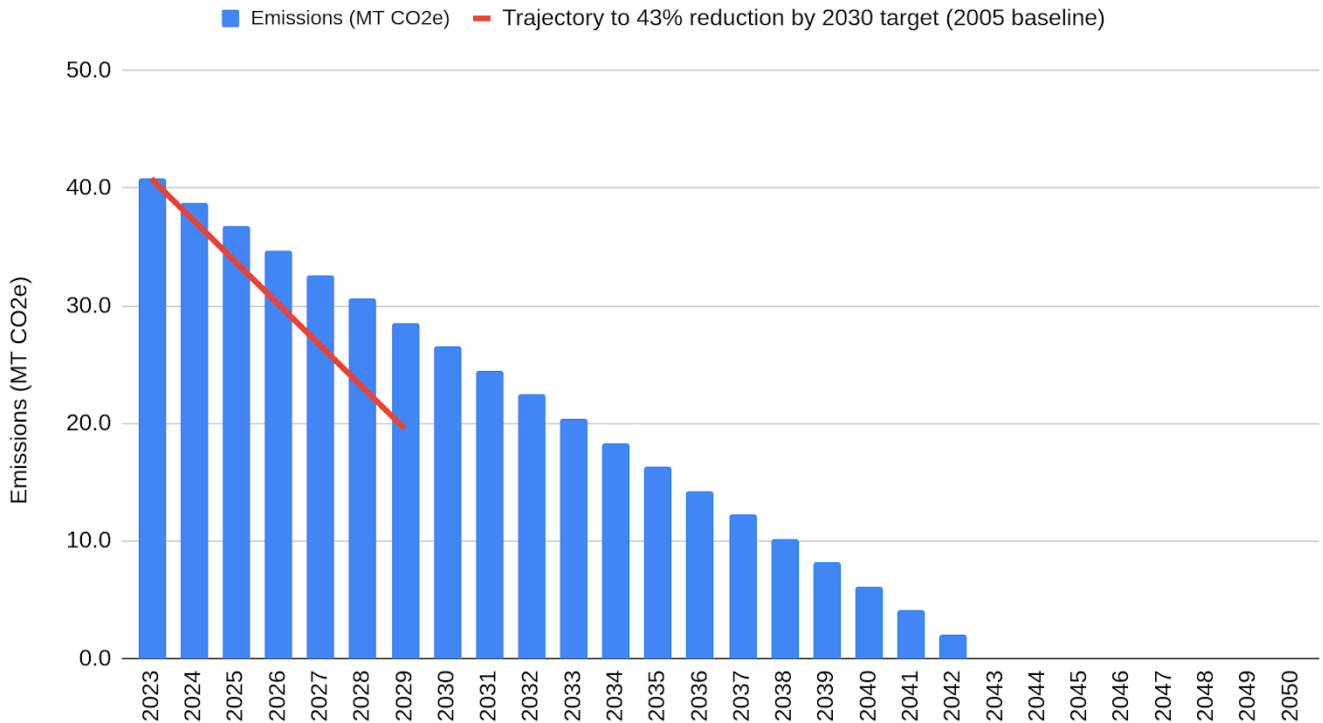
<sup>31</sup> <https://www.fcai.com.au/news/index/view/news/798>

<sup>32</sup> <https://www.drive.com.au/news/vfacts-april-2023-electric-cars-now-outright-hybrids-in-australia/>

<sup>33</sup> <https://www.drive.com.au/news/geely-claims-1000-km-electric-car-range/>



## Best-Case Scenario: Emissions trajectory if all new vehicles are ZEVs from 2024



**Figure 1.** National light vehicle CO<sub>2</sub>e emissions for an extreme transition scenario where all new light vehicles sold are zero-emissions. This theoretical scenario is useful to show the fastest possible emissions decline. The red line is the trajectory based on the federal government's legislated target of 43% reduction by 2030 (against 2005 baseline; assumed linear). Clearly it is not possible to reach the 43% target for light vehicles. Also, the earliest we could reach zero emissions is 2043.

*Model assumptions:* (i) 100% of new car sales are ZEVs from 2024, (ii) 20m light vehicles in fleet, (iii) 1m vehicle sales p.a., (iv) growth in fleet is ignored (but under these assumptions would be zero emission vehicles anyway; growth is typically 1.5-2% p.a.), (v) average 2024 emissions intensity is 164 gCO<sub>2</sub>/km (in line with 6% BEV sales in 2023), (vi) the 2005 emissions total was calculated to be 34.3 Mt, so 43% below this is 19.6 Mt (end point of the red line).

