OMODA | JAECOO

Guide to Electric Vehicles (EVs)

Helping you drive more safely and efficiently

CONTENTS

DRIVING SAFELY & EFFICIENTLY

CHARGING SAFELY & EFFICIENTLY

TECHNICAL SPECIFICATIONS

DRIVING SAFELY

1
Quick tips to maximise safety in an EV

Be aware of the **safety features** of your vehicle and how best to configure it to **maximise safety and economy.**

EVs are much quieter than combustion engine vehicles. Be more aware of vulnerable road users who may not hear you. However EVs do generate a sound when moving at slow speeds, enabling pedestrians to hear them.

Remain aware of your surroundings, especially in areas with pedestrians or cyclists.

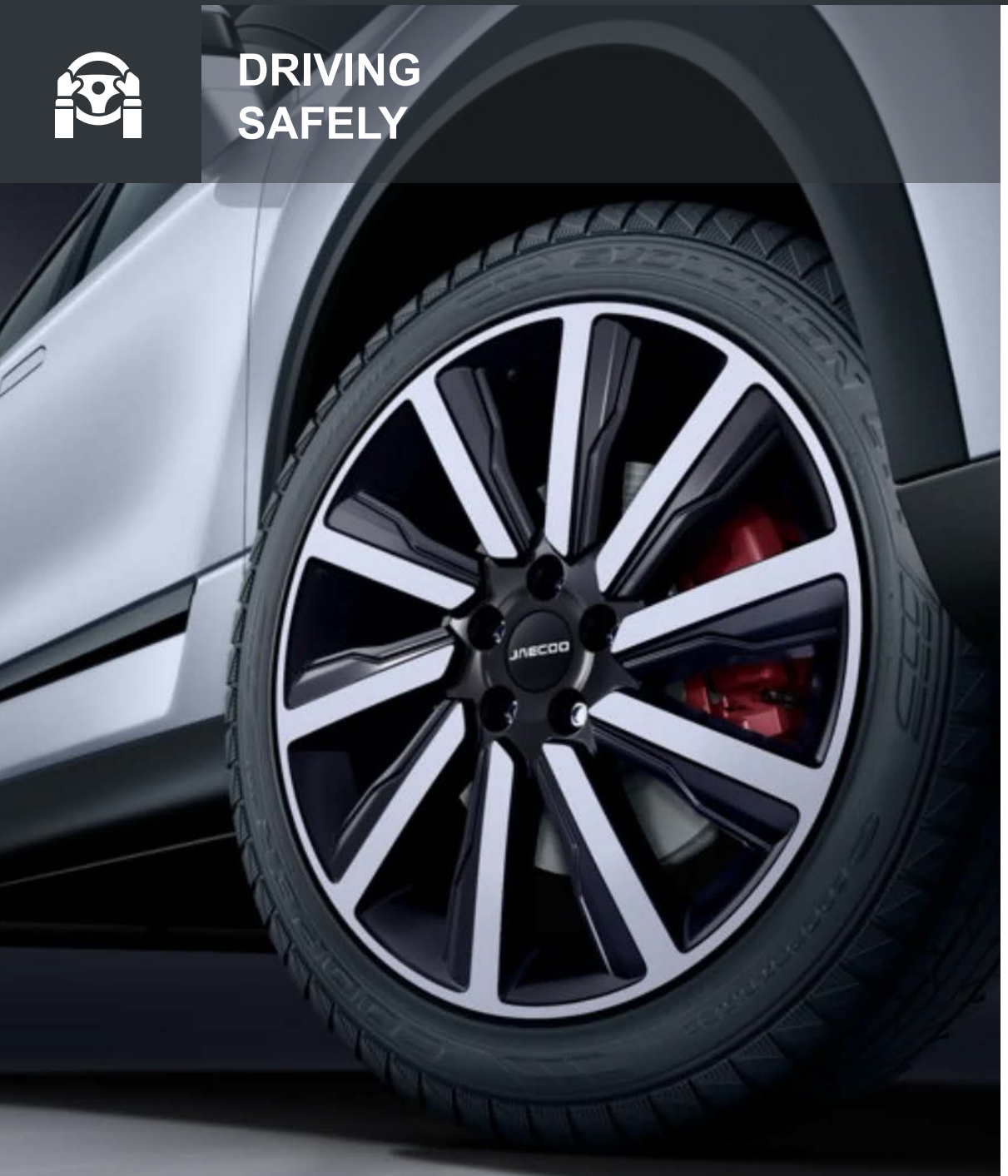
EVs offer greater acceleration, especially from a standstill. Practice gentle acceleration to avoid sudden jolts and familiarise yourself with the sensitivity of the accelerator pedal.

