
FCAI Submission to: Future Fuels Strategy discussion paper



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INTRODUCTION

The Federal Chamber of Automotive Industries (FCAI) welcomes the opportunity to provide input into the **Future Fuels discussion paper – February 2021**.

FCAI commentary will only be specific to certain elements of the Future Fuels Strategy as it pertains to light duty motor vehicles (passenger cars and light commercial vehicles) and motorcycles.

The FCAI is the peak Australian industry organisation representing over 50 global automotive brands who design, manufacture, and sell light duty passenger vehicles, light commercial vehicles, and motorcycles around the world.

The automotive industry in general, and the FCAI membership specifically has and continues to make significant contributions towards climate change goals both internationally and domestically through the introduction of a range of Zero and Low Emission Vehicle (ZLEV) technologies.

The global companies that we represent collectively spend over \$100b a year in Research and Development (R&D) to bring new technologies to market; in comparison global defence and aerospace R&D is around \$22b. These companies see countries across the world put in place an extensive range of policy measures to increase the use of EVs and other low emission vehicles, from funding infrastructure, mandating ZLEV fleet targets and providing purchasing incentives for consumers. These countries have taken this policy action because they recognise that significant barriers exist for these new vehicle technologies to be adopted by consumers in numbers necessary for the transport sector to play its role in meeting net zero CO₂ targets. Without the right policy settings, based on international experience, the market share of ZLEVs does not shift in any meaningful way.

In a demonstration of the automotive industries absolute resolve to address climate change, in 2020, all FCAI members agreed to a voluntary CO₂ code of conduct with an overall target to reduce light transport emissions through to 2030 in line with the Paris Climate agreement. Progress towards this target will be tracked and reported annually. To meet these stringent targets emissions will have to on average reduce by four percent for passenger vehicles and light SUVs and 3 percent for large SUVs and light commercial vehicles.

FCAI strongly supports government investment in the infrastructure required for these advanced powertrain vehicles. Battery Electric Vehicles (BEV) require electrical recharging infrastructure and the emerging Fuel Cell Electric Vehicles (FCEV) require hydrogen refuelling infrastructure. FCEV technology is expected to be critical particularly for larger vehicles where available payload is of paramount importance combined with extended range capabilities which is vital in the Australian context.

Finally, achieving meaningful reductions in emissions will require a range of solutions, encompassing ZLEV vehicles including Hybrid and low emission Internal Combustion Engine (ICE) vehicles that require fuel standards commensurate with those published in the World Wide Fuels Charter. Currently Australia has the worst fuel quality in the OECD; preventing Australians from accessing some of these advanced low emission ICE powertrains.

ADDRESSING THE BARRIERS TO THE ROLL OUT OF NEW VEHICLE TECHNOLOGIES

The first barrier to the roll out of new vehicle technologies is the substantial lack of climate policy particularly as it relates to the light vehicle industry within the Federal Government. Manufacturing vehicles globally is a long-term commitment that requires an understanding of the current policy and regulatory settings and how these policies are going to change over time.

Modern motor vehicles and the systems inherent in their design are planned and produced with an active sales lifecycle in the vicinity of 5-10 years. Commercial and off-road vehicles have some extended lifecycles due to their complexities. On this basis it is essential that manufacturers have policy certainty over several years to ensure that the product planning processes meet the needs of the market.

Most advanced economies have put in place long-term emissions targets that provide manufacturers with certainty for the future and enables them to put product development plans in place accordingly.

In a demonstration of the automotive industries absolute resolve to address climate change, in 2020, all FCAI members agreed to a voluntary CO₂ code of conduct with an overall target to reduce light transport emissions through to 2030 in line with the Paris Climate agreement. Progress towards this target will be tracked and reported annually. To meet these stringent targets emissions will have to on average reduce by four percent for passenger vehicles and light SUVs and 3 percent for large SUVs and light commercial vehicles.