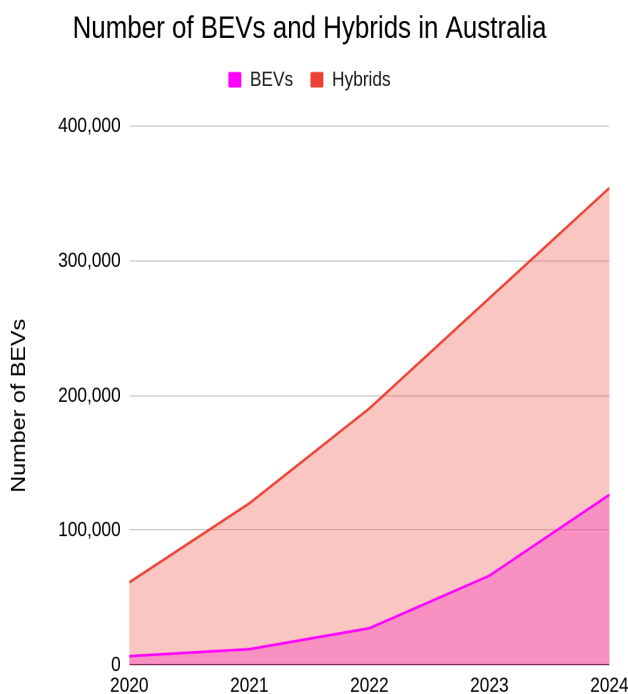
## SECTION 5: FES Design features

### What principles should we consider when setting a CO<sub>2</sub> target?

- The guiding principle for setting CO<sub>2</sub> target(s) should be to make it as strict as reasonably possible. As discussed above, there are very good reasons to make the transition occur as fast as possible (climate risk, lives saved from climate risk and car pollution).
- To gauge the upper limit of what is (theoretically) possible, we show in Figure 1 the best-case scenario, where every new car from 2024 onwards is zero-emissions. The trajectory for the federal government target of 43% reduction from 2005 levels is also included for comparison.
- It can be seen that **the 43% target cannot be met, even with 100% BEV new vehicles** (this does assume a linear decrease, but the conclusion is robust). Thus, in practice, where the BEV uptake will be much less than 100% initially, there is no way we can reach this target with light vehicles.
- This is another reason the FES needs to be as strong as possible, since **any emissions reductions not realised for vehicles will need to be recouped elsewhere in Australia.**
- On a more positive note, it can be seen that once we get to (or near) 100% BEV sales then the decline to zero emissions will be fast. However, any hybrids and ICE vehicles purchased earlier during the FES period will slow this.

### More technically, what should the FES average annual emissions ceiling (CO<sub>2</sub> target) be?

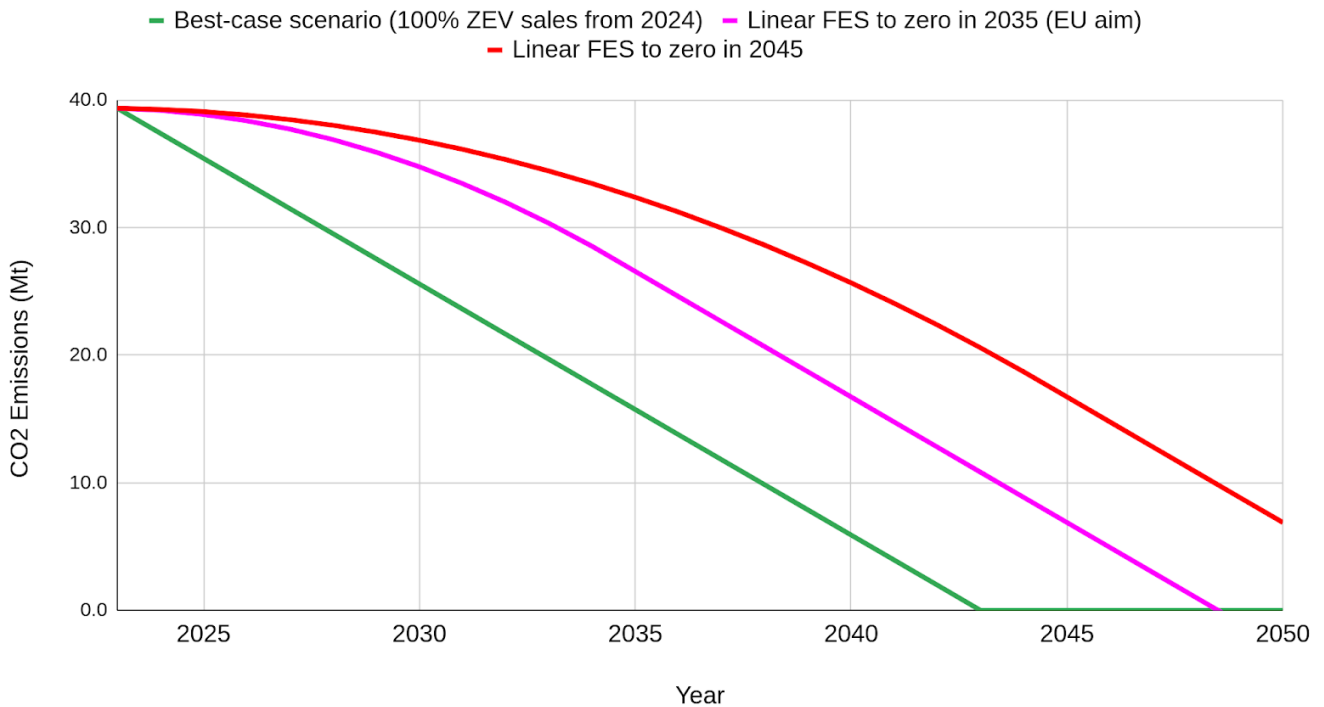
- To determine this we need a starting point and an end target. To calculate the starting point we looked at the national EV sales (hybrids and BEVs, PHEVs are a tiny fraction of these), since this tells us the current average CO<sub>2</sub>g/km. This is displayed in Figure 2.
- We found that there has already been a substantial drop in average CO<sub>2</sub>g/km in Australia due to this increase in EVs, from 180 gCO<sub>2</sub>/km to 164 gCO<sub>2</sub>/km. **This is a 9% decrease – before the FES has started.**
- The absolute value depends on the emissions intensity assumptions, but this is the rough size of it.
- In Figure 1 we showed a very basic hypothetical 'best case' model (all new vehicles ZEVs from 2024) and already shows the very likely impossibility of reaching the 43% 2030 target.
- In Figure 3 we show this model compared to two slightly more realistic models. In the new models we assume a linear decline in the FES emissions intensity ceiling from the current value (which we take as our 164 gCO<sub>2</sub>/km estimate; see Table 1 and Figure 4) to zero by 2035 (the EU target), and another the same except only reaching zero in 2045.
- From Figure 3 it can be seen that under the zero by 2035 FES target emissions can reach zero by 2050, **but under the 'zero emissions-intensity by 2045 FES' target we fail to reach zero by 2050.**
- One point to stress here is that this assumes the FES decline rate is strictly adhered to, which may not be the case. This is why we advocate for aiming high, a stronger target of zero FES emissions intensity by 2030.
- Our models are very basic but we expect that the general trends should be roughly correct. This really requires detailed modelling, which we assume the government will do (but was not present in the consultation paper)