Accelerate slowly. Careful acceleration will help ensure a smooth, **safe drive.**

Most EVs feature regenerative braking. This makes braking feel different compared to traditional vehicles. Familiarise yourself with this and allow for longer braking distances.

Don’t brake harshly or leave it too late to brake.

Regenerative breaking allows the vehicle to recover energy during deceleration and replenish the battery instead of wasting it as heat. The best way to fully benefit from its advantages is to maintain steady speeds and anticipate traffic and braking distances.



2
Maximise the battery range

Drive at a **moderate speed.**

Maintain a **steady pace,** minimising sudden acceleration and harsh braking.

Where available, **use the speed limiter** and/or **cruise control** on the motorway.

Use eco mode where possible.

Switch on regenerative braking, ideal for urban environments, traffic jams and hilly areas.

Remove unnecessary items from your vehicle, especially heavy loads and those affecting aerodynamics like roof bars and boxes.

The increased weight of EVs can affect handling, braking and stopping distances.

3
Plan for longer journeys

Plan your route and charging stops in advance to avoid any charging problems and unnecessary detours.

Apps such as Zapmap, Chargemap and Google Maps can suggest the most economical route, which often avoids motorways and A roads. These routes can reduce battery usage and provide a more enjoyable driving experience.

Stop wherever possible at a location that has more than one charge point to reduce the chance of a queue and the impact of any broken charge points.

Aim to recharge before your battery reaches 20%.

Depending on the charging set-up and grid capability, energy is shared when different drivers use the same supercharger.

Charging slows down after reaching 80% to protect the battery.

The electric range is calculated under specific testing conditions to provide a guide of what you can expect. Consideration should be given to different factors and conditions when planning your journey.

Allow at least a 20% margin when planning your journey

DRIVING SAFELY

4
Preserving the battery range and life in extreme temperatures

Plan for colder days.

Make sure you have **full visibility** before you start your journey by clearing ice or demisting.

Maximise safety by being aware of any available driving modes to suit the weather / road conditions.

EV performance is influenced by **environmental conditions,** such as extreme temperatures.