Meeting increasingly stringent transport emission targets will require a range of strategies. This will need to consider the various powertrain electrification strategies, Hybrid Vehicles, Plug In Hybrids, Battery Electric Vehicles as well as Fuel Cell Electric Vehicles and Low Emission Internal Combustion Engines. Low emission combustion engines require high quality fuel to operate, therefore any discussion on refining must include an earlier obligation than 2027 to raise fuel quality in line with international standards. In fact, some of our members are already severely restricted on the product options based on our fuel quality that is the lowest in the OECD.

The FCAI acknowledges the substantial role of Governments at all levels in ensuring that there is convenient access to refuelling facilities for their vehicles whether they be electric charging infrastructure or hydrogen refuelling facilities particularly where commercial business cases do not currently exist.

However, the strategy ignores the largest barrier to purchase of these products which is the upfront purchase cost.

Upfront Vehicle Purchase Cost

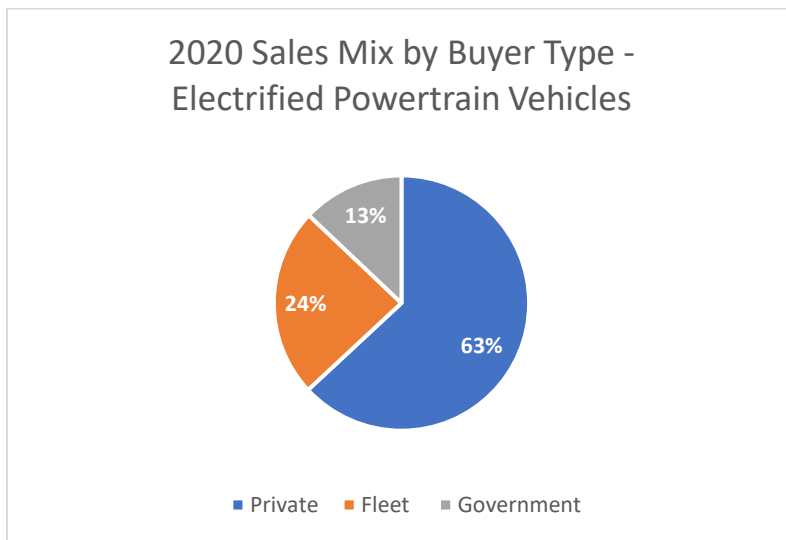
Upfront vehicle cost currently is and continues to be the most significant barrier to consumers wishing to make the switch to a vehicle with an electrified powertrain. Hybrid vehicles for example have been on the market in Australia for about 20 years and it is only in recent times that the cost of the technology has been able to be reduced to a relatively minor premium. This level of cost reduction has only been made possible by mass production economies of scale that have been supported by the strategies and policies implemented by governments around the world.

FCAI analysis on purchasers of vehicles with electrified powertrains shows some surprising results, despite the Total Cost of Ownership (TCO) tables used in the discussion paper. It is not governments or fleets who are increasingly deciding to purchase these vehicles, it is private consumers. Interestingly private consumers are making the decision across all types of electrified powertrain vehicles:

- Hybrid Electric Vehicle (HEV)
- Plugin Hybrid Electric Vehicle (PHEV)
- Battery Electric Vehicle (BEV)

Note: Fuel Cell Electric Vehicles are not yet on commercial sale.