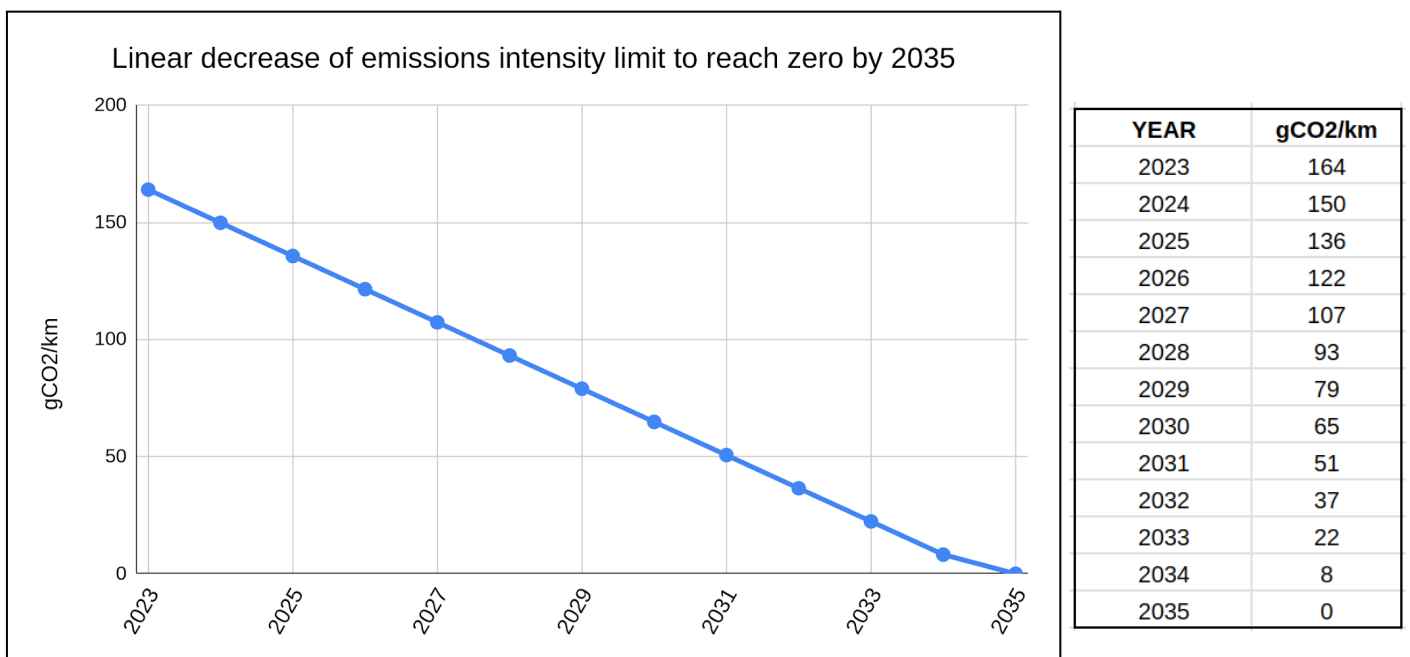
**Figure 2.** Total numbers of BEVs and Hybrids registered in Australia. The end of 2024 value is extrapolated from Q1 2023 data<sup>34</sup>, assuming the sales percentage doesn't change.

<sup>34</sup> <https://www.fc.ai.com.au/news/index/view/news/798>

### Emissions trajectories under a linearly declining FES limit



**Figure 3.** Simple linear decline models based on an FES emissions-intensity limit reducing to zero by 2035 (magenta) or 2045 (red). The green line represents the hypothetical best-case scenario from Figure 1 (100% of vehicle sales are ZEVs from 2024). The government’s legislated target of 43% reduction by 2030 would be located at around 18 Mt. Clearly none of the trajectories can reach this target. The 2035 FES target does result in zero emissions by 2050, but the 2045 target does not. The emissions-intensity decline values are shown in Table 1 and displayed in Figure 4.  
**Model assumptions:** (i) 20m light vehicles in fleet, (ii) 1m vehicle sales p.a., (iii) growth in fleet is ignored (typically 1.5-2% p.a.), (iv) average 2024 emissions intensity is 164 gCO<sub>2</sub>/km (in line with 6% BEV sales in 2023, see text for details).



**Figure 4.** Trajectory of the FES emissions-intensity limit to reach zero in 2035. The effect this has on emissions can be seen in Figure 3 (magenta line).

**Table 1.** The exact values of gCO<sub>2</sub>/km depicted in Figure 4, for the zero by 2035 trajectory.

### ***Should the Australian FES start slow with a strong finish, start strong, or be a straight line or take a different approach?***

- We strongly advise *against* the 'cautious start' model, since (i) we want to send a strong signal to suppliers that we are serious, so they can plan, and (ii) we risk getting even farther behind.
- We favour the 'strong start' model, due to (i) the well-known latent demand in Australia, (ii) it sends a strong signal to suppliers, and (iii) it is likely that once the 'ball is rolling' it will gather pace – we just need to kick-start it. In practice this means once supply is set up for BEVs, then Australians will buy more BEVs since that is what is available.
- A linear model would likely be best for simplicity, seeing as there are many factors we don't understand, it's difficult to plan anything more complex.
- There is no room for a slow start. This will only compound the issue of climate change further.

### **SECTION 5.1: Starting emissions level limit and approach (general)**

#### ***What principles should we consider when setting the targets?***

- As discussed above, there are compelling reasons to make the FES as strong as possible, this is the position of AP4CA.
- The minimum would be to match the bulk of the rich countries' trajectories.
- We are starting behind, so this means a fast initial transition.
- However we have the advantage that BEVs are now widely available, and their cost is steadily dropping. This is thanks to the FES and other policies adopted in other countries over the past 10-20 years.
- New Zealand appears to be taking this approach, with a rapid decline to come in line with the EU and US. This would be the least we could do.
- The guiding principle of AP4CA is to help facilitate a better world for our children by combating climate change across the board. The FES should consider the principle of intergenerational equity and set ambitious targets that will help minimise climate impacts in the future.
- Emissions from ICE vehicles are a considerable health risk with ten times as many deaths caused by emissions compared to road deaths<sup>35</sup>, we try to eliminate the impact of cigarettes on society and should apply the same principle to vehicle emissions.