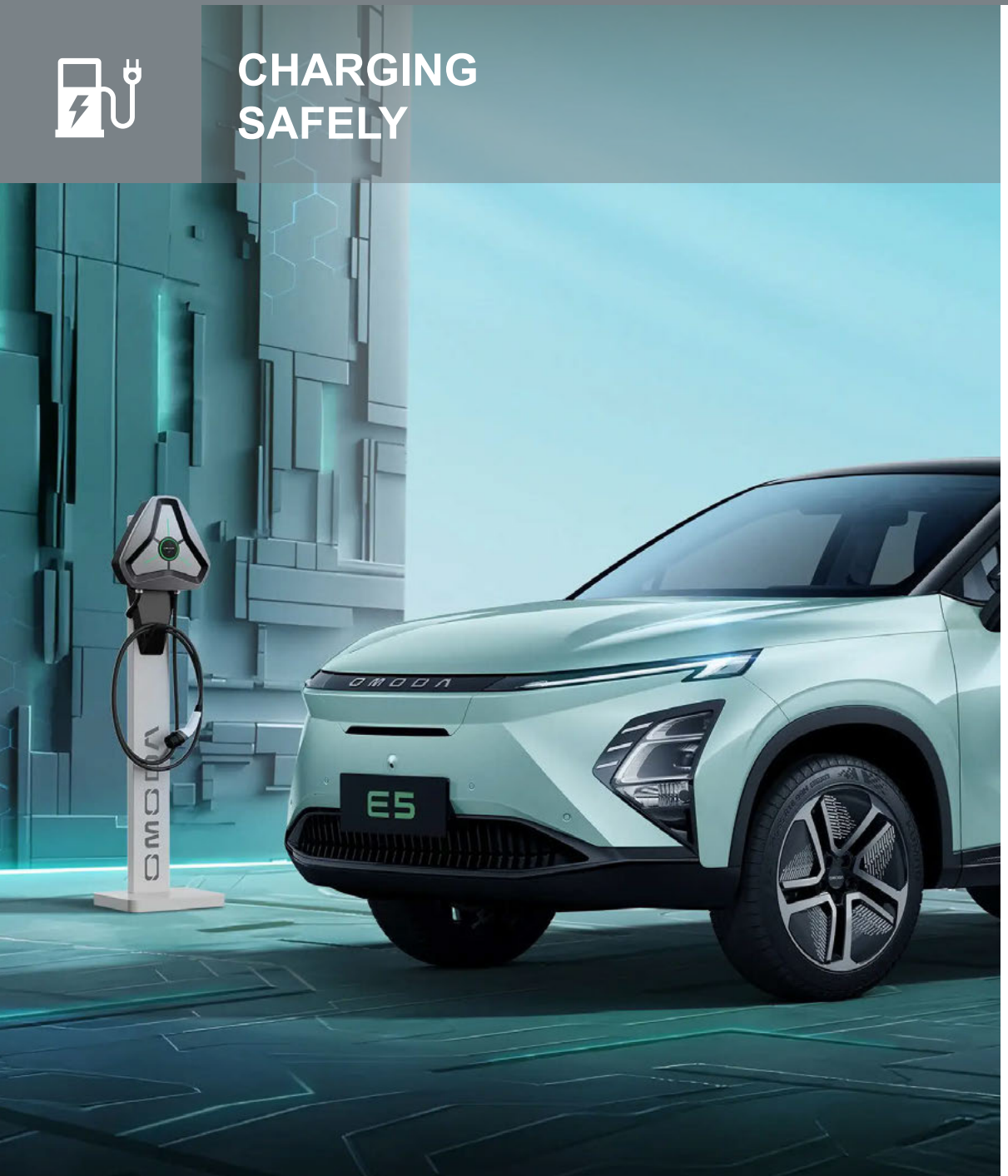
Energy consumption can be managed and **reduced** with the following proactive measures:

IN COLD WEATHER:
Preheat the car while plugged in 10 to 15 minutes before your departure time (it's the energy from the grid that is used, not the battery).

Use energy-efficient heating options like seat and steering wheel warmers to reduce less efficient ordinary heating.

IN HOT WEATHER:
Park in shaded areas where possible.

To reduce energy consumption, use the recirculation function on the air conditioning system.



5
Charging safely and efficiently at home

Charge the EV from a dedicated charge point whenever possible, or use a reinforced socket.

Park close to the charger taking care not to obstruct the path of other vehicles or pedestrians with the charging lead.

