



An intro to EVs

The sale of electric vehicles (EVs) is on the rise, with most major manufacturers jumping on board. With EV popularity growing, this has led to a reduction in prices and more affordable options in the market to choose from. But what are EVs and how do they differ from petrol and diesel vehicles?

What is an EV?

Put simply, an EV is a vehicle that uses a battery pack as a power source for its electric motor, just like petrol and diesel vehicles use fossil fuels to run their engines.

There's a range of EV types and they're all powered a little differently:

- Battery electric vehicle (BEV) – uses battery power only and must be plugged in to recharge.
- Plug-in hybrid electric vehicle (PHEV) – has both an electric and fuel engine and can drive a moderate distance on electricity alone. It has the ability to use both fossil fuels and battery power. It can be plugged into recharge but does not have to be.
- Hybrid electric vehicle (HEV) – has both an electric and fuel engine and uses fossil fuels and battery power. The battery is charged by the fuel engine as you drive. A HEV cannot be plugged into a charge.
- Fuel cell electric vehicle (FCEV) – uses a hydrogen fuel cell to produce electricity to power an electric motor.

BEVs and PHEVs can be conveniently charged at home by plugging the charging cord into a wall socket or using a dedicated charger.

When you're out and about, there's a network of charging stations throughout the country.

How do BEVs differ from fuel-powered cars?

From the outside, BEVs and fuel-powered vehicles look similar, but on the inside, it's a different story. Instead of a fuel tank, a BEV has a large battery pack that powers a quiet electric motor, with quick acceleration and no tailpipe emissions.

Some of the benefits touted include better performance than fuel vehicles, reduced running costs, less maintenance, and a range of environmental advantages.

BEVs don't require big components like fuel engines and transmissions, so they're usually more spacious and offer more storage than a fuel-powered vehicle. Some EVs even have a boot under the bonnet where the engine is usually located.

Charging BEVs and PHEVs

How long do they take to charge?

It depends on the type of EV and the charger. Destination (7kW) chargers take several hours to fully charge an EV, while Rapid (150kW) and Ultra-rapid (200kW) chargers take as little as 15 to 45 minutes to provide a full charge.

How far will an EV go?

It depends on the model, but when fully charged, EVs can travel several hundred kilometres before they need to be recharged. EVs with the longest range can travel more than 600km from full charge.

Are charging stations hard to find?

Aside from charging your EV at home, RAA's EV charging network is growing rapidly, with a range of charging stations available in metropolitan and regional SA.

To locate an EV charging station, and for important information about the charging process, simply go to the RAA website – **www.raa.com.au/ev-charging-network**.

If you're travelling further afield, there's an extensive network of charging stations throughout Australia.



Are EVs safe?

EVs are relatively new to the Australian market and are usually equipped with the latest driving aids and electronic safety features. This can include all-speed autonomous emergency braking (AEB), adaptive cruise control, pedestrian detection, lane assist, rear cross traffic alert and blind spot warnings.

They must be built to the same safety standards as fossil fuel-powered cars.

We're here to help

Call our Car Advice team on 8202 4689, email caradvice@raa.com.au or visit **raa.com.au/caradvice**