Vfacts Analysis (2020 Sales not including Tesla) Electrified Powertrain Vehicle Sales

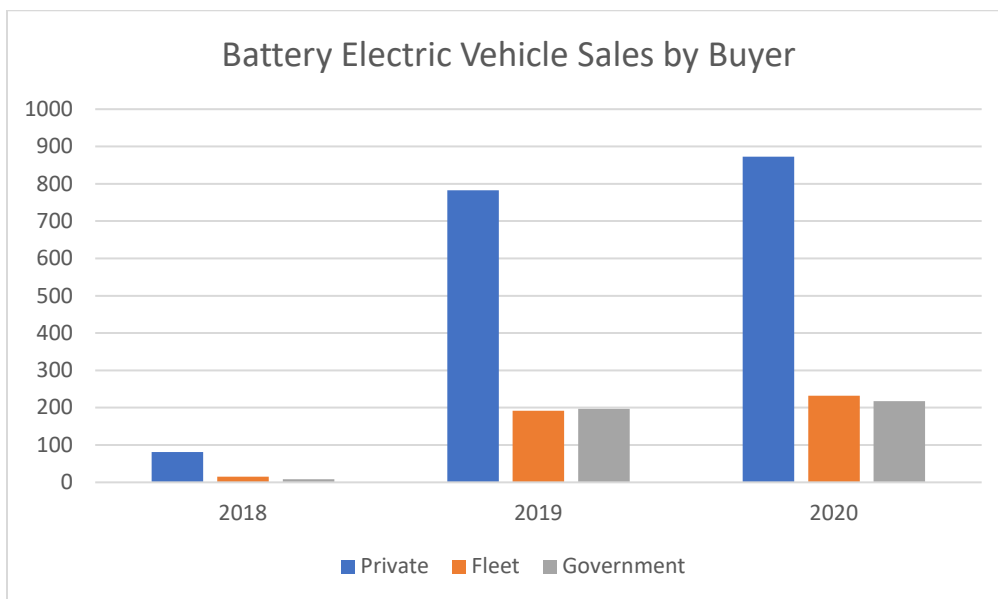


Key Points

Private consumers are leading the overwhelming adoption of vehicles with electric powertrains

Fleet purchases make up around 40% of all vehicle sales yet represent just 24% electrified powertrain vehicles

Battery Electric Vehicles



Key Points

Private consumers are leading the drive to pure electric vehicles

It's reasonable to assume given current TCO that a number of private consumers want to make the transition for altruistic reasons.

Given the comparative size of the private Electric Vehicle (EV) market and current propensity to purchase versus fleet and government buyers, there is far more opportunity to consider a range of policies and incentives that promote uptake in this cohort.

Fleets and Governments are not demonstrating the same level of interest to purchase Battery Electric Vehicles.

Fleets companies look at many aspects of vehicle ownership, and fitness for purpose is a primary criterion, currently LZEV products made available in Australia are generally typical of vehicles sold in Europe. Europe's vehicle sales mix where micro and small vehicles (A and B segment) predominate as well as large percentage of C segment vehicles. This contrasts starkly with the largest selling vehicle in Australia being a light commercial vehicle.

For electric vehicles, whilst the government has stated that the cost of individual purchase incentives results in a high abatement cost relative to other sectors of the economy, this assumes that the incentive needs to cover the full disparity between the BEV and ICE vehicle. Based on sales there appears to be evidence indicating that many consumers are prepared to make the change. The question is, how many more consumers could be incentivised to make the switch based on partial incentivisation – which would substantially reduce the abatement cost?

Of course, Governments need to support infrastructure development in technologies that are at the nascent stage of introduction. In the initial periods this should prioritise areas where the business case does not satisfy commercialisation. However, commercial business cases become increasingly viable when there is sufficient population of vehicles requiring the use of the resource. Therefore, there will be less need for government supported refuelling infrastructure if the volume of the vehicles on the road increases demand to a point where commercialisation becomes viable at an earlier stage.

