FAQs and an introduction to Electric Vehicles in Australia

ELECTRIC VEHICLE COUNCIL

Any terms I should know off the bat?

Electric vehicles (EVs) are vehicles powered at least partly by electricity. This includes battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs) and fuel cell electric vehicles (FCEVs). The EVC does not include non-plug-in hybrid electric vehicles (HEVs) under the term 'EV' and groups them with other internal combustion engine vehicles (ICEVs).

How's uptake going?

In 2020, 0.75% of new car sales in Australia were EVs. That translates to 6,900 cars, a minor increase – despite the COVID-19 pandemic – from 6,718 sold in 2019.

But the rest of the world is speeding ahead. In 2020 there were 1.3 million EVs sold in China, making it the biggest EV market, while 70% of all new cars sold in Norway were electric.

Global uptake is rapidly increasing with many carmakers already setting timelines to become 100% electric: Jaguar Land Rover (2025), Audi (2026), Volvo (2030), Mazda (2030), Ford in Europe (2030), Nissan (early 2030s), GM (2035), Daimler (2039), and Honda (2040).

How can Australia catch up?

Australia is lagging behind because of a historical lack of governmental support.

The Federal Government should follow countries like the UK, Germany, Canada, India, and China who have committed to banning the sale of non-electric vehicles by 2035 or earlier.

Some states like NSW and the ACT have taken on a leadership role. The NSW Government's $500M EV Strategy is an impressive plan that will increase vehicle affordability and charger access. Other states and territories must follow suit if manufacturers are to bring more affordable BEVs and PHEVs to domestic markets.

But do Australians want electric vehicles?

Yep. A 2021 poll by the Australia Institute found the majority of Australians support both a government policy subsidising the purchase of new EVs and a ban on the sale of new fossil fuelled cars by 2035.

How expensive are EVs?

EVs already have a comparable total cost of ownership to ICEVs and will be cheaper up-front in some markets by 2025.

A lack of government support has generally meant Australia misses out on the cheapest EVs available in other right-hand markets like the UK. That is why there are only 3 BEVs and 3 PHEVs available here under $50,000. However, many more are expected by the end of 2022.

Increasing numbers of EVs in corporate and government fleets will boost the secondhand market, making EVs even more affordable.

What was that about total cost of ownership?

EVs are good value when you include maintenance and fuel costs. This is because EVs are 70% cheaper to refuel (saving the average driver $1,600 per year) and have fewer moving parts (saving drivers around $400 per year on maintenance).

Don't you have to replace the batteries?

Today's EV batteries are expected to last as long as – if not longer than – the average car does, that is, around 15 years.

Do EV batteries eventually end up in landfill?

After their life in an EV, batteries can be recycled and repurposed. Such recycling will also significantly reduce the amount of mining required for EV components.

What are some other benefits of EVs?

Fewer emissions: EVs don't release tailpipe emissions. That matters when vehicle pollution currently causes 50% more deaths in Australia than car crashes. Research also shows that even if an EV is charged by coal-fired electricity, it still generates lower net emissions that ICEVs. As grids become cleaner, EVs become cleaner too.

Safety: EVs generally have a reduced risk of roll over because of batteries lower the centre of gravity. The batteries themselves are no more dangerous than fuel tanks according to NSW Fire & Rescue.

Grid reliability: New EV models can put electricity back into a household or grid. Managed correctly, this will reduce blackouts and electricity prices by flattening peak demand.

Fuel security: Australia spends approximately $16 billion a year on importing fuel – EVs free up that money so it can be invested in Australia instead.

Australia is big, is range an issue?

Cheaper EVs can travel around 300km on one charge while more expensive EVs can travel over 600km. As battery technology improves, range will continue to increase. Australians drive an average of 36km per day so EVs are already suitable for most journeys.

How long does it take to charge an EV?

That depends on the speed of the charger and size of the battery but these rates are typical:

Home Charger (e.g. in a garage)	5 hours to full charge
Workplace Charger (e.g. in an office building carpark)	5 hours to full charge
Destination Charger (e.g. at shopping centres)	2 hours to full charge
Fast Charger (e.g. on the side of a highway)	15 minutes to full charge

Are there enough public chargers?

Most EV drivers charge their car overnight at home just like a phone, but public infrastructure remains important, especially for people living in apartments and renters.

Back in 2018, Sylvia Wilson was able to drive 20,000km around Australia's entire perimeter in an EV. Since then, governments and private companies have provided significant investment to dramatically increase charger accessibility. Today there are over 200 fast and ultrafast DC charging locations across Australia and many more public AC chargers. Coverage is only going to get better as uptake increases.

Shouldn't we just invest in public transport?

Public transport is important but private and shared vehicles aren't going anywhere. Electrification of public transport should be a major part of EV strategies. Trials are underway in numerous states with multiple state governments committing to transitioning their bus fleets to be fully electric.

Are they fun to drive?

EVs deliver full torque instantly, meaning they can accelerate much faster than equivalent ICEVs. EVs also often have their batteries placed along the bottom of the vehicle, lowering the centre of gravity and providing better handling and cornering. Imagine driving a go kart but you can listen to the radio.

Where can I get more information?

The EVC publishes media releases and provides detailed submissions to government inquiries on specific EV topics. This is in addition to our longer research reports.

For the latest breakdown of state and federal policies regarding electric vehicles, you can read our State of Electric Vehicles 2021 report.