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Essential Guide: Electric Vehicles

EV made easy

Version 1.0 • 2022

Home Club

Everything you need to know about EV

An easy guide to help you make the switch

Investing in an electric vehicle (EV) is a smart long-term transport choice, and it's much more than just caring about climate change and protecting the planet.

Once the preserve of a high earners with a deep commitment to the environment, the EV is being adopted for sound financial as well as ecological reasons.

There has never been a better time to move to electric.

The lifetime cost of EV ownership is actually cheaper than the polluting petrol and diesel cars, with much lower maintenance costs and other benefits.

By the end of 2021 there were over half a million fully electric (BEV) and plug-in hybrid (PHEV) vehicles on the road.

This number has almost doubled in the past 18 months, and the rise has been helped by company car drivers making the switch to more sustainable vehicles.

Since 2017 the electricity companies have been cleaner every year.

2019 saw record levels of solar

> "We're seeing a rapid reduction in battery costs that should mean many EVs will have a similar price to ICE vehicles within four years."

> "With an EV, you will be spending around a third of the cost you would on petrol."

and wind generation, and in May 2019 we went 437 hours without burning any coal, the longest period ever seen! If you want to go one step further, the easiest way to ensure your fuel is green is to install your own Solar PV.

What options do you have?

In 2011 there were 9 EV models available.

As of August 2021, there are over 200 EV models available...so let's break it down for you.

- BEV = Battery Electric Vehicle or Fully Electric Vehicles. These are vehicles that operate solely via batteries and electric motors.

- PHEV = Plug-In Hybrid Vehicle is a vehicle which has an internal combustion engine but also a small battery (normally around 10kWh) which charges via a wall box. PHEVs normally have a fully electric range of around 20-25 miles.

- Mild Hybrid = Mild Hybrid Vehicles are powered by internal combustion engines 100% of the time, they are only supported by a small 48v battery for acceleration and cruising.

EV jargon busted – other terms you might find useful

- ICE - Internal Combustion Engine or just a regular vehicle engine to you and me!

- Type 1 – Type 1 is a charging socket type, mostly found on vehicles from Asia such as Nissan

- Type 2 – Type 2 is a charging socket type, mostly found on European brands such as VW and BMW.

- AC Charging – Alternating Current (AC) station is the most common type of charging station for electric vehicles. Electricity from the grid is always AC, however an electric vehicle needs this in DC to charge. So, the power (electricity) needs converting, with AC charging this is done via a converter inside the car.

- DC Charging - With a Direct Current (DC) station, the converter is within the charger itself.

- Fast Charging – This type of charging happens on AC chargers. Fast charging is

1. **Petrol and diesel** engines have thousands of moving parts but electric motors are simple.

2. **Petrol prices** have reached an eight-year high after nearly a year of continual rises.

3. **Lifetime cost** of EV ownership is actually cheaper than the petrol and diesel cars.

7-22kW AC charging via a traditional EV wall box.

- Rapid Charging – This is the type of charging that happens on DC chargers (remember we explained that earlier) and as the name suggests rapid charging is faster as the electricity isn't converted inside the car. For those in the know, DC chargers are normally 43-350kW in capacity.

- Granny Charger – A granny charger is a charging cable that has a 3-pin plug, so it can be plugged into regular sockets found throughout your home. Affectionately known as a granny charger, as it's very slow charging!

- Regenerative Breaking – This is an energy recovery system found in most electric vehicles that helps charge the batteries while the vehicle is slowing down or coasting.

- Single Phase – Single Phase is the electrical system found in most homes. Electricity is supplied by two wires, the live delivers the electricity in volts and the neutral completes the return path delivering amps back. We know what you're thinking – "What about the earth!?"

Of course, the earth is there for protection (and required by law) but it doesn't make things work.

Costs and paybacks

As of November 2021, petrol prices reached an eight-year high after nearly a year of continual rises, as oil prices pushed up fuel costs.

Figures from the RAC show that average price of a litre of petrol is now 146.6p while diesel now costs an average of 150.07p a litre.

Price parity with petrol and diesel models should be with us by 2022/23, but even though EVs are currently more expensive, they are still 2/3rds cheaper to run and maintain.

The number of renewables tariffs continues to grow and many suppliers are providing the facility for companies to optimise charging times for the most efficient, least expensive use of energy.

The smart charging solutions available mean that you can have peace of mind as well as optimising cost-savings.

