

New Vehicle Efficiency Standards Submission

Overview

Rewiring Australia supports the introduction of ambitious national fuel efficiency standards, alongside complementary policies and incentives, to accelerate the affordability and uptake of electric vehicles (EV) in Australia. The faster we can transition our fossil fuel powered vehicles into efficient, electric alternatives run on renewable energy, the faster we can reduce our national carbon emissions and improve cost of living and health outcomes for every Australian. It will also present a range of benefits within our national interest.

Australia lags well behind developed economies, of which all but Russia have implemented fuel efficiency standards, and as such has left our nation as the dumping ground of polluting vehicle sales. While the government's preferred Fuel Efficiency Standards option (Option B) will somewhat assist the transition to electric vehicles, it is not ambitious enough considering the lifetime of vehicles and the compounding effects of the continual sale of high emitting vehicles. There is also a failure to implement weight conditions which would incentivise smaller vehicles with a lower footprint. Rewiring Australia advocates for deep cuts in our transport emissions as early as possible, for electric cars to be recognised as critical energy infrastructure, for the trend to supersize vehicles to be curbed, and for every Australian household to have access to comprehensive support measures to electrify their cars.

About Rewiring Australia

Rewiring Australia is a non-profit research and advocacy organisation dedicated to representing the people, households and communities in the energy system. We deliver practical climate progress by working with government, industry, and communities to electrify everything.

Key statistics

- Over 85% of all vehicles sold in the world are already covered by a fuel efficiency standard, including every advanced economy with the exception of Australia and Russia¹.
- Vehicle fuels are responsible for 69% of an average Australian household's energy consumption, making it the single most important machine a household could electrify².
- An average Australian household would save more than 60% of fuel costs charging off the grid and over 90% if charging off rooftop solar³, saving thousands every year.
- Australia currently spends \$60 billion a year on imported diesel and oil, for which the government provides \$11 billion a year in subsidies and collects about 15 billion dollars a year in fuel taxes.

Recommendations

- Fuel efficiency standards should be mandatory and legislated and implemented this year with a trajectory of seeing 100% of new vehicles sold be zero emissions by 2030.
- The same emissions targets and trajectories should be in place across vehicle categories (eg. light passenger, light commercial, heavy SUV etc), and the removal of tax-based policies, so as not to incentivise the purchase of heavier vehicles.
- Strong penalty rates for missing targets must be in place. Australia should adopt a penalty similar to the EU (\$197 per g/km (AUD equivalent) for exceeding targets.
- Complementary policies to support every household, especially low income, such as Income Contingent Loans to afford EVs.
- The integration of electric vehicles as critical energy infrastructure into our national electricity market.

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<https://www.infrastructure.gov.au/infrastructure-transport-vehicles/vehicles/australian-government-introducing-new-vehicle-efficiency-standard-cleaner-and-cheaper-run-cars>

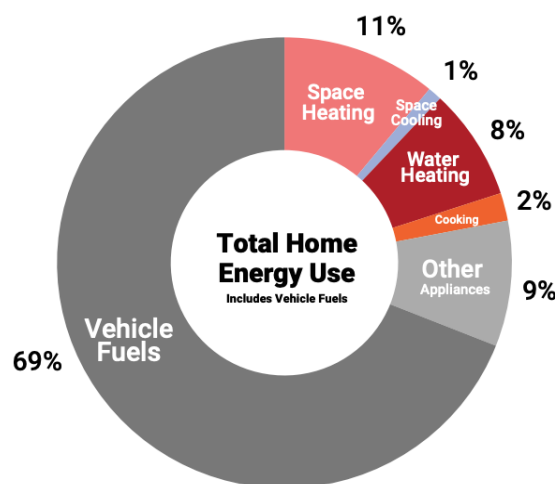
² Castle and Cars Report, Rewiring Australia

https://assets-global.website-files.com/612b0b172765f9c62c1c20c9/615a513770739cc6477e67f4_Castles%20and%20Cars%20Rewiring%20Australia%20Discussion%20Paper.pdf

³ ibid

The role of private vehicles

We need to urgently electrify everything to address both the climate and cost of living crisis, and electrifying private vehicles is critical to this success. Vehicle fuels currently dominate the average household's energy use, responsible for 69% of the total household energy consumption (when including both appliances and vehicle fuels).