### **SECTION 5.1: Starting emissions level limit and approach (technical)**

#### ***What should Australia's CO<sub>2</sub> FES target be?***

- As discussed previously, any FES that is implemented is starting from a delayed position and does not have the luxury of time to accommodate incremental changes
- As a benchmark, Australia's CO<sub>2</sub> FES target could start in alignment with the NZ *Clean Car Standard* at around 150g CO<sub>2</sub>/kg in 2024. Coincidentally, this is exactly what our zero emissions-intensity by 2035 model suggests (Table 1 and Figure 4).
- Our 2035 FES model predicts that we can not meet the legislated 43% reduction in emissions by 2030, but we should be able to reach zero by 2050 (Figure 3).
- A diminishing CO<sub>2</sub> target will be required to meet Australia's emissions obligations and provide any hope of achieving Net Zero Emissions by 2050.
- To 'hedge our bets' **we advocate for a strong target of zero emissions-intensity by 2030.**

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<sup>35</sup><https://www.unimelb.edu.au/newsroom/news/2023/february/vehicle-emissions-may-cause-over-11,000-deaths-a-year,-research-shows>

### How quickly should emissions reduce over what timeframe?

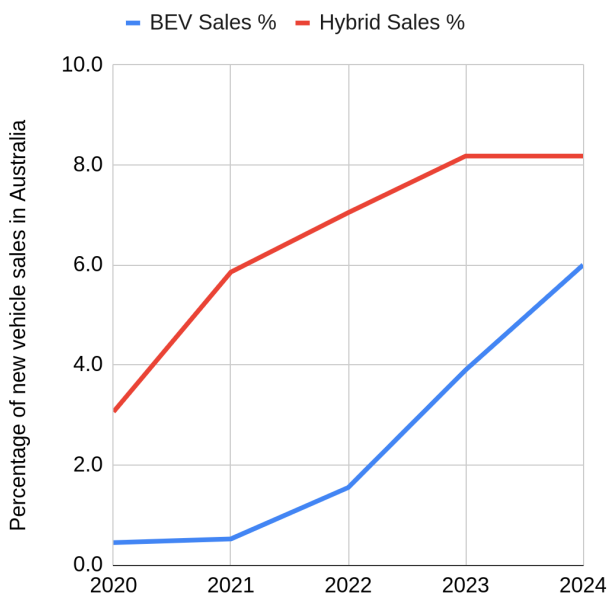
- Given the global climate crisis, we need to reduce our emissions as fast as possible.
- Our simple linear decline models (Figure 3) show that we need to at least aim for zero emissions-intensity average by 2035, if we are to have a hope for reaching zero CO2 emissions by 2050. This is in line with the EU target.
- Again, **we advocate for a stricter timeframe of zero emissions-intensity by 2030**, to 'hedge our bets'.

### SECTION 5.1: Adjustments of limit level

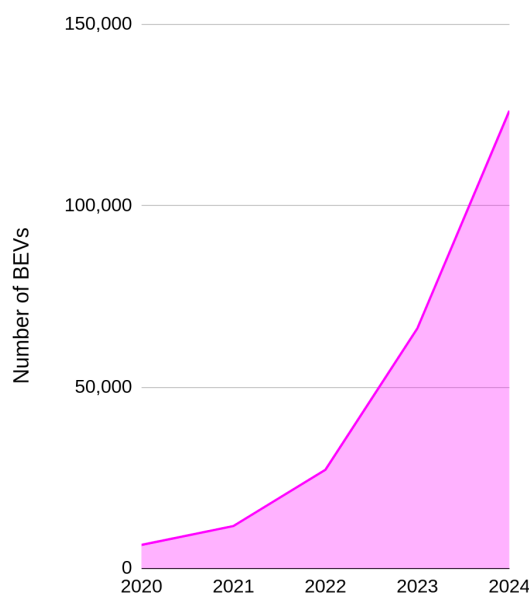
#### How many years ahead should the government set emissions targets, and with what review mechanism to set limits for the following period?

- The EU is essentially aiming for all new cars to be zero-emissions by 2035. Thus, assuming we match this (we argue that it needs to be faster), **we have only 11 years**.
- Given the rapidity of the transition, the critical nature of the task, and the rapid evolution of the BEV market (see Figures 5 and 6), there has to be regular checkpoints to make sure the scheme is working as expected. **It may be that BEV sales explode in 1-2 years**, which will change all the calculations and therefore limits/ceilings. This is quite possible since price parity with ICE cars is very near<sup>36</sup> (has already been achieved in some market segments<sup>37</sup>), and this will suddenly alter the playing field. For these reasons we suggest a **review after 2 years**. The review should update the modelling and have the power to immediately alter the FES parameters. It may be that the limit curves don't need to be changed, but it needs to be checked.
- **The total fleet emissions (the ultimate measure) should be modelled and tracked over time**, taking into account fleet growth, changes in average km travelled, vehicle retiring rate, etc.

New light vehicle sales: BEV and Hybrids (%)



Total Number of BEVs in Australia



**Figure 5.** Light vehicle sales versus time. It can be seen that BEVs are increasing rapidly, while hybrid sales are slowing. BEVs outsold hybrids in the first 4 quarters<sup>38</sup> of 2023.

<sup>36</sup> <https://theicct.org/publication/update-on-electric-vehicle-costs-in-the-united-states-through-2030/>

<sup>37</sup> <https://theconversation.com/thinking-of-buying-an-electric-vehicle-for-your-next-car-heres-the-market-outlook-and-what-to-consider-179293>

<sup>38</sup> <https://www.drive.com.au/news/vfacts-april-2023-electric-cars-now-outright-hybrids-in-australia/>

**Figure 6.** Total number of BEVs registered in Australia till the end of 2023. Late 2023 data has been extrapolated from Q1 2023, assuming no increase above the 6%<sup>39</sup>.