While the costs of EV lifetime ownership are already cheaper than fossil-fuel vehicles

Having an EV will increase your electricity bill – but not as much as you might think.

For example, with the Mini One 1.5 petrol model, you'd be spending about £3.81 on a 23-mile trip (the average commuting distance).

In the EV equivalent - Mini Electric - you'd be spending 1.06p per 23-mile trip.

So, whilst your electricity bill will increase, you will be spending around a third of the cost you would on petrol.

> "As of August 2021, there are over 25,000 public charge points."

Petrol Car

Mini One 1.5 Petrol Engine

£3.81 a day

Annual Cost - £1391 / 16.6p per mile

Average UK Commute 23 miles

Electric Car

Mini Electric 32kWh

£1.06 a day

Annual Cost - £387 / 4.6p per mile

Average UK Commute 23 miles

1 **By the end of 2021** there'll be over half a million fully electric and plug-in hybrid vehicles on UK roads.

2 **In 2011** there were 9 EV models available. As of August 2021, there are over 200 EV models available.

3 **The majority of EVs** have an 8-year/100,000-mile warranty on the batteries.

What about average ranges?

Ranges on EVs vary depending on budget and battery size, you can purchase vehicles with ranges from 100 miles to ranges in excess of 400 miles.

Like the internal combustion engine improved over years of manufacturing, EV motors will become more efficient, and the battery technology will improve.

It's also worth bearing in mind that over 70% of UK drivers drive less than 25 miles a day.

How many charging stations are there in the UK?

In 2016, we had just over 5,000 public charging points.

As of August 2021, we have just over 25,000 public charge points.

How much you pay for charging at a public charging point in the UIK varies.

For example, on the BP Pulse network, the cost per kWh of energy for subscribers is 32p for standard public chargers (AC 43kW/DC 50kW) and 38p for registered users.

The fastest (150kW) devices cost 38p per kWh for subscribers, 44p for registered users and 50p for pay-as-you-go users, while the slower 7kW units cost from 28p per kWh.

Instavolt, which claims to be the largest owner-operator of rapid DC charging stations in the UK, charges 45p per kWh.

> "Even though EVs are currently more expensive, they are still 2/3rds cheaper to run and maintain."

Which EV's would we recommend?

Honda e – Price – Starting at £27,660

The Honda e first debuted at the 2017 Frankfurt motor show, and it was one of the stars of the show, its retro styling is apparent to those who remember the original 1970s Honda Civic.

But it wasn't just the nod to its predecessor that won it applause, it was the next-generation technology that Honda had incorporated.

Hidden door handles, streamlined side camera mirror system and dual screen digital dashboard which can be personalised for individual users.

The tech doesn't stop there - the little Honda also has lane assist, adaptive cruise control and auto braking.

It's a little pricier than its competitors in the electric city car sector, but it does come with 4 doors which should appeal more to parents than its 2-door rivals.

Drivers may be put off by the low range, but the fact that most drivers commute less than 25 miles a day wasn't lost on Honda.

Parent - main child carer, 20 miles a day covering across a region (100 Miles a week)

New EV model	Honda e	**Real-world Range:**	105 Miles	**Full Charge:**	Once a week	
DC Charging 10-80%	36 Minutes (56kW DC)		**0-100% AC Charging**	5 Hours (11kW)		
Cost Per Annum (Electric) 5200 Miles	1387 kWh to travel 5.2k Miles	**Standard Electricty Tariff**	£277.33 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£180.27 @ £0.13 Per kWh	Electric -Honda e
Cost Per Annum (Petrol / Diesel) 5200 Miles	454.60 Litres to travel 5.2k Miles	**Petrol Priced @ 145.80p per Litre**	£662.81	**Diesel Priced @ 149.30p per Litre**	N/A	Petrol: VW Golf 1.5eTSI mild-hybrid petrol Diesel: VW Golf 2.0 Tdi 7 Speed DSG

Vauxhall Mokka-e – Price – Starting at £30,540

Vauxhall (now part of the Stellantis Group, which also owns Peugeot, Citroen and DS Automobiles) has clearly picked up some style tips from its French cousins.

The new Mokka-e has a striking design, especially when compared with its rather drab looking predecessor.

It's not all show however - its 50kWh battery is good for 155+ miles, and the 99kW DC charging means a top-up takes only 30 minutes.