Source: Rewiring Australia, Castle and Cars

Collectively, transport emissions are rising, set to be Australia's biggest emitter by 2030, and private vehicles make up over 60% of those emissions.⁴ With a new car staying on the road for about 20 years, and with over two-thirds of cars sold in Australia being second-hand, there are compounded benefits for moving as swiftly as possible to ensure we are not locked into decades of more carbon pollution.

Better for households

Electric vehicles running on solar or other renewable energy sources consume only 25-35% of the primary energy of their internal combustion engine (ICE) alternatives. This is because engines are only about 30% efficient in burning petrol or diesel.

This significant efficiency win transforms into a significant cost of living win, and when combined with rooftop solar, the cost of living benefits increase further. Filling the "tank" of an average car of about 50 litres to drive 500km, costs about \$100 with today's petrol costs of about \$2 per litre. In comparison, charging an electric car to drive the equivalent kilometres is about \$43 with grid

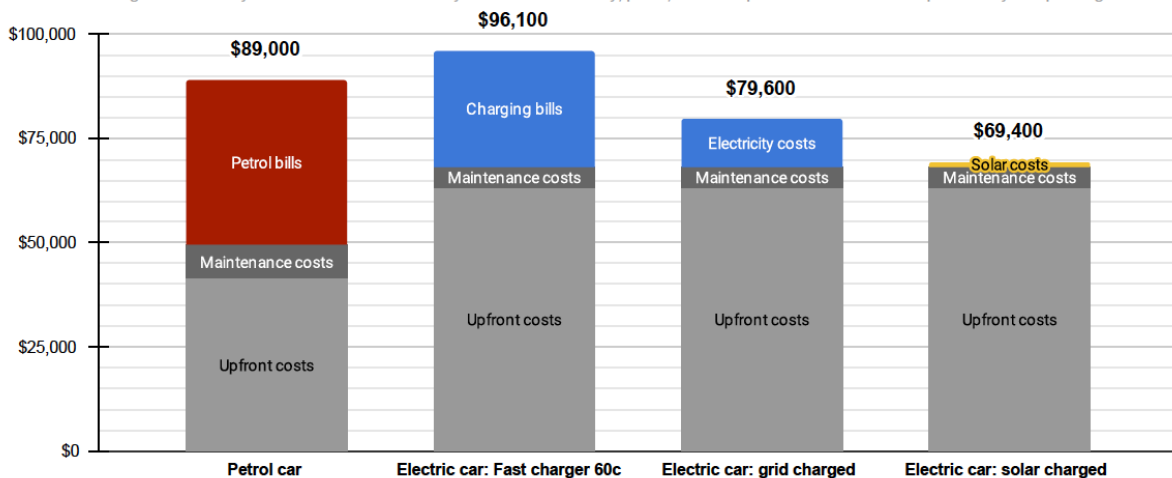
⁴ Climate Council

prices at 29 cents / kWh (see Figure 3-4). With rooftop solar, filling the “tank” of an electric vehicle can be as low as about \$5⁵.

1 in 3 homes currently have solar power, meaning a third of Australians could already be locking in considerable vehicle savings if utilising daytime solar charging. That number will only increase as we have not yet reached our household solar capacity and as our grid is increasingly cleaned up with renewable energy.

Vehicle cost comparison over 15 years. Australian average driving.

Sources: Rewiring Australia analysis. ABS motor vehicle survey 2018. 2023 electricity, petrol, and solar prices. 2023 new vehicle prices. 15 year operating



However, the upfront costs of new electric vehicles remains around \$20,000 more than the ICE vehicle equivalent. We need low-cost solutions in our market urgently. If the upfront costs of an EV were competitive with ICE vehicles, which an ambitious Fuel Efficiency Standards could help achieve, all households choosing a new car will have the ability to lock in ongoing savings.

Beyond fuel costs, Australians using electric vehicles will save on maintenance costs (from \$530/year to \$326/year⁶) as well as improving local air quality. Health research shows that vehicle emissions in Australia are currently responsible for 11,105 premature deaths in adults per year; 12,210 cardiovascular hospitalisations and 66,000 active asthma cases per year in the 0-17 year group⁷. Fuel Efficiency Standards can reduce the air pollutants that are directly responsible for adverse impacts on our health.

Better for Australia

Reducing our transport emissions will bring significant benefits to our climate, to air quality and to household energy bills, as well as a range of other associated benefits within our national

⁵ Solar and petrol prices sourced October 2023, grid prices are taken from 2022 data.