***How should the Government address the risks of the standard being found to be too weak or too strong while it is operating?***

- Progress should be continuously monitored, and regular reviews made. There is no room for error if we are to reach net zero before 2050.

**SECTION 5.1:** Attribute-based emissions limit curve

***Should an Australian FES adopt a mass-based or footprint-based limit curve?***

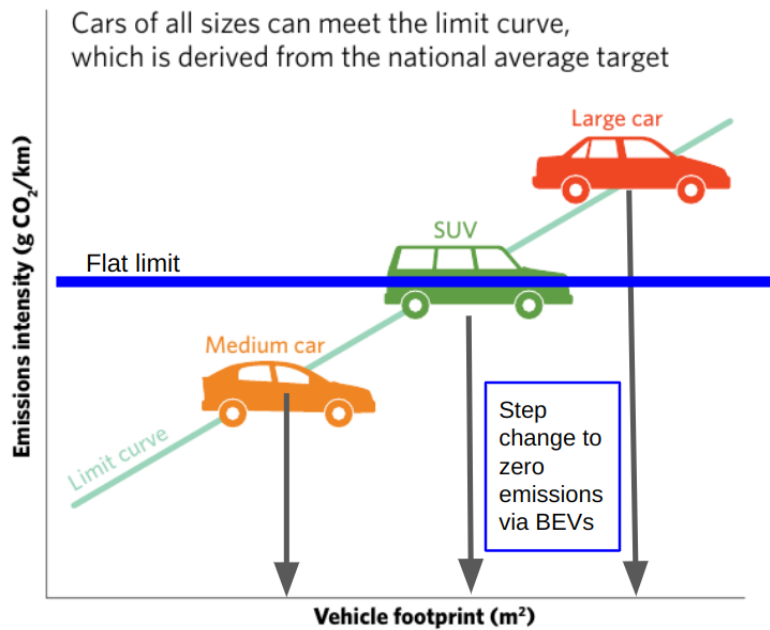
- The idea of a slanted limit curve comes from the assumption of relying on intermediate technologies (i.e. hybrids and efficient ICE). These vehicle types were part of the solution 10-20 years ago but there now exist ZEVs for every category of vehicle. As discussed above, intermediate technology should not be part of Australia's solution.
- **BEVs have changed the playing field.** In the past, change was incremental, encouraged through FESs around the world. Hybrids and efficient ICE engines were developed, incrementally reducing the emissions intensities of vehicles. With the rapid rise of BEVs – expected to reach 18% globally in 2023 according to the IEA<sup>40</sup> and 6-8% in Australia<sup>41</sup> – **there has been a step-change in the way that emissions are reduced. Emissions intensity now often drops from 100-200 gCO<sub>2</sub>/km to ZERO (see Figure 6). This needs to be accounted for in new FESs.**
- The ultimate aim of the FES will be to have every new vehicle sold be a ZEV, and we need to start now. Indeed it is already occurring with some classes of vehicles – see Figure 7.
- Since the FES plans on operating at the supplier level, and they each sell a range of vehicles, **a flat curve would encourage the sales of ZEVs in every category.** Suppliers that fail to do this will be disadvantaged, so successful suppliers will be favoured, which is in our interest. It would also support emerging suppliers that are at the head of the curve technology-wise.
- This may encourage the sale of smaller/medium vehicles at first, since there are currently more ZEV models in that category. If suppliers want to sell large vehicles (or if there is demand), they will need to source ZEV versions – which do already exist. We reiterate that time is short for this transition, since we are starting late, and a slight distortion in the market is a small price to pay, given the high costs (climate risk, pollution death toll).
- We would consider heavy vehicles as a special case, since technology in that part of the market is clearly lagging, given the challenges of very high mass and long distances required. Thus we would suggest heavy vehicles have a separate limit that is reduced over time accordingly. We are encouraged by the emergency of HT battery swap options for long distance freight such as Australia's own Janus Electric, which optimise vehicle operating times. We would expect this type of model to become popular, particularly if battery swap standards can be harmonised.

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<sup>39</sup><https://www.fcai.com.au/news/index/view/news/798>

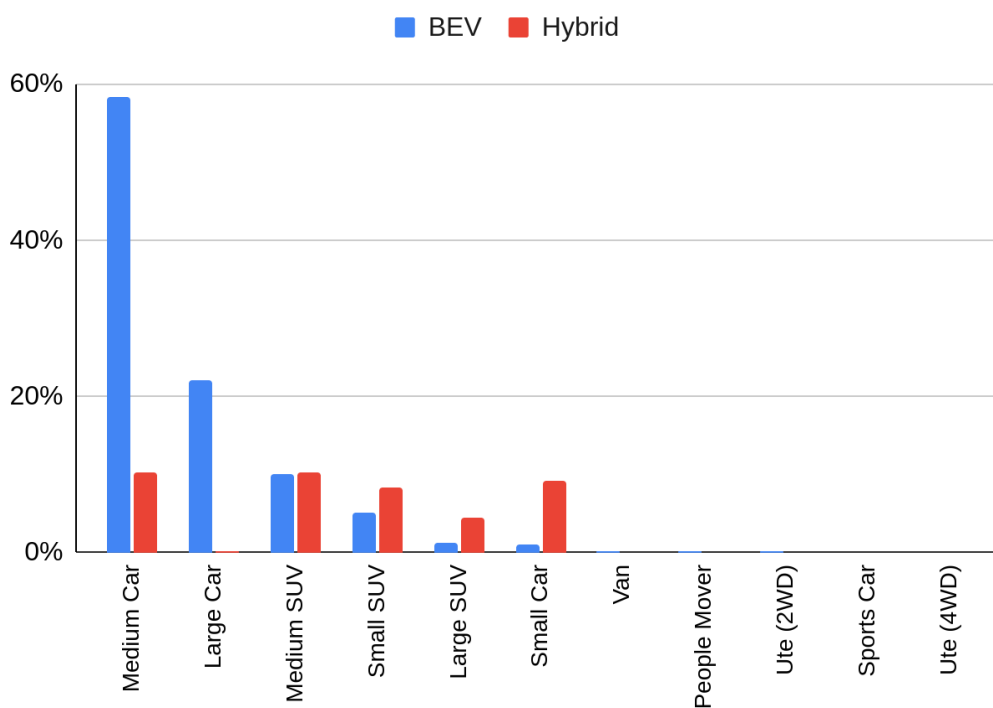
<sup>40</sup><https://www.iea.org/news/demand-for-electric-cars-is-booming-with-sales-expected-to-leap-35-this-year-after-a-record-breaking-2022>