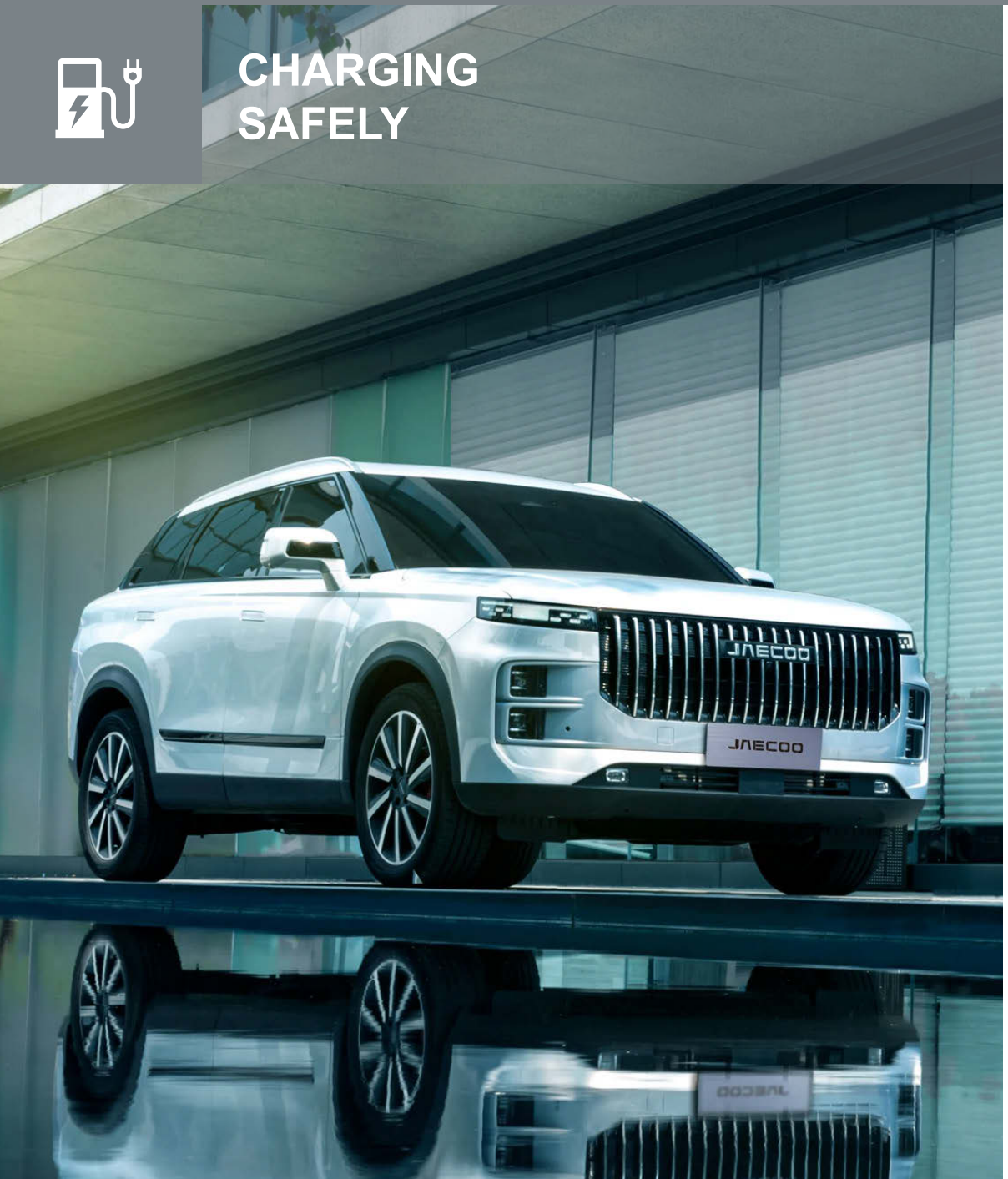
Never use a standard extension lead when charging an EV. Using an extension lead overrides any over-heating protection. Without this protection in place, there is an increased risk of electrical fires.

Aim to charge at home when possible. Public charging, specifically fast charging and super charging, is noticeably more expensive than charging at home.

Take advantage of off-peak hours if available from your energy supplier.