Comparison between Australia's approach and the European Union

It is interesting to note the comparison between Australia and the European Union where jurisdictions in Europe have implemented a range of policies and settings to encourage the uptake of vehicles with electrified powertrains as follows:

Sales Mix

	Europe 2019 ¹	Australia 2020 ²
Electrically Chargeable Vehicles	3%	0.3%
Hybrid Vehicles	5.9%	2.9%

¹ ACEA

² FCAI Vfacts

The European Automobile Manufacturers Association ACEA in 2020 published an updated guide providing a summary list of the Tax Benefits and Purchase Incentives that the 27 member states of European Union and the United Kingdom have seen as important to ensure decarbonisation of the Light Vehicle Industry: https://www.acea.be/uploads/publications/Electric_vehicles-Tax_benefits_purchase_incentives_European_Union_2020.pdf

Governments around the world have instituted a wide range of policies to assist with accelerating the development and uptake of ZLEV technologies. In the absence of suitable policy signals in Australia manufacturers and importers prioritise these vehicles for markets where these policies are in place. While widespread introduction of ZLEV technologies will eventually be rolled out in Australia it will be significantly delayed compared to other developed markets. This delay will in turn hamper Australia's ability to address CO2 emissions in the transport sector in the short term.

The Future Fuels Strategy notes that in many jurisdictions in Australia charging a BEV or PHEV can produce significant emissions if charged from the grid and the energy provider is typically generating power from fossil fuel power plants.

Firstly, EV owners can, and many do choose to use "Green Power" sourced from renewables. In fact, many EV owners recharge their vehicles off household solar arrays during the day. Secondly, the energy supply industry is transforming power generation to greener supplies, with fossil fuel generating facilities being progressively phased out.

FCAI contends that EV's should be considered "Zero Emission Vehicles" as they can be. The Energy sector is transforming and should be left to deal with the transformation which is well underway. Trying to justify EV's as contributing to emissions generally is in our view is misleading at best.

FCAI General Recommendations

The Federal Government should:

1. Adopt a "Net Zero Carbon Emissions" target at least by 2050 which is in line with most advanced economies in the world.
2. Implement the FCAI CO₂ voluntary code of practice that meets our obligations to the Paris agreement from the light vehicle transport sector as a mandatory CO₂ industry target.
3. Support ZLEV Infrastructure (Electric Vehicle Charging and Hydrogen Refuelling)
4. Adopt Commonwealth and State policies on ZLEV fleet mandates and implement consumer incentives including the reduction on taxes on ZLEV vehicles such as import duties, Luxury Car Tax and Fringe Benefits tax.
5. Introduce a Nationally Consistent Road User Charging scheme across all vehicles (ICE / HV / PHEV / BEV / FCEV) that encompasses comprehensive taxation reform.
6. Accelerate the adoption of international fuel standards within an accelerated timeframe (< 3 years) as distinct from the current 2027 target which only partially addresses the issue.
7. Introduce a range of purchase incentives to encourage consumers and fleets
8. Ensure government fleet mandates are in place to require minimum ZLEV adoption.

Specific Questions and FCAI Responses

Charging and refuelling infrastructure - Questions

1. What are the highest priority charging and refuelling blackspots that should be considered under the ARENA administered Future Fuels Fund?

FCAI Response

Arena's primary focus should be on areas where the commercial viability has not resulted in infrastructure being developed to support the roll out of the various technologies; Electrical Charging and Hydrogen refuelling.

2. What technical issues remain for rolling out recharging and refuelling in both metropolitan and regional blackspots? **No response from FCAI**

3. What are the biggest commercial barriers to installing new charging or refuelling infrastructure?

FCAI Response

The primary commercial barrier to installing charging and refuelling infrastructure is that there is a low penetration of these vehicles in Australia's vehicle fleet which means that there is insufficient commercial demand for the services. As demand increases, commercial viability is far more certain.

4. What barriers are there to co-locating charging with existing infrastructure (for example carparks or service stations) compared to standalone charging stations?

FCAI Response

The co-location of refuelling facilities is likely to be different depending on the technology employed. Due to the time required to recharge electric vehicles, facilities need to be available to manage the consumers waiting time. In the case of hydrogen fuel cells, overseas experience would suggest that the most appropriate is to incorporate the refuelling with existing service station facilities due to the refuelling time required.

