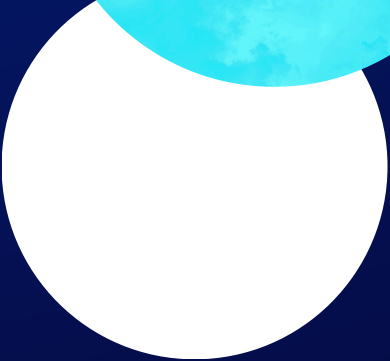


Guide for first time EV Driver



Mobula Ray EV

Introduction

Switching to an electric vehicle (EV) is an exciting step toward a greener and more sustainable future. However, it can feel overwhelming at first. This guide provides all the essential information you need to confidently drive, charge, and maintain your EV, while maximizing its efficiency and benefits.

Our mission at Mobula Ray EV is to help the mass adoption of Electric Vehicles so we do help educate and encourage people to make that transition.



Driving an Electric Vehicle

Smooth Driving Experience

- EVs have instant torque, which means rapid and smooth acceleration.
- With no gears, most EVs are automatic, making the drive seamless.

One-Pedal Driving

- Regenerative braking slows the car when you lift off the accelerator, converting kinetic energy back into the battery.
- This feature reduces brake wear and improves energy efficiency.

Driving Tips

- Use eco-driving modes to extend range.
- Drive smoothly and maintain optimal speeds, ideally under 70 mph, for better energy efficiency.



Charging Etiquette

- When using public chargers:
 - Unplug and move your car once it's charged to free up the space for others.
 - Some chargers may require an app or card to start—check in advance

Cold Weather Driving

- Cold weather can reduce battery efficiency. Preheat the cabin while plugged in to conserve range.
- Use heated seats and steering wheel (if available) instead of blasting cabin heat to save energy.

Understanding EV Charging

Types of Chargers

- Level 1 (Home Socket):
- Power Output: 2-3 kW
- Charging Time: 10-20 hours for a full charge
- Use Case: Overnight charging or light daily use.

Level 2 (Wall Box):

- Power Output: 7-22 kW - Unless 3 phase electricity supply it is likely 7kW
- Charging Time: 4-8 hours for a full charge
- Use Case: Faster home charging or public charging stations.

Level 3 (Rapid Chargers):

- Power Output: 50-350 kW
- Charging Time: 20-60 minutes to charge to 80%
- Use Case: Ideal for quick top-ups during long journeys.

Common Plug Types

- Type 2: Standard for most modern EVs in the UK.
- CCS (Combined Charging System): Combines AC and DC charging, common at rapid chargers.
- CHAdeMO: Found in older EVs like the Nissan Leaf, but gradually being phased out

Charging Cables

- Charging Cables Your EV's Included Cable: Most EVs come with a Type 2-to-Type 2 cable for public AC chargers. Some also include a 3-pin plug cable for slow home charging.
- Tethered vs. Untethered Chargers: Tethered chargers have a built-in cable (great for convenience at home). Untethered chargers require you to bring your own cable (common at public chargers).



CSS2 EV Charger Cable



CHAdeMO EV Charger Cable



3 Pin EV Charger Cable



Type 2 EV Charger Cable

Charging Tips and Etiquette

How to charge your EV?

An EV changes your habit of refueling - If you are lucky and you can have home charger you will need to get used to no longer needing to go to local Petrol station. Its just ready when you wake up.

And if you can't have home charger then you can use Mobula Ray EV or a Kerb solution.

Most people need to just top up and not run it down to 0%. In general EV drivers get into the habit that if they Park they also charge.

Most EV's in the UK have type 2 connectors but some older EVs like second-hand Nissan Leaf have Type 1.

The most cost efficient is to charge at home and many energy providers provide EV rate at night which makes it much cheaper than Fossil Fuels.

Charging Tips and Etiquette

- Charge to 80% on Rapid Chargers: Charging slows significantly after 80% to protect battery health, saving time and costs.
- Plan Long Trips: Use apps like Zap-Map or PlugShare to find charging stations.
- Be Considerate: Move your car once charging is complete to free up the space for others.

Charging Networks

- The UK and Ireland has a mix of free and paid charging points.
- Popular networks include BP Pulse, Pod Point, Instavolt, and Ionity.
- Use apps like Zap-Map or PlugShare to locate chargers and check availability.
- Use Community Charging Apps (Peer-to-Peer) where private residential and business destination chargers share their Chargers (Typically 7kW chargers)

Maximizing Your EV's Range

How can you improve your range ?

- Declutter your vehicle - the less weight the better the performance. This is true for EVs as well as Fossil Fuel Vehicle
- Check the tyre pressures and just like on the carbon guzzler the correct tyre pressure improves performance
- Use one pedal driving or regenerative braking where the kinetic energy of your EV goes back to battery
- Use your EV app to remotely warm up and defrost your EV while still plugged and make it ready for you.
- Just like the carbon guzzler, speed effects the energy consumption so the more optimal speed you drive the less energy is used. Ideally less than 70 mph on motorway.