The interior quality is very good and equipment level is also great, with a 7-inch colour touch screen and Apple CarPlay/Android Auto as standard, electronic climate control, adaptive cruise control and panoramic rear view camera and parking sensors.

The 134bhp front wheel drive motor is also good for a 0-60mph of 8.7 seconds, so it's no slow poke, a stylish and reasonably priced offering from Vauxhall which should definitely be on your test drive list.

Teacher, 35 miles a day covering across a region (175 Miles a week)

New EV model	Vauxhall Mokka-e	**Real-world Range:**	160 Miles	**Full Charge:**	2 times a week	
DC Charging 10-80%	31 Minutes (99kW DC)		**0-100% AC Charging**	5 Hours (11kW)		
Cost Per Annum (Electric) 9100 Miles	2641 kWh to travel 9.1k Miles	**Standard Electricty Tariff**	£511.88 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£332.72 @ £0.13 Per kWh	Electric -Vauxhall Mokka-e
Cost Per Annum (Petrol / Diesel) 9100 Miles	899.32 Litres to travel 9.1k Miles	**Petrol Priced @ 145.80p per Litre**	£1,311.20	**Diesel Priced @ 149.30p per Litre**	£983.49	Petrol - Vauxhall Mokka 1.2 Turbo 6 Speed Diesel - Vauxhall Mokka 1.5 Turbo Diesel 6 Speed

VW ID.3 Pro Performance – Price – Starting at £35,835

The ID.3 is Volkswagen's people's car for the electric generation, clearly designed as an electric successor to the VW's stalwart, the Golf.

This is even referenced in the ID.3's name, with the 3 representing the fact that this is the manufacturer's third major launch in its history, following the Beetle and the Golf.

The ID.3 will come in a range of specifications and battery sizes to suit every need, and yes they are planning a fast one akin to the current "R" models.

The ID.3 is the first car to use VW's new MEB platform, which will be the base for over 70 electric models in the coming years.

The Pro Performance ID.3 comes with a 45 kWh battery and 50kW DC charging capabilities.

This vehicle will be a game changer - despite its lack of clever tech and gizmos, it will bring EV to masses in the same way that its ICE (internal combustion engine) predecessors did.

Mobile Hairdresser/Beautician, 90 miles a day covering across a region (450 Miles a week)

New EV model	Volkswagen ID.3 Pro Performance	**Real-world Range:**	215 Miles	**Full Charge:**	3 times a week	
DC Charging 10-80%	30 Minutes (125kW DC)		**0-100% AC Charging**	6 Hours 15 Minutes (11kW)		
Cost Per Annum (Electric) 23500 Miles	6220.59 kWh to travel 23.5k Miles	**Standard Electricty Tariff**	£1,267.91 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£824.14 @ £0.13 Per kWh	Electric -Volkswagen ID.3 Pure Performance
Cost Per Annum (Petrol / Diesel) 23500 Miles	2054.44 Litres to travel 23.5k Miles	**Petrol Priced @ 145.80p per Litre**	£2,995.38	**Diesel Priced @ 149.30p per Litre**	£2,539.79	Petrol - VW Golf 1.5eTSI mild-hybrid petrol Diesel - VW Golf 2.0 Tdi 7 Speed DSG

Kia e-Niro 39 kWh – Price – Starting at £30,345

Kia are no strangers to the world of EVs, launching the 64kWh variant of the e-Niro back in 2018 to great adulation, so rather than going for a bigger battery with more range, they went the other way with the second variant by putting in a smaller battery with less range.

Some may find this very odd, but it's a stroke of genius.

With the 39kWh variant Kia have got a perfect vehicle for those looking for a small urban SUV.

Not only is the pricing very reasonable for the vehicle size and range, the specification is also very good, with the entry level trim boasting 17 inch alloy wheels, automatic lights and wipers, dual-zone climate control, rear parking sensors and camera, as well as a 8-inch infotainment system with DAB Radio, Apple CarPlay and Android Auto.

Even though the battery is smaller, it's still no slouch, with the 134Bhp motor helping to deliver a 0-60mph time of 8.2 seconds.

A great value electric car with a high level of specification and decent range.