Look for **tariffs with energy suppliers** that incentivise timed use of charging to make the most of abundant renewable energy in the grid.

Where possible, utilise **solar capture** (converting sunlight into electrical energy) at home to power your car.



6
Public charging guidance

Select the appropriate charging power

If you need to charge quickly on the go, select the highest power charge unit you can.

If planning to be parked for a while, such as while shopping or on a day out, select a fast charger (7-11kW) where the vehicle will charge for the duration of your stay – often a much cheaper option.

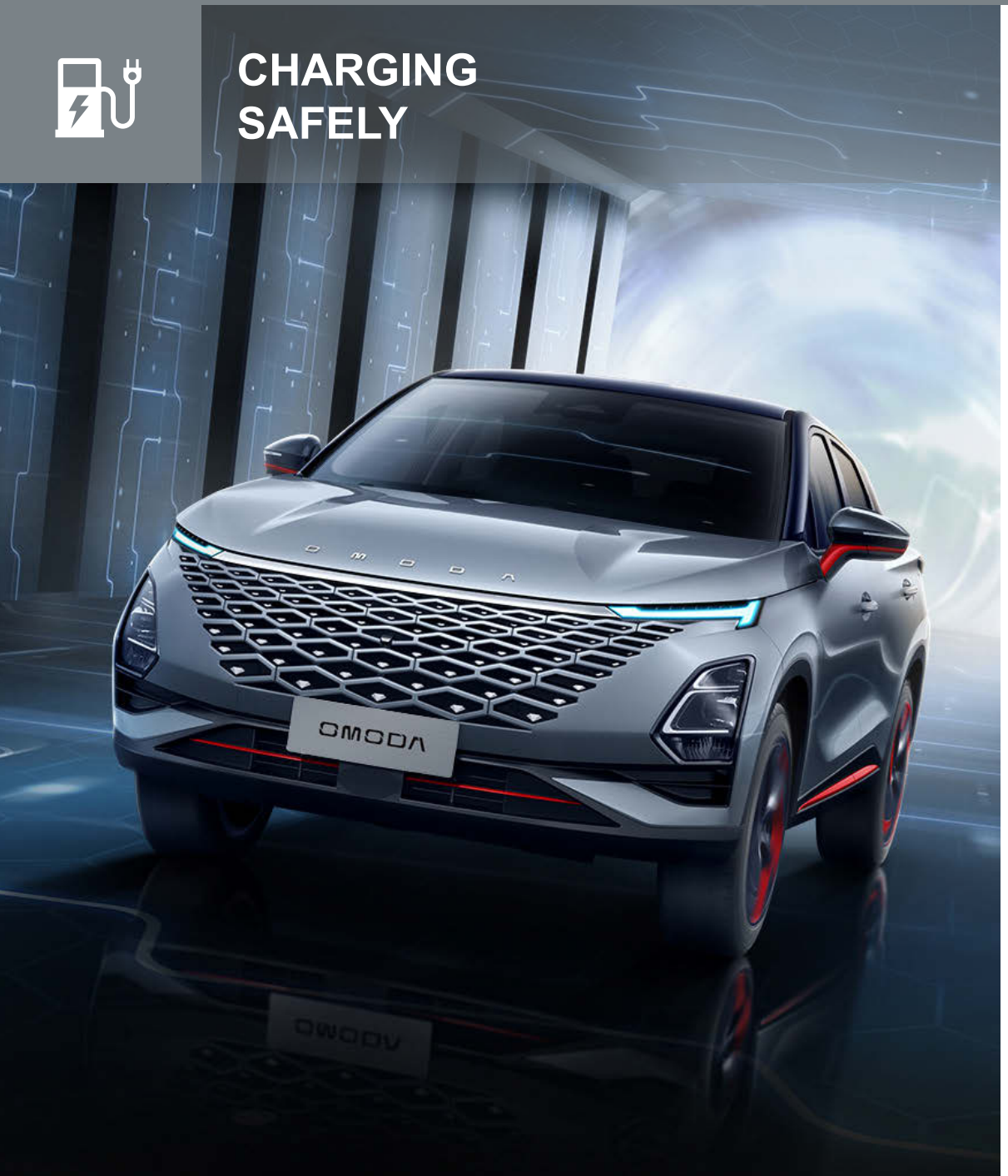
"Volt 'n' Bolt"

During **peak times**, if using rapid charging, only charge to give yourself enough charge to get you to your destination and vacate the charger for someone else to use.