5. What information do businesses need to ensure an integrated charging network can be delivered across Australia? **No response from FCAI**

Early focus on commercial fleets – Questions

1. What are the main barriers to adding new vehicle technology into light and heavy-duty vehicle fleets?

FCAI Response

The primary barrier that restricts adding new vehicle technology into light and heavy-duty vehicle fleets is the lack of a long-term federal emissions policy direction. Manufacturers are currently prioritising supply of low and zero emission products to markets where governments have implemented clear policy direction as well as creating environments that encourage consumers and businesses to want to purchase these products. Examples of the types of initiatives can be easily observed in Japan, China, Europe, and North America with a diversity of approaches utilised achieving differing results.

2. How could the Future Fuels Fund help address these barriers?

FCAI Response

Infrastructure development is one element that supports the introduction of vehicles with electrified powertrains (PHEV/BEV/FCEV). In conjunction with infrastructure development there is still a need to stimulate the market as evidenced in overseas jurisdictions. FCAI does not believe that the Future Fuels Fund could address the incentivisation of the market given the limitations that have been placed on the use of the funds.

3. In what ways (other than direct funding) could the Government assist businesses to increase uptake of new vehicle technologies in their fleets?

FCAI Response

Governments can support the market through:

1. Through tax relief as well as a broad range of non-financial incentives in conjunction with State and Territory Governments.
 2. Incorporating ZLEV vehicles into all levels of government fleets as the preferred option.
4. What specific cost-effective vehicle technologies should be trialled under the Freight Energy Productivity Program? **No response from FCAI**

Improving information for motorists and fleets - Questions

1. What is the most important information to provide to motorists and fleets about new vehicle technologies and future fuels?

FCAI Response

FCAI members especially through their fleet departments expend significant resources to educate businesses and fleet management companies to explain the benefits of vehicles with advanced powertrains and to some limited extent we are starting to observe movement in the adoption of these vehicles albeit off a small base with marginal increases. Updating the Green Vehicle Guide to reflect the advantages of these vehicles more accurately would be beneficial.

2. What are the highest priority knowledge sharing areas to be targeted in future fleet trials? **No Response from FCAI**
3. What additional guidance do businesses need on technical or taxation matters in relation to new vehicle purchases?

FCAI Response

Several State governments have announced intentions to levy a Road User Charge (RUC) on motorists using BEV, PHEV and FCEV powertrains. These announcements have already caused significant consumer angst and have the potential to limit the take-up of these technologies whilst in the nascent stage of introduction. FCAI has been developing a position paper that advocates for RUC with comprehensive tax reform in a nationally consistent manner regardless of powertrain utilised. FCAI will issue this paper during April and looks forward to discussion accordingly.

Integrating battery electric vehicles into the grid - Questions

1. What are the highest priority issues to consider when integrating large numbers of battery electric vehicles into the electricity grid? **No response from FCAI**
2. What further action is needed to ensure consumers and the electricity grid can benefit from bidirectional charging technology? **No response from FCAI**
3. What are the opportunities for tariff innovation or reform to support the rollout of public charging infrastructure? **No response from FCAI**
4. How could motorists be incentivised to charge their battery electric vehicles outside periods of high electricity demand to help keep prices low? **No response from FCAI**

Supporting Australian innovation and manufacturing - Question

1. What are Australia's market niches in future fuels to maximise high-value domestic and export outcomes?

FCAI response

FCAI believes that there are at least two areas of opportunity to support innovation and manufacturing that are related to vehicles.

1. Developing the capability to develop green hydrogen has the potential to ensure that Australia becomes a green energy exporter. Exporting hydrogen would create the opportunity to amortise the development and production costs making the domestic supply less costly. Reducing the domestic cost of hydrogen would support the introduction and deployment of FCEV products.
2. Given that Australia has extensive reserves of minerals that are used for vehicles that utilise electrified powertrains, developing the capability process these products beyond the raw material stage would no doubt be advantageous.