Retail Manager, 50 miles a day covering across a region (250 Miles a week)

New EV model	Kia e-Niro 39 kWh	**Real-world Range:**	145 miles	**Full Charge:**	2 times a week	
DC Charging 10-80%	43 Minutes (50kW DC)		**0-100% AC Charging**	6 Hours 30 Minutes (7.2kW)		
Cost Per Annum (Electric) 13000 Miles	3514.48 kWh to travel 13k Miles	**Standard Electricty Tariff**	£702.90 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£456.88 @ £0.13 Per kWh	Electric - Kia e-Niro 39 kWh
Cost Per Annum (Petrol / Diesel) 13000 Miles	1,136.50 Litres to travel 13k Miles	**Petrol Priced @ 145.80p per Litre**	£1,657.02	**Diesel Priced @ 149.30p per Litre**	N/A	Petrol - Kia Niro Self Charging Hybrid 1.6 Gdi Diesel - No equivalent model

Hyundai Kona Electric – Price – Starting at £27,950

The Hyundai Kona Electric is already in its second guise, and it feels the new model has been designed with the electric platform in mind rather than the ICE (Internal Combustion Engine) platform.

This is clear with the sleeker, more aerodynamic updated design and like many of its competitors it comes with two battery options, a 39kWh and 64kWh.

The latter is the one which will appeal more to the company car driver, as it will offer up to 250 miles in range.

It will also feature 150kW charging capability, meaning it can go from 10% battery to 80% in around 40 minutes.

Hyundai have their eyes firmly set on mass adoption rather than outright performance, and with the Kona that's clear.

Don't be mistaken though, it's no tortoise.

It still offers 201 bhp and a 0-60 of 7.6 seconds, but when compared with its counterparts It's distinctively slower.

It is, however, a lot cheaper, with the entry level 39kWh battery version coming in under £30,000 with the Plug-in Grant.

Technican, 200 miles a day covering across a region (1,000 Miles a week)

New EV model	Hyundai Kona Electric 64 kWh	**Real-world Range:**	245 miles	**Full Charge:**	Once a day	
DC Charging 10-80%	44 Minutes (77kW DC)		**0-100% AC Charging**	7 Hours (11kW - 3 Phase Charger Req)		
Cost Per Annum (Electric) 52000 Miles	13583.67 kWh to travel 52k Miles	**Standard Electricty Tariff**	£2,716.73 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£1,765.88 @ £0.13 Per kWh	Electric - Hyundai Kona Electric 64 kWh
Cost Per Annum (Petrol / Diesel) 52000 Miles	5138.96 Litres to travel 52k Miles	**Petrol Priced @ 145.80p per Litre**	£7,209.19	**Diesel Priced @ 149.30p per Litre**	N/A	Petrol - Hyundai Kona 1.0 TGDi 48V MHEV Ultimate Diesel - No equivalent model

Vauxhall Corsa-e – Price – Starting at £21,485

Vauxhall (now part of the Stellantis Group, which also owns Peugeot, Citroen and DS Automobiles) has clearly picked up some style tips from its French cousins.

The new Mokka-e has a striking design, especially when compared with its rather drab looking predecessor.

It's not all show however - its 50kWh battery is good for 155+ miles, and the 99kW DC charging means a top-up takes only 30 minutes.

The interior quality is very good and equipment level is also great, with a 7-inch colour touch screen and Apple CarPlay/Android Auto as standard, electronic climate control, adaptive cruise control and panoramic rear view camera and parking sensors.

The 134bhp front wheel drive motor is also good for a 0-60mph of 8.7 seconds, so it's no slow poke, a stylish and reasonably priced offering from Vauxhall which should definitely be on your test drive list.

Medical Specialist, 90 miles a day covering across a region (450 Miles a week)

New EV model	Vauxhall Corsa-e	**Real-world Range:**	175 Miles	**Full Charge:**	3 times a week	
DC Charging 10-80%	31 Minutes (99kW DC)		**0-100% AC Charging**	7 Hours 30 Minutes (11kW - 3 Phase Charger Req)		
Cost Per Annum (Electric) 23500 Miles	6042.86 kWh to travel 23.5k Miles	**Standard Electricty Tariff**	£1,208.57 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£785.57 @ £0.13 Per kWh	Electric - Vauxhall Corsa-e
Cost Per Annum (Petrol / Diesel) 23500 Miles	2054.44 Litres to travel 23.5k Miles	**Petrol Priced @ 145.80p per Litre**	£2,995.38	**Diesel Priced @ 149.30p per Litre**	£2,539.79	Petrol: VW Golf 1.5eTSI mild-hybrid petrol Diesel: VW Golf 2.0 Tdi 7 Speed DSG

Volkswagen ID.4 Pure – Price – Starting at £32,150

The ID.4 is Volkswagen's first fully electric SUV and is built on the groups MEB platform (modular electric drive matrix).

