Fact sheet: Zero Emissions Vehicles in the UK

Key stats

- ➔ **There are 1.4 million zero emission vehicles registered in the UK[1]**
- ➔ **EVs accounted for 19.6% of UK car sales in 2024[2]**
- ➔ **EVs now available on the market from £15,000**
- ➔ **75% less CO2 per KM compared to a petrol car[3]**
- ➔ **Over 75,000 EV chargers in the UK[4]**
- ➔ **Average range for a new EV is 300 miles[5]**

Vehicle types

Vehicle	Shortened to	Details
Zero emission vehicle	ZEV	Vehicles that produce no tailpipe emissions, or have the potential to produce none. This includes BEVs, PHEVs and FCEVs.
Battery electric vehicle	BEV	Powered solely by electricity stored in batteries. Have no tail pipe emissions.
Plug-in hybrid electric vehicle	PHEV	Powered by a combination of petrol or diesel engine and electric motor. Can be plugged in to charge batteries. Only zero emissions when using battery as the power source. Limited electric range (around a 1/5th of an average electric car)
Hybrid electric vehicle (self charging hybrid)	HEV	Powered by a combination of petrol or diesel engine and electric motor. Cannot be plugged in to charge the battery and engine is the primary source of power. CO2 emissions only 10-15% lower than an ICE
Fuel cell electric vehicle	FCEV	Powered by hydrogen fuel cell. Are zero emission, producing only water and heat.
Internal combustion engine	ICE	Powered by combustion of petrol or diesel producing numerous emissions harmful to the environment and human health.

[1] Zap-map (2025) EV market stats
[2] Transport & Environment (2025) Mission Accomplished: Carmakers fulfill the 2024 ZEV Mandate
[3] Transport & Environment (2022) How clean are electric cars?
[4] Charge UK (2025)
[5] Office for Zero Emissions Vehicles (2024) Electric vehicles: costs, charging and infrastructure

Emissions savings

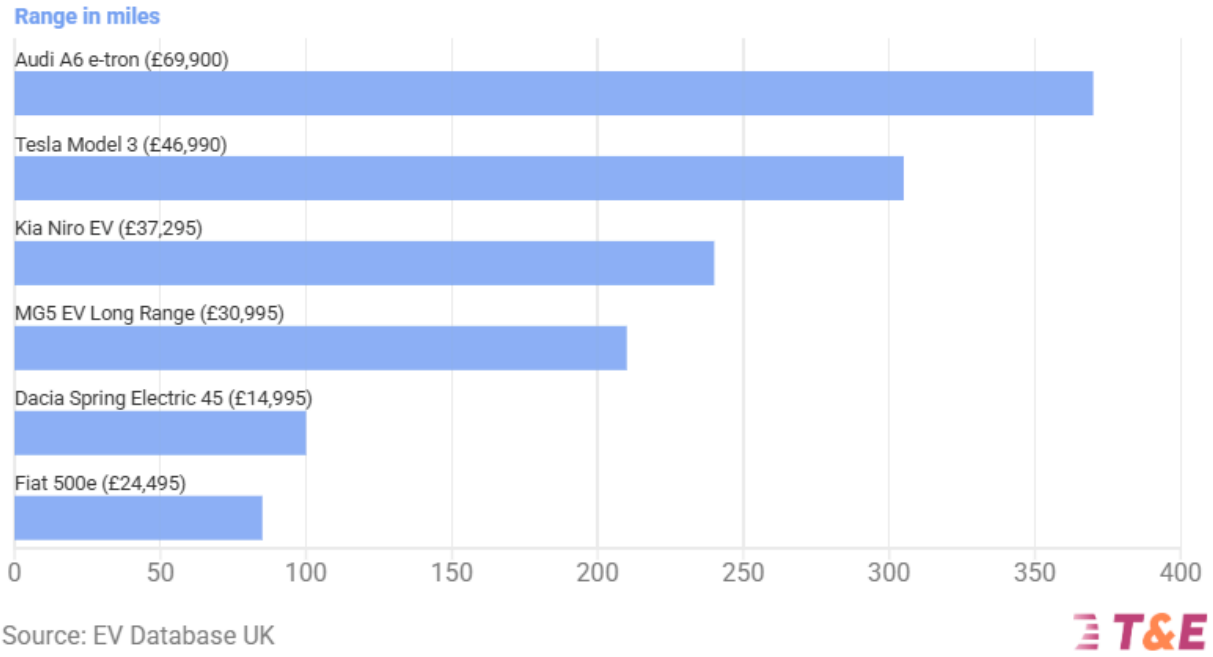
- **ICE cars are a significant contributor to climate change:** In 2023, 52% of UK transport emissions came from cars and taxis[6]. Increasing the uptake of electric cars and vans is essential to reducing emissions and reaching the UK's net zero commitment.
- **EVs are greener and cleaner:** Over its lifetime, a typical EV emits around two-thirds less greenhouse gas emissions than an equivalent petrol car, even accounting for battery production and recycling[7].
- **Advancements in technology are helping:** In time, these emissions will reduce, as the power sector moves to decarbonisation by 2035.