Once charging is complete, **leave the charging area promptly to avoid additional costs** as most charging stations will bill you for use of the EV charging space.

Ensure you have your Type 2 charging cable. Although rapid and ultra-rapid chargers have their own cables, if you're planning a charging stop on a fast charger, you may need to use the cable that came with your car.

Only park in **dedicated to EV charging spaces** when you're actually charging – they aren't EV parking spaces.



CHARGING SAFELY

7
Preserving the battery range and life

Aim for an **optimal charge level**, which is **between 20% and 80%**. The recharging time increases considerably once your battery is charged to 80% and much more significantly with a fast charger.

Use the intelligent system available in most EVs to automatically stop charging once the battery is 80% charged.

Periodically fully charging the battery helps to balance its internal components. Reserve these full charges for longer trips.

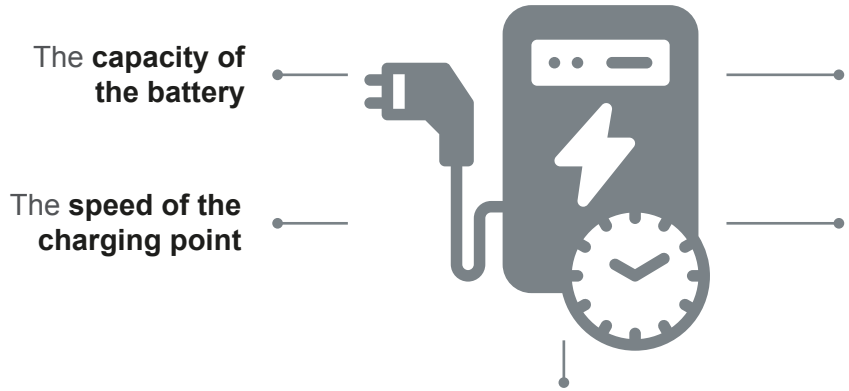
Opt for shorter, more frequent charging sessions, reserving fast charging for longer trips.

It's a good idea to charge your battery to **at least 50%**, even if the vehicle isn't being used, as some functions can still consume energy whilst the vehicle is idle.

Optimal charge **20% - 80%**

8
Factors that impact charging time

The **charging time** for an EV depends on:



The **state of charge of the battery**
(state of charge represents energy levels as a percentage, indicating the available energy in relation to the driving range)

You can find the battery capacity (how much potential energy is stored in the battery of your EV) **and onboard alternating current (AC)/direct current (DC) charging capabilities** in the vehicle's handbook or the EV Database at ev-database.org/

9
Alternating current (AC) charging: Slow charging

	Slow charging (level 1)	Moderate charging (level 2)
Plug types	Standard household outlets	Type 2 connector
Charging connector		
Power rating	2-2.5kW	7kW is the most common (3.7kW, 11kW and 22kW also available)
Charging speed	Adds 2-5 miles of range per hour of charging	Adds 10-30 miles of range per hour of charging
20%-80% charging time	8-20 hours depending on battery capacity	4-8 hours depending on battery capacity
Availability	At home or any standard electrical outlet. DO NOT use an extension lead.	At home with dedicated charging stations, workplaces and public charging stations.