Range Expectations

- Range Varies by EV: Most modern EVs have a range of 150-300 miles per charge.
- Factors Affecting Range:
 - Speed: High speeds use more energy.
 - Weather: Cold weather reduces range (due to battery performance and heating needs).
 - Driving Style: Gentle acceleration and braking extend range.
 - Load: Heavier loads or extra passengers can reduce range.

Why charge to 80% ?

Charging your EV to 80%, especially on DC rapid chargers, is better for both your car and your wallet. Most manufacturers recommend this because charging slows significantly after 80% to protect the battery, saving you time and unnecessary cost. It also helps maintain long-term battery health, ensuring your EV stays efficient and reliable for years to come. For those longer trips, top up to 100% only when you really need the extra range!

Charging Costs

- Home Charging: Costs depend on your electricity tariff (about 10-15p per kWh on average). Fully charging a 60kWh EV costs £6-9.
- Public Charging: Prices vary by network and speed:
 - Fast chargers: ~25-40p per kWh.
 - Rapid chargers: ~50-80p per kWh.
- Many EV drivers save by using off-peak tariffs at home at just 7p kWh
- A kilowatt-hour (kWh) measures the energy an EV battery can store, determining how far your vehicle can travel on a full charge, with larger batteries offering greater range.

Are there any incentives for EVs and charging in UK & Ireland

The UK and Ireland offer several incentives to encourage EV adoption and support the development of charging infrastructure. EVs are exempt from road tax (Vehicle Excise Duty) and enjoy significantly lower company car tax rates, making them an attractive option for businesses and employees. In urban areas, EV drivers save further by avoiding congestion and low-emission zone charges, such as London's Ultra Low Emission Zone (ULEZ), promoting cleaner transportation in cities.

Home Charging Grants

Home charging is made more accessible through the EV Chargepoint Grant, which provides up to £350 for installation costs, particularly for flat owners, renters, and leased properties. Similarly, workplaces can benefit from the Workplace Charging Scheme (WCS), offering grants of up to £350 per charger, encouraging employers to install EV chargers for staff use. These grants support the broader goal of making EV charging convenient and widely available.



Salary Sacrifice

Salary sacrifice schemes allow employees to lease EVs through their employer with payments deducted from gross salary, providing savings on income tax and National Insurance. Employers also save on National Insurance contributions while promoting green initiatives within their operations. Bundled leasing packages often include maintenance, insurance, and charging costs, simplifying EV ownership for drivers.

Other Perks

Additional perks include free or discounted parking in some areas and significantly lower charging costs, particularly with off-peak electricity tariffs. Charging at home during off-peak hours can cost as little as 7p per kWh, making EVs far cheaper to fuel than petrol or diesel vehicles. These incentives, coupled with grants and expanding charging infrastructure, are driving the transition to cleaner, more sustainable transportation in the UK and Ireland.

The Future of EV's in the UK and Ireland

Expanding EV Adoption

- **More EV Models:** Automakers are launching a wide range of EVs, from affordable hatchbacks to luxury SUVs, making EVs accessible to more people.
- **Government Targets:**
 - The UK aims to ban the sale of new petrol and diesel cars by 2030, pushing for EV dominance.
 - Ireland plans for all new cars to be zero-emission by 2035.
- **Innovative Technologies:** Advances like solid-state batteries promise longer ranges, faster charging, and increased efficiency.

Growth in Charging Infrastructure

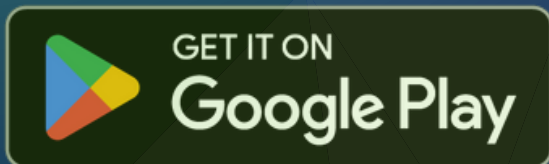
- **More Public Chargers:**
 - The UK government has committed to installing 300,000 public chargers by 2030, significantly boosting accessibility.
 - Ireland's National EV Charging Network aims to improve rural coverage and high-power charging along motorways.
- **Ultra-Fast Chargers:**
 - Chargers capable of adding 100-300 miles in under 20 minutes are becoming standard at motorway services and key travel hubs.
- **Destination Charging:**
 - More workplaces, supermarkets, hotels, and leisure destinations are installing chargers, making it easier to charge while running errands or traveling.
- **Peer-to-Peer Charging:**
 - Platforms like Mobula Ray EV allow businesses and residential owners to share the EV Chargers safely to public given an alternative destination charge and neighbourhood charge.

Innovations in Charging Technology

- **Wireless Charging:**
 - Trials are underway for wireless charging pads, where you simply park and charge —no cables required.
- **Vehicle-to-Grid (V2G) Technology:**
 - Future EVs may allow you to sell unused electricity back to the grid, helping balance energy supply and reducing costs.
- **Smart Charging:**
 - Charging points with AI and scheduling features will optimize energy use, saving you money by charging during off-peak hours.

**This guide was written by the team at
Mobula Ray EV**

**Have a EV Charger sitting idle?
Download the app**



Mobula Ray EV

www.mobularayev.com