This shared architecture is the basis for the VW Groups I.D range of vehicles, as well as the platform for other manufacturers in the group.

The ID.4 Pure is the entry-level variant of the electric SUV and comes with a 52kWh battery which delivers 175 miles real-world range.

The 109kW motor delivers a 0-62mph of 10.9 secs, and is capable of towing up to 1000kg. With a 5-star Euro NCAP safety rating its hardly surprising it was voted World Car of the Year 2021.

Like its sister vehicle the ID.3, which is also built on the MEB platform, the ID.4 is delivered with a net carbon neutral balance, all you need to do is fill it with carbon neutral power.

Security Specialist, 120 miles a day covering across a region (600 Miles a week)

New EV model	Volkswagen ID.4 Pure	**Real-world Range:**	175 miles	**Full Charge:**	4 times a week	
DC Charging 10-80%	29 Minutes (100kW DC)		**0-100% AC Charging**	8 Hours 30 Minutes (7.2kW)		
Cost Per Annum (Electric) 31200 Miles	9270.86 kWh to travel 31.2k Miles	**Standard Electricty Tariff**	£1,854.17 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£717.22 £0.13 Per kWh	Electric - Volkswagen ID.4 Pure
Cost Per Annum (Petrol / Diesel) 31200 Miles	3083.37 Litres to travel 31.2k Miles	**Petrol Priced @ 145.80p per Litre**	£4,495.56	**Diesel Priced @ 149.30p per Litre**	£3,371.97	Petrol - VW Golf 1.5eTSI mild-hybrid petrol Diesel - VW Golf 2.0 Tdi 7 Speed DSG

What about a company car?

Annual mileage (2019) in a company car for business 4,200 miles, commuting 9,400, private 4,900. Total: 18,400.

[Source: Department for Transport statistics, National Travel Survey]

Skoda Enyaq iV 60 – Price – Starting at £31,995

The Skoda fully electric SUV boasts a range of up to 310 miles. There's a choice of 3 battery sizes and 5 power variants, the Enyaq offers an entry-level version aimed at families, alongside a 82 kWh battery variant offering longer distances.

A four-wheel drive VRS version caters for those looking for a bit more performance.

Sales executive covering large area in the Midlands covers around 375 miles a week.

New EV model	Skoda Enyaq iV 60	**Real-world Range:**	205 Miles	**Full Charge:**	2 times a week	
DC Charging 10-80%	33 Minutes (100kW DC)		**0-100% AC Charging**	9 Hours 30 Mins (7.2kW)		
Cost Per Annum (Electric) 19500 Miles	5517.07 kWh to travel 19.5k Miles	**Standard Electricty Tariff**	£1,103.41 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£717.22 £0.13 Per kWh	Electric - Skoda Enyaq iV 60
Cost Per Annum (Petrol / Diesel) 19500 Miles	1927.11 Litres to travel 19.5k Miles	**Petrol Priced @ 145.80p per Litre**	£2,809.72	**Diesel Priced @ 149.30p per Litre**	£2,107.48	Petrol - Skoda Kodiaq 1.5Tsi Diesel - Skoda Kodiaq 2.0TDi 150 DFPR

Tesla Model 3 – Price – Starting at £40,990

The Tesla Model 3 is one of the best electric vehicles on the market, boasting great performance, market-leading range and some of the finest on-board tech to ever feature in an automobile.

The Model 3 Performance model is capable of 352 miles, 162 mph and a 0-60 mph time of 3.1 seconds, that is a tenth of a second quicker than a 2020 Ferrari Portofino.

Even the entry level Model 3 is capable of a 0-60 of 5.1 seconds, which is still very quick for 4-door family hatchback. But it's not just a pocket rocket, the entry level Tesla is also autonomous ready, meaning once legal it will be capable of driving itself to that business meeting at the other end of the M1, so you arrived refreshed and ready as the car has taken the strain out of that long drive and standard rush-hour traffic.

When you have driven a Model 3 it comes as no surprise to know that they have sold over 800,000 of these cars in around 3 years.

Senior Manager, 40-mile daily commute to main office (200 Miles a week).