<sup>41</sup><https://www.drive.com.au/news/vfacts-april-2023-electric-cars-now-outsell-hybrids-in-australia/>



**Figure 7.** Schematic diagram showing the quantum effect of BEVs, which moves emissions intensity of vehicles from typical values of 100-200 gCO<sub>2</sub>/km directly to zero. Intermediate technology vehicles (mainly hybrids and efficient ICE) should no longer be part of the transition. Further, the large numbers of zeros from BEVs will skew any averages, weakening the FES. We suggest a flat curve, as indicated.

### BEV and Hybrid uptake by vehicle subclass (Q1 2023)



**Figure 8.** New vehicle sales figures for BEVs and Hybrids, broken down by vehicle subclass, for Q1 2023. It can be seen that the fractions of BEVs is becoming substantial in a few subclasses, and even dominate over ICE vehicles in one case. Data from the Australian Automobile Association<sup>42</sup>.

<sup>42</sup> <https://data.aaa.asn.au/ev-index/>

## **SECTION 5.1: Multiple targets**

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

- We support the adoption of a single target for all vehicles within the light and light commercial vehicle class. As discussed in our answer to the previous question, the advent of ZEVs has changed the calculus of emissions reductions. Suddenly we have many vehicles sold that have zero emissions. These zeros cause problems when used in the previous incarnations of FESs, since they were based on the assumption of incremental change through hybrids and efficient ICE vehicles, which are now becoming obsolete. The zeros when used in averages will cause problems, for example one model of BEV sold can offset many ICE cars, allowing the status quo to continue in certain market segments, undermining progress.
- Further, LCVs, including utes and larger SUVs, emit at higher levels, so they should not be given a target that allows for greater emissions – the aim is to reduce all emissions (in a very short timeframe). These types of vehicles also pose a greater risk to other road users<sup>43</sup>.
- By creating a target for different classes of vehicles, there is the risk of zero emissions vehicles within the higher target range skewing the emissions average for that class and allowing for the continuation of emissions heavy vehicles, such as the Toyota LandCruiser Ute (281 CO<sub>2</sub> g/km), RAM1500 (279 CO<sub>2</sub> g/km) or the GWM Ute (249 CO<sub>2</sub> g/km)<sup>44</sup>
- Having zero emissions vehicles included in a target focused on higher emitting vehicles like the ones above would reduce the overall average and allow these incredibly polluting vehicles to continue rather than addressing the core problem and innovating emissions reductions for LCVs
- AP4CA feels that zero emissions vehicles should not be included in the target as they will distort the average and diminish the purpose of the FES
- Another key problem of creating separate targets is illustrated by the problems faced with the US CAFE standards which imposed a weaker fuel efficiency requirement on light trucks and SUVs subsequently resulting in manufacturers creating more vehicle stock to meet that definition and therefore take advantage of more lax emissions standards
- Larger 'light vehicles' such as Utes and SUVs should face the same increasingly stronger emissions targets rather than be given essentially a 'free pass' to continue emitting huge amounts of CO<sub>2</sub> for years to come

### ***Is there a way to manage the risk that adopting two targets erodes the effectiveness of an Australian FES by creating an incentive to shift vehicle sales to the higher emission LCV category?***

- We do not support the creation of two targets as discussed above

### ***Is there anything else we should bear in mind as we consider this design feature?***

- Impact of zero-emissions vehicles on the average total (eg. 58% of medium vehicles are EVs giving that category 60 g/km emissions, gives 3 times selling capacity for ICE vehicles)

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

- As discussed throughout this submission, a number of different interventions could encourage more efficient vehicle choices. Some of these include:
  - BEV rebates, tax offsets, etc
  - A targeted approach to encouraging and enabling low cost BEVs for low and middle income earners who are often priced out of the existing market
  - Community awareness campaigns discussing the importance of reducing ICE vehicles in general, particularly high emitting vehicles

<sup>43</sup> <https://www.ghsa.org/resources/news-releases/pedestrians20>

<sup>44</sup> Climate Council, 2023. *Ute Beauty! The case for lower and zero emissions utes in Australia*



- Provide supply side incentives such as subsidies and tax concessions to suppliers and manufacturer to encourage investment in BEVs in Australia

## **SECTION 5.2:** Credit banking, transferring and pooling

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

- AP4CA is against the use of credit banking, transferring or pooling
- These mechanisms will not meaningfully address the problem and will allow suppliers to prolong the manufacturing of heavy emitting vehicles
- These mechanisms should not be included as part of the FES

## **SECTION 5.3:** Multipliers for LZEVs

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

- While the premise behind multiplier credits can be a useful tool in further incentivising EV expansion, we believe that it is too late in the Australian context and would be the wrong mechanism for what is required.
- By providing multiplier credits, there is the likely potential that manufacturers who are primarily or wholly ZEV manufacturers will distribute them to suppliers of high emitting vehicles (utes, large 4WDs, etc.).
- This would only prolong the problem and stifle the solutions that are desperately required now.
- It is noted that both the EU and the US FES are phasing out the multiplier credit mechanism entirely by 2025.

### ***If so, what level should the multipliers be, should they apply equally to both classes of vehicle (if adopted) and for how long should they apply?***

- Not applicable.

### ***Should the total benefit available from these credits be capped? If not, should the Government consider another approach to incentivising the supply and uptake of LZEVs?***

- Not applicable.