⁶ ibid

⁷ Doctors for the Environment Australia

<https://dea.org.au/doctors-new-vehicle-efficiency-standard-will-save-lives-on-our-roads/>

interest. Importantly, with the advance of bidirectional charging technology, EVs will operate as big batteries on wheels, backing up a household's power supply and providing the ability to create a dynamic grid. As the passenger vehicle fleet moves towards fully electric vehicles, their combined storage capacity will be about five times the storage capacity of Snowy Hydro 2.0. EVs that are technology-enabled as V2G have the potential to participate in the energy system more cheaply than to build other storage. EVs, combined with solar power and electrified households, will become a major part of Australia's energy infrastructure, creating a flexible and resilient grid system that also empowers the household to control their energy production and consumption.

Furthermore, as Australia becomes more self-sufficient in our own energy production utilising our abundant solar and wind resources, it will ensure we are not tethered to global energy fluctuations, such as we've experienced with Russia's Ukraine invasion which sent energy prices skyrocketing. Australia currently spends a staggering \$60 billion a year on imported diesel and oil, for which the government provides \$11 billion a year in subsidies, which not only poses an enormous climate risk, it poses national energy security risks and a missed the opportunity for national economic development. Australia also has much to gain from pursuing a global growth in transport and household electrification housing much of the world's needed critical minerals for the energy transition underfoot.

The trend of supersizing

Australia's tax system⁸, including the Temporary Full Expensing and the Loss Carry Back Tax Offset policies, has encouraged large dual-cab utes to rocket into the most popular type of vehicle in the country. While sedans and hatchbacks used to dominate car sales a decade ago, two-thirds of new vehicle sales in Australia last year were SUVs, 4WDs or light commercial vehicles (which includes utes)⁹. The trend to supersize our cars is a key reason for the growing proportion of transport emissions within our national emissions profile, and causes a range of other impacts such as more built-up environment, safety concerns and environmental damage. We should be looking at incentives to encourage smaller, less impactful vehicles and the surety that manufacturers won't increase the size and weight of their vehicles to place them in a lower efficiency category. The same emissions targets and trajectories should be in place across vehicle categories (eg. light passenger, light commercial, heavy SUV etc) so as not to incentivise the purchase of heavier vehicles. Australia must learn from the US experience of manufacturers making their light SUVs heavier to have them categorised as heavy SUVs and thus having weaker emissions requirements. Australia should consider a lightweight smaller vehicle category like the Kei cars of Japan with special low parking and registration fees that incentivize adoption. The introduction of weight-based fees and the removal of the tax based incentives that currently encourage large, heavy and high-emitting cars should be in place. As should comprehensive charging infrastructure to support the transition to electric commercial vehicles.

⁸ ATO, 2022, Temporary full expensing, <https://www.ato.gov.au/Business/Depreciation-and-capital-expenses-and-allowances/Temporary-full-expensing>

⁹ Federal Chamber of Automotive Industries

Efficiency standards and more

While adopting ambitious Fuel Efficiency Standards is important, they need to be ambitious to be effective and they need to be supported with complimentary policies that support all households, in particular lower income households, to switch to EVs so no one is left stranded with the more expensive-to-run and polluting cars. Rewiring Australia is calling on the government to adopt concessional finance policies to support EV uptake in Australia. For instance, if a Car Energy Upgrades Fund was offered by the CEFC to supply concessional finance (through established lenders) for buyers of new and used EVs, such loans could help incentivise buyers to consider EV options over ICE models. A 7-year \$15,000 loan at 4.10% (the current cash rate) would cost around \$55 per week to service, which closely matches the average savings on petrol and running costs. Rewiring Australia also advocates for the consideration of income contingent loans, similar to HECS, to support purchasing of EVs (with the potential to secure the loan on the vehicle to reduce doubtful debt costs).

Conclusion

Vehicles last about 20 years before they are replaced. This makes the net zero calculation simple: all new vehicle purchases will need to be zero emission by 2030 if we are to meet our 2050 zero emission commitments. Having ambitious fuel efficiency standards in place as early as possible is one measure required but current proposals are neither ambitious nor timely enough to meet these emissions targets and they must be supported with a range of other complementary policies and incentives to realise the benefits of having zero emissions vehicles accessible for every Australian.