New EV model	Tesla Model 3 Standard Range	**Real-world Range:**	220 Miles	**Full Charge:**	Once a week	
DC Charging 10-80%	25 Minutes (145kW DC)		**0-100% AC Charging**	5 Hours 30 Mins (11kW - 3 Phase Charger Req)		
Cost Per Annum (Electric) 10400 Miles	2544.68 kWh to travel 10.4k Miles	**Standard Electricty Tariff**	£508.94 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£330.81 @ £0.13 Per kWh	Electric - Tesla Model 3 Standard Range
Cost Per Annum (Petrol / Diesel) 10400 Miles	1027.79 Litres to travel 10.4k Miles	**Petrol Priced @ 145.80p per Litre**	£1,498.52	**Diesel Priced @ 149.30p per Litre**	£1,123.99	Petrol - BMW 320i Diesel - BMW 320d SE

Ford Mustang Mach-E Extra Range RWD Price – Starting at £49,980

The ID.4 is Volkswagen's first fully electric SUV and is built on the groups MEB platform (modular electric drive matrix).

This shared architecture is the basis for the VW Groups I.D range of vehicles, as well as the platform for other manufacturers in the group.

The ID.4 Pure is the entry-level variant of the electric SUV and comes with a 52kWh battery which delivers 175 miles real-world range. The 109kW motor delivers a 0-62mph of 10.9 secs, and is capable of towing up to 1000kg.

With a 5-star Euro NCAP safety rating its hardly surprising it was voted World Car of the Year 2021.

Like its sister vehicle the ID.3, which is also built on the MEB platform, the ID.4 is delivered with a net carbon neutral balance, all you need to do is fill it with carbon neutral power.

Engineer, 250 miles a day covering across a region (1,250 Miles a week)

New EV model	Ford Mustang Mach-E ER RWD	**Real-world Range:**	270 miles	**Full Charge:**	Once a day	
DC Charging 10-80%	43 Minutes (150kW DC)		**0-100% AC Charging**	9 Hours 30 minutes (11kW - 3 Phase Charger Req)		
Cost Per Annum (Electric) 65000 Miles	21185.19 kWh to travel 65k Miles	**Standard Electricty Tariff**	£4,237.04 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£2,754.07 @ £0.13 Per kWh	Electric - Ford Mustang Mach-E ER RWD
Cost Per Annum (Petrol / Diesel) 65000 Miles	6,423.70 Litres to travel 65k Miles	**Petrol Priced @ 145.80p per Litre**	£9,365.75	**Diesel Priced @ 149.30p per Litre**	£7,115.59	Petrol - Volkswagen Tiguan Elegance 1.5 TSI 150 PS 7-Speed DSG Diesel - Volkswagen Tiguan Elegance 2.0 TDI 150 PS 7-Speed DSG

Audi Q4 e-tron 35 – Price – Starting at £40,750

The Hyundai Kona Electric is already in its second guise, and it feels the new model has been designed with the electric platform in mind rather than the ICE (Internal Combustion Engine) platform.

This is clear with the sleeker, more aerodynamic updated design and like many of its competitors it comes with two battery options, a 39kWh and 64kWh.

The latter is the one which will appeal more to the company car driver, as it will offer up to 250 miles in range. It will also feature 150kW charging capability, meaning it can go from 10% battery to 80% in around 40 minutes.

Hyundai have their eyes firmly set on mass adoption rather than outright performance, and with the Kona that's clear.

Don't be mistaken though, it's no tortoise. It still offers 201 bhp and a 0-60 of 7.6 seconds, but when compared with its counterparts It's distinctively slower.

It is, however, a lot cheaper, with the entry level 39kWh battery version coming in under £30,000 with the Plug-in Grant.

GP Doctor, 80 miles a day covering across a region (400 Miles a week)

New EV model	Audi Q4 e-tron 35	**Real-world Range:**	175 miles	**Full Charge:**	3 times a week	
DC Charging 10-80%	30 Minutes (100kW DC)		**0-100% AC Charging**	8 Hours 30 Minutes (7.2kW)		
Cost Per Annum (Electric) 20800 Miles	6240 kWh to travel 20.8k Miles	**Standard Electricty Tariff**	£1,236.11 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£803.47 @ £0.13 Per kWh	Electric -Audi Q4 e-tron 35
Cost Per Annum (Petrol / Diesel) 20800 Miles	885.12 Litres to travel 20.8k Miles	**Petrol Priced @ 145.80p per Litre**	£2,997.04	**Diesel Priced @ 149.30p per Litre**	£2,276.99	Petrol - Audi Q3 Technik 35 TFSI CoD 150 PS Manual Diesel - Audi Q3 Sport 35 TDI 150 PS S Tronic

Mercedes Benz EQS 580 4MATIC Price – Starting at £115,000

For as many decades as I have been alive the Mercedes Benz S-Class has been not only the pinnacle of German luxury, but also a technological pioneer.

