



# ELECTRIC VEHICLES

## DRIVING AN EV FUTURE

### What is an electric vehicle?

Electric vehicles are charged from an external electricity source.

They can be powered in two ways:

1. solely by electric batteries. These are commonly known as pure electric vehicles; or
2. a combination of electric batteries and a petrol or diesel engine. These are commonly known as plug-in hybrid electric vehicles.









Hybrid vehicles that use a combination of a petrol or diesel engine, a battery or an onboard electric motor are not included in this definition of electric vehicles because their batteries cannot be charged from an external electricity source.

### Why are electric vehicles good for New Zealand?

Electric vehicles have the potential to make a meaningful contribution to the transition to a low-carbon economy, without compromising individual mobility or economic growth.

New Zealand is well placed to benefit from electric vehicles and the Government is committed to supporting the uptake of them.

New Zealand is one of the most EV-ready and friendly countries in the world. That's because:

-  Just over 80 percent of the country's electricity is generated from renewable sources
-  New Zealand has more than enough consented renewable electricity generation waiting to support the widespread adoption of electric vehicles
-  Increased use of electric vehicles will replace petrol and diesel with clean, green, locally produced energy, lessening our reliance on imported oil
-  High renewable energy levels mean that the emission reduction benefits of electric vehicles in New Zealand are greater than in other countries
-  New Zealand motorists drive on average 29 kilometres per day. Average commutes in urban centres are even shorter, at about 22 kilometres a day—a distance electric vehicles can handle easily without recharging
-  85 percent of New Zealand homes have off-street parking, meaning electric vehicles can be easily charged overnight at home
-  New Zealand's 230-volt electricity system means every home has the potential to charge an electric vehicle
-  Electric vehicles are cheaper to run than petrol or diesel vehicles. On average, charging an electric vehicle at home is equivalent to buying petrol at 30 cents a litre, compared to petrol, which is around \$2 a litre. Electric vehicles are exempt from paying RUC until 2021. After this date, electric vehicles will be required to pay RUC on a per kilometre basis. This will increase the cost of running an electric vehicle.





The move from petrol and diesel to low emission vehicles is a natural evolution. Increased use of electric vehicles will replace petrol and diesel with clean, green, locally produced energy.

The Government wants to encourage the switch sooner, rather than later.

By starting to replace New Zealand's fleet with electric vehicles now, we can begin to significantly reduce our greenhouse gas emissions.

## What are the barriers to uptake?

The biggest barriers currently limiting greater uptake of electric vehicles are:

-  relatively higher purchase prices compared to equivalent petrol and diesel vehicles
-  the limited variety of electric vehicle models available in New Zealand
-  the perceived limited travel range of electric vehicles, and access to convenient charging locations
-  a lack of awareness of electric vehicles, uncertainty about the total costs of ownership, expectancy of battery life, and misconceptions about electric vehicles.