10
Direct current (DC) charging: Fast charging

	Fast charging (level 3)	Ultra-rapid charging
Plug types	CCS (Combined Charging System)	CCS (Combined Charging System)
Charging connector		
Power rating	50kW	150kW to 350kW
Charging speed	Adds 60-80 miles of range per hour of charging	Adds 180-250 miles of range per hour of charging
20%-80% charging time	30-60 minutes depending on battery capacity and charging infrastructure	20-40 minutes depending on battery capacity and charging infrastructure
Availability	At public charging stations and some workplaces (tethered connections)	Growing network of high-powered charging stations along motorway service stations and urban areas

11
Calculating charging time

The onboard charger delivers a different maximum power if AC or DC charging.
To calculate your charge time on the go, the general rule of thumb below can be applied.

$$\text{(1)Charge time} = \frac{\text{(2)Capacity (kWh)}}{\text{(3)Power (kW)}}$$

(1) Theoretical times can be influenced by number of **simultaneous charges** in a charging station.

(2) Capacity = **vehicle battery capacity.**

(3) Power = power provided by the **charging solution** or **maximum power of the charger** of the vehicle if less than charging solution power.

The onboard charger delivers a different maximum power if AC or DC charging.
For the official figures specific to your model, take a look at the spec sheet on our official website.

View Omoda spec sheet

View Jaecoo spec sheet

12
Charge curve

Charging speed

Although a vehicle may state that it has a high charge rate, (typically between 100kW and 350kW), its ability to take that charge is based on many factors.

Factors that affect charging speeds

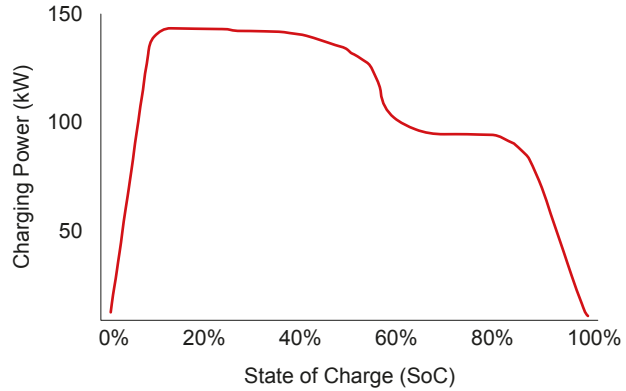
Firstly, the state of charge (SoC). A battery that's running low will have the ability to charge quicker than one that's three quarters full.

Other factors

Factors such as ambient temperature, number of vehicles charging, and car battery temperature can affect charging rates.

The EV charge curve

This graph illustrates the typical charging curve of an EV. When plugged in, it takes a while to draw electricity at the limit. After an initial slow charge, the battery acts the same way as any other battery powered technology. Note that any charging when the vehicle is over 80% SoC is much slower than the charging at 20%. Not every EV will charge the exact same way though.



TECHNICAL SPECIFICATIONS

13
Battery overview

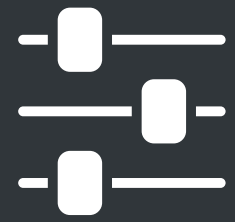
An EV is powered by a rechargeable **high-voltage battery,** which needs to be **plugged in** to a power outlet or charge point. Some electricity may be recuperated using energy recovery, also known as regenerative braking, which is technology used in EVs to capture and store energy that would otherwise be lost during braking.

The battery capacity is displayed in **kWh** (kilowatt hours), which represents the energy storage capacity (the total amount of electricity your EV's battery can store) directly related to the vehicle's range, shown in **miles**.

Vehicle consumption is typically shown in **kWh/100 miles but can also be displayed as miles/kWh.**

Just like a petrol or diesel vehicle, the range varies by model as well as other factors, such as **driving habits** or **external conditions.**

The EV battery's ability to store electrical energy does degrade **slightly** over time, however not as much as you would think compared to other battery products.



GOOD NEWS!

You have control over many of these variables to extend the battery range.

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