## **SECTION 5.4:** When should a FES start?

### ***A. When do you think a FES should start?***

- The FES should start as soon as practically possible. AP4CA believes there is no reason to propose a delayed or staged roll out of a FES given the urgency of the need to reduce vehicle emissions. Rather, the FES should be developed and enacted without delay and deployed as fast as practicably possible. There are a number of reasons that we believe a robust and efficient FES can and should be developed and deployed quickly. These reasons are outlined below.
  - Starting from behind** - As the world approaches increasingly dangerous effects of climate change, every effort needs to be made to minimise impacts. Australia is essentially starting from the bench when it comes to legislated emissions reduction and needs to find a way to cover significant ground as quickly as possible. There is no longer any time to wait to implement legislation that takes a gradual approach to reducing emissions. That vehicle has passed. Rather, Australia should look to the rest of the world and draw on a myriad of examples of fuel efficiency standards and testing models to create a world leading standard that will rapidly reduce vehicle

emissions and promote the equitable uptake of BEVs in Australia. The Euro 6 emissions standards set the average CO<sub>2</sub> emissions across a company's entire range to 130g/km or below. This represents a strong starting point for an Australian FES. However, as discussed above AP4CA feels that there needs to be strong safeguards in place to avoid companies using incredibly efficient vehicle emissions to offset higher emitting vehicles. Alternatively, it is suggested that there be a cap on the offsetting of lower emitting vehicles in a company's fleet to encourage traditionally emissions intensive vehicles such as Utes and SUVs to become more efficient or adopt BEV models.

- ii. **Phasing out ICE vehicles** - There is no longer a scenario where the burning of fossil fuels can continue if we are to maintain a habitable planet for humanity. The development of an Australian FES should ultimately be designed to encourage the phasing out of ICE vehicles entirely. Every day that strong emissions standards are in place provides a better chance of reducing vehicle emissions and ultimately assisting Australia in meeting its obligations under the Paris Agreement of reducing emissions by at least 43% by 2030.
- iii. **Encourage weaker categories** - A significant drawback of the United States emission standard (Corporate Average Fuel Economy, CAFE) is that it simplifies the classification of non-freight vehicles as 'light duty vehicles'. In doing so, the standard allows for larger vehicles to take advantage of lesser emissions standards on vehicles such as trucks and SUVs, and offer financial incentives. The flow on effect of this is an uptick in the purchase of larger, higher emitting vehicles<sup>45</sup>. The Australian FES should encourage these higher emitting categories to move faster and could utilise existing models available on the global market to encourage consumers to purchase lower emission vehicles in the same class (i.e. The Ford F150 Lighting (BEV)). It is noted that large mass vehicles still involve embedded emissions when charging from grid power, but ultimately a well intentioned and well designed FES will encourage vehicles with the lowest emission intensity required while allowing flexibility to road users making the transition from existing LCVs.
- iv. **Promote an enhanced Energy Sector** - Achieve enhanced Energy security sooner. Ideally, the sooner the standard is implemented, the sooner the transition towards BEVs will occur in Australia. The current uptake in BEVs is already accelerating in Australia (reaching 8% in April 2023<sup>46</sup>; also see Figures 5 and 6) and shows that there is a demand side desire to purchase LZEVs. By enacting a strong standard early, the Government would be facilitating this transition as soon as possible with the potential added benefit of encouraging an enhanced domestic energy sector. The increase in BEVs will inevitably require the expansion of a national charging network and modernisation of the transmission network. This presents an opportunity to stimulate the energy sector transition.

#### ***B. How should the start date interact with the average annual emissions ceiling?***

- The consultation paper acknowledges that an Australian FES needed to provide a proportional reduction to other markets, and that failure to do so would further set back Australia. It is therefore vital that the FES sets an ambitious emissions ceiling.
- Assuming sales of 6% market share of both BEVs and Hybrids in 2023, the average CO<sub>2</sub> g/km for new light vehicles will be 164 g/km.
- We would like to see that ceiling start off at no higher than 150 CO<sub>2</sub>/km in 2024 with a decreasing ceiling over time to 2030 (see models in Figure 3 and FES emissions-intensity decline trajectory in Table 1 and Figure 4).

<sup>45</sup> <https://www.washingtonpost.com/business/2023/04/07/trucks-outnumber-cars/>

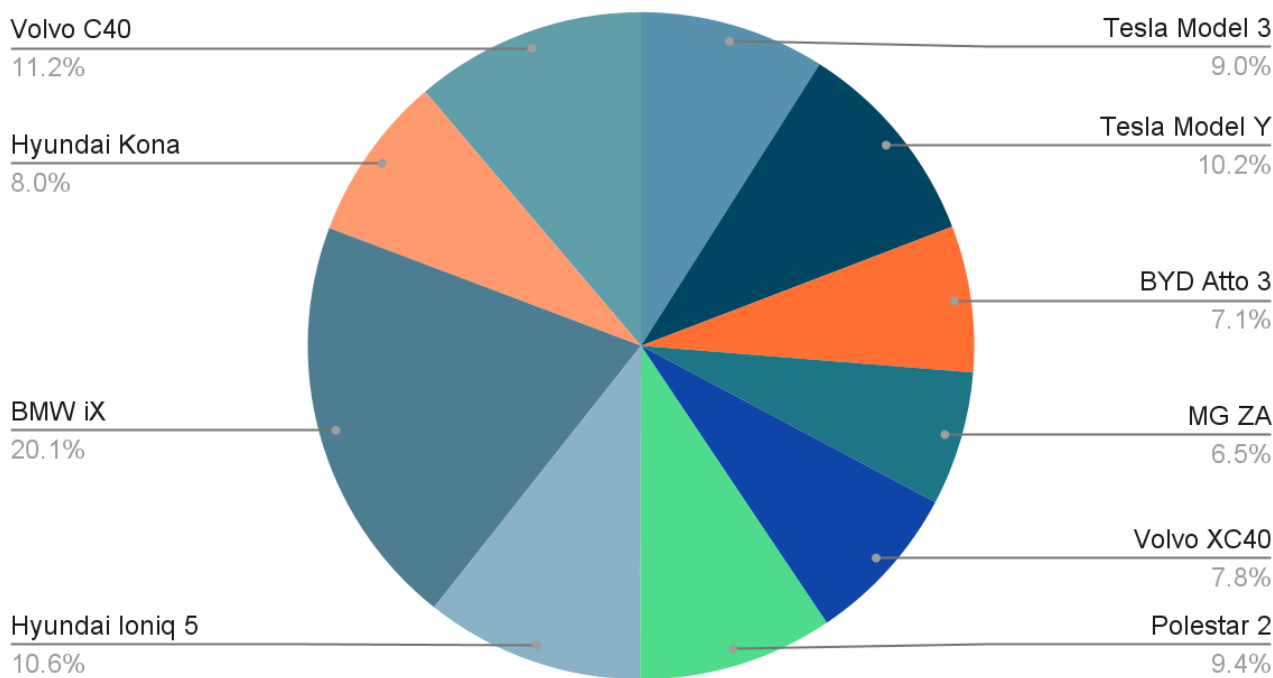
<sup>46</sup> <https://www.drive.com.au/news/vfacts-april-2023-electric-cars-now-outright-hybrids-in-australia/>