Range

- **Concerns on distance are often misplaced:** 'Range anxiety' regarding EVs is often quoted as one of the biggest concerns of potential customers looking to purchase a new vehicle. However, more than 30 models of available EVs are stated as having a range of over 200 miles[8] and would therefore be fit for purpose in almost all journeys. In 2023, 94% of car journeys in England were under 25 miles and 99% were under 100 miles[9].
- **Charging times may be quicker than you think:** It will vary depending on the model and battery, but an 'ultra-rapid charger' could expected to fully charge a 60kW EV (such as the Renault Megane E-Tech) in 24 minutes[10].
- **There are lots of options on the market:** Already today there are cars on the market with more than 400 miles of range. With battery costs expected to continue to fall and new battery technologies coming to the market, there will be increasing numbers of EVs with higher ranges available for those consumers that do very high mileage.

[6] Department for Transport (2023) Transport and Environment Statistics
[7] Department for Transport (2022) Lifecycle analysis of UK road vehicles
[8] Vehicle Certifcation Agency (2024) Car fuel data, CO2 and vehicle tax tools
[9] Department for Transport (2023) Mode of Travel Data
[10] Office for Zero Emissions Vehicles (2024) Electric vehicles: costs, charging and infrastructure

The UK EV market offers a broad scope of vehicle range



Source: EV Database UK

Charging

- **Most charging is done at home:** The vast majority of EV owners charge their vehicles at home overnight, and mostly don't need to re-charge for their day-to-day travelling requirements. Public charging points support longer journeys and ensure equitable access for those without access to home charging.
- **Public charging points are on the up:** Charging point numbers have grown 40% year-on-year[11] with over 75,000 chargers across the UK[12]. More needs to be done to ensure this roll out is evenly spread across the country. The Department for Transport has yet to issue any of the £950 million of funding that was committed to in 2020[13].

Costs

- **EVs are becoming more affordable:** A number of new low cost models are now available with more to be rolled out over the coming years. By 2027, the ZEV mandate is expected to bring over a dozen new EV models priced at £23,000 or less to the UK market. For example, the fully electric Dacia Spring is available starting at just £15,000, and the new Citroen e-C3 can be ordered at £23,000, with lease prices from £243 a month[14].

[11] Transport & Environment (2024) Cars
[12] Charge UK (2025)
[13] Public Accounts Committee (2025) Electric vehicles: Govt must overcome delays for charging network rollout to succeed
[14] Select Car Leasing (2025) Citroen E-c3

- **EVs are cheaper to run:** It is predicted that someone buying a new EV next year will recoup the additional upfront cost within 5 years due to lower running costs. Charging a medium-sized electric car at home can cost around half the price of filling up an equivalent petrol vehicle[15].

UK ZEV Mandate

In 2024, the UK introduced a ZEV mandate setting rising sales targets for zero emission sales, aiming for 80% of new cars to be zero emission by 2030 and 100% by 2035. This policy is driving the transition to a mass EV market, ensuring a cleaner transport future.

This policy involves annual production targets that manufacturers are required to meet. For 2025 the headline target is 28% of vehicle sales to be a ZEV. For 2026 this will be 33%, however in practice targets are lower due to flexibilities.

Following lobbying from the car industry, the government allowed for a number of 'flexibilities' within the mandate. These are applicable until 2027 and allow manufacturers to comply with the mandate by reducing CO2 emissions from petrol and diesel sales, borrowing credits from future targets, and purchasing credits from other carmakers.

With flexibilities 2024 required 18% ZEV sales. Despite some concerns, the industry met the ZEV mandate last year, selling 19.6% ZEVs. This year carmakers are expected to need to sell around 23% ZEV to meet the mandate with flexibilities, with sales at 23% already in the first two months of the year, carmakers are already on track[16].

The mandate is the largest carbon saving measure in the government's net zero strategy. It provides certainty to industry and the economy as well as accelerating the decarbonisation of the UKs transport sector.

Investment from manufactures

The ZEV mandate has already attracted **£23 billion** in announced EV and battery manufacturing investments in the UK over the last three years[17] as well as a commitment by the charging industry to invest £6 billion in charging infrastructure by 2030[18]. This includes -

- Nissan's investment of over **£3 billion** to develop 2 new electric vehicles at their Sunderland plant
- **£4 billion** from Tata in a new 40 GWh gigafactory
- **£600 million** of investment from BMW to build next generation MINI EVs in Oxford

[15] UK Government (2023) Zero Emission Vehicle Mandate and CO_2 Regulations
[16] New Automotive (2025)
[17] Transport & Environment (2024) Carmakers' EV investments: Is Europe falling behind?
[18] Charge UK (2025)

Regulation through policy such as the ZEV mandate provides assurances to industry of the government's commitment to transition and a clear timeframe of the needs to scale up EV production. Through this the government ensures that UK manufacturing is competitive on the global stage and does not miss the window for electrification.

Consumer uptake

- **More consumers are considering EVs:** 59% of those intending to purchase a vehicle in the next 2 years leaning towards an EV[19]. As more affordable options continue to enter the market and charging infrastructure improvements, this can