



How to drive an electric vehicle

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With the purchase of an electric car you can expect superior economy and reduced operating costs. However, the cars do not drive themselves (yet). To reach peak efficiency numbers, drivers need to understand how the vehicle works and react accordingly.

The process includes getting used to strong acceleration, and a braking system that actually adds power back to an EV battery when operated correctly. Knowing how to charge and manage an EV is also useful.

Driving an electric car for maximum efficiency

Here are a few simple but helpful tips to help get as many miles as possible out of a battery pack to extend your range on a single charge.

Take it easy

To use fewer electrons, replace road rage with driving Zen. Learn to anticipate stops and slowly coast toward a red light with your foot off the accelerator pedal. When taking off from a stop, gently ease down on the accelerator until gradually reaching your desired speed. Aggressive driving is estimated to reduce efficiency by about 30 percent. On the motorway—where aerodynamics make a big difference—stay as close as possible to the speed limit. For every 10 mph of speed over the posted limit, it roughly costs you 10 percent of efficiency (and therefore range).

Keep maintenance schedule

While electric cars need less maintenance than petrol-powered vehicles, poor upkeep can have the same detrimental effect on efficiency. Start with proper tire inflation. Look up your car's recommended tyre pressure and check regularly with a gauge to ensure the correct level. A vehicle's fuel economy goes down by about 1 percent for every 3 pounds of pressure missing from its tyres.

Make sure to follow suggested service intervals for your car, and perform regular checks on things like coolant levels. While electric cars don't have an engine that needs to be kept cool, many use liquid cooling to keep the battery pack, inverter and motor operating at peak efficiency. Insufficient levels of cooling can result in poor performance, overheating components can even damage battery life.

Strategize your route

The route you choose could have a dramatic effect on efficiency and range. You notice it more in an electric car than a petrol or diesel car because shorter driving range, and charging every night, are frequent reminders of energy usage.

Motorways aren't always the best choice. As a car's speed increases, so does the drag. The faster the car moves, the more energy is required to fight through the air, draining your car's battery more quickly. While driving non-motorway routes can result in better range, alternative routes need to be studied. If you encounter a lot of stops and starts, or challenging hills, it might mean less efficiency. So pick a route with gentle gradients, minimal intersections, and light traffic. If you have the opportunity, test remaining range after travelling alternative routes.

What are the main ways you can charge an electric car?

In basic terms, there are three ways to charge an electric car: at home, at the workplace, or at a public charging point.

Home charging

In terms of convenience, charging each night at home is simplest. This will likely provide most of the daily driving range the average driver will need – and mean they effectively start each day with ‘a full tank’.

Most electric cars can be charged at home using a standard three-pin domestic plug socket. A new EV will be supplied with a standard EVSE (Electric Vehicle Supply Equipment) charging cable, allowing you to charge anywhere you can find a mains socket.

While the EVSE cable will keep you and your electric car safe when charging, we would recommend the installation of a dedicated EV charging wallbox, which should be fitted by a trained electrician.

As part of the Electric Vehicle Homecharge scheme, the government will provide a grant for home charging points covering 75% of the cost with a maximum of £500. A wallbox is safer and quicker than using a domestic plug socket, as it communicates directly with the car, with charging time reduced by 30-60%, depending on the vehicle.

Workplace charging

Workplace charging points help make electric cars viable for business users with longer commutes.

Public charging

The network of public chargers is best suited for longer journeys, with a rapid charging unit providing up to 80% of charge in as little as 20-30 minutes.

Different types of charge

Slow charging

The clue is in the name: these are the slowest chargers available to the EV owner. Units are rated at 3kW, and a full charge could take as long as 12 hours, but most likely 6-7 hours.

By their very nature, slow chargers are unsuitable for public use and tend to be found at home or in the workplace. While an electric car can be charged using a domestic plug socket, a dedicated wall box is recommended.

Fast charging

You will find fast chargers in supermarket car parks, shopping centres or anywhere an electric car can be left for an extended period. A 7kW charger will recharge an EV in 3-5 hours, while a 22kW unit could complete the task in a couple of hours.

Rapid charging

A rapid charger can provide up to 80% of charge in as little as 20 minutes, making them the quickest means of charging in the UK. They are commonly found at motorway service stations and close to major roads.

Rapid DC chargers provide up to 50kW of power, while rapid AC units are rated up to 43kW. Meanwhile, the Tesla Supercharger network uses the company’s proprietary plug, making the rapid chargers unsuitable for other makes and models. They deliver power at a rate of 120kW.