- We understand that a heavy reduction is not possible immediately and would appreciate the need to provide a lead time of perhaps 18 months to 2 years before the ceiling took effect. However, incentives should be provided from the start to encourage the transition as soon as possible, including potential tax concessions.
- We would support a similar model to the New Zealand *Clean Car Standard* which proposes a government rebate for vehicles emitting less than 146g CO<sub>2</sub>/km and an increasing Government fee for emissions over 193g CO<sub>2</sub>/km<sup>47</sup>.
- However, given the urgency required to reduce emissions, we propose that the ceiling begins at 164g CO<sub>2</sub>/km and decreases over time.

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

- Yes, the Government should provide incentives for the supply of LZEVs ahead of a FES commencing. This will encourage early adoption and can be implemented in a number of ways
- Currently, the EV market in Australia is dominated by the sales of expensive BEVs with the six of the top ten popular EVs sold in Australia costing in excess of \$70,000 and only two models priced below \$50,000, being the BYD Atto and MG ZS at \$48,000 and \$44,000 respectively (see Figure 9).<sup>48</sup>
- The incentivisation of LZEVs ahead of the FES commencing should prioritise low and middle income earners and allow the uptake of more affordable vehicles for a wider segment of the population.
- The standard should be equitable for all and allow people across society to be able to access low and zero emissions vehicles.

**Top 10 selling EV's In Australia Q1 2023**



**Figure 9.** Top 10 selling EVs in Aus Q1 2023, from [carexpert.com.au](https://www.carexpert.com.au).

<sup>47</sup> <https://www.whichcar.com.au/news/new-zealand-s-clean-car-standard-receives-green-light>

<sup>48</sup> <https://www.carexpert.com.au/car-news/australias-most-popular-evs-in-2023-and-other-emerging-trends>

## **SECTION 5.5:** Penalties for each gram per kilometre

### **A. 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?**

- The best case scenario in the opinion of AP4CA would be one where the higher the emissions per km, the higher the penalty. However, we understand that realistically this is unlikely to occur.
- The risk of penalties that are not high enough is that it is then not enough of a disincentive for manufacturers making high emitting vehicles. Particularly if they are able to utilise offsets and credits that may be introduced.
- The penalty should be suitably high as to create a clear incentive for clean technology and BEV manufacturing.
- AP4CA would like to see an increasing penalty to further discourage ICE vehicles, or other similar mechanisms (i.e., higher parking permits, registration fees, etc.).
- The penalties should particularly focus on vehicles with emissions over 175 CO<sub>2</sub> g/km which would include all ten of the top selling ute models in Australia.<sup>49</sup>

## **SECTION 5.7:** Other regulatory mechanisms

### **A. Should the regulator be the department? What other options are there?**

- Yes, AP4CA feels that the FES should be regulated by the Department. The existing Federal Chamber of Automotive Industries voluntary CO<sub>2</sub> Emissions Standards is not adequate for the design and implementation of a FES that is robust, fast acting, and with the required incentives and penalties required to rapidly reduce vehicle emissions in Australia.
- Other Commonwealth departments may be suitable to be the regulator, or a new Commonwealth regulatory body. However, for the sake of efficiency and urgency, the Department should be the primary choice as the regulator for the FES.

### **D. Should an Australian FES use WLTP test results in anticipation of the adoption of Euro 6 and if so, what conversion should be applied to existing NEDC test results, or how might such a factor be determined?**

- As noted in the ICCT technical summary paper, “G-20 countries account for 90 percent of global vehicles sales” with 17 of the 20 countries having chosen to follow the European regulatory pathway for vehicle emissions.
- The Australian FES should similarly adopt the WLTP test in anticipation of the adoption of Euro 6. Primarily as the existing NEDC test relies on significantly outdated and increasingly unreliable test methodology based on theoretical driving patterns as well as an altered driving landscape detached from that of the 1980s.
- Vehicle emissions testing should be based on the real world factors of a given vehicle that more closely represent its impact on the road.
- The implementation of an Australian FES should be based on utilising the strongest and most current best practice standards from around the world, such as Euro 6. Australia is behind the curve when it comes to implementing a strong FES to reduce vehicle emissions.
- The emissions from the transport sector represent the third largest share of total emissions in Australia, with vehicles therefore representing roughly 10% of all emissions in Australia.<sup>50</sup>
- Any efforts to introduce an efficiency standard need to be done in a manner that maximises emissions reductions for new vehicle sales and applies stringent requirements on all new vehicles entering the market.

<sup>49</sup> [Climate Council, 2023. Ute Beauty! The case for lower and zero emissions utes in Australia](#)

<sup>50</sup> <https://www.google.com/url?q=https://www.energy.gov.au/households/transport&sa=D&source=docs&ust=1685103090361877&usq=AOvVaw0ZzkZ4FtYWKfr4pUiYX2KS>