Reliable ABS, Airbags, Seat Belt Pre-Tensioners and Traction Control were all technologies first introduced by previous S-Class models.

The flagship Mercedes was often heralded as being a guide to what to expect as standard in family cars of the future.

As you would expect from a flagship Mercedes, the front seats come with 19 adjustment motors and 10 massage programs, as well as the luxurious seats the EQS also has a 1.4 metre hyperscreen dashboard, which comprises three digital screens built into one.

The 112kWh battery has a real-world range of around 380 miles. And the 516hp motor is capable of a 0-60 time of 4.3 seconds. AWD and rear wheel steering deliver precise handling for a vehicle of its size and weight.

As you would expect from a S-Class, its powerful, comfortable, luxurious, and filled with cutting edge technology.

Company director, 50-mile daily commute to main office (250 Miles a week)

New EV model	Mercedes EQS 580 4MATIC	**Real-world Range:**	380 Miles	**Full Charge:**	Once a week	
DC Charging 10-80%	32 Minutes (200kW DC)		**0-100% AC Charging**	11 Hours (11kW - 3 Phase Charger Req)		
Cost Per Annum (Electric) 13000 Miles	3547.85 kWh to travel 13k Miles	**Standard Electricty Tariff**	£709.57 @ £0.20 Per kWh	**On EV / Economy7 Tariff**	£461.22 £0.13 Per kWh	Electric - Mercedes Benz EQS 580 4MATIC
Cost Per Annum (Petrol / Diesel) 13000 Miles	1688.51 Litres to travel 13k Miles	**Petrol Priced @ 145.80p per Litre**	£2,641.85	**Diesel Priced @ 149.30p per Litre**	£1,764.67	Petrol - Mercedes Benz S500 4Matic Diesel - Mercedes Benz S400D 4Matic

Home charging installation

An EV charger can be installed in your home if you own the property, or you have permission from the landlord, and you have your own off-street parking, as well as a Wi-Fi connection.

EV chargers are usually installed on an exterior wall in your driveway, or an interior wall in your garage. The installers will follow standard safety regulations.

What if something breaks or goes wrong – are electric cars easily fixed?

Petrol and diesel engines have thousands of moving parts but electric motors are simple, with most units having no more than 20 components.

You'll still need to have your EV regularly serviced but the costs should be much lower than internal combustion (ICE) engine models.

For most of us, the smartest maintenance option is with an authorised main dealer that would have an EV specialist trained specifically for work on your EV model.

An EV costs at least 30% less to service and maintain than a traditional car because there are far fewer parts.

An EV needs to be serviced as often as any car, and can generally be carried out by your dealer, who would have specialised expertise and equipment.

The service will include, tyre wear & tear/pressure check, windscreen wiper replacement, brake fluid change, MOT (there's no emissions test and with fewer parts to test, repairs could be minimal).

The majority of EVs have an 8-year/100,000-mile warranty on the batteries.

Most manufacturers predict their batteries will last 10-20 years before replacement - and it doesn't end there.

Because of the size of EV batteries they can be easily repurposed as energy storage devices and when their full working life is complete, they can be dismantled and recycled for individual components.

Charging cables guide

Cables can be type 1 or type 2, 16 Amp or 32 Amp and Single or Three Phase.

All these elements play a part in what the cable is capable of delivering to the vehicle.

The type refers to the kind of connection between car and cable.

The same EV cable be used for different brands of EV car as long as the type is correct for that vehicle.

For example, a Mini and Range Rover both use type 2, and the same cable could be used to charge both vehicles.

- Type 1 is a five-pin plug with a clip and normally found on EVs manufactured by Asian brands, with the exception of newer Nissans.

- Type 2 is a seven-pin plug with a flat top edge - this connector is typically found on European and American brands such as BMW.

Questions about EV still driving you up the wall?

Drop your Carbon Mentor a message and let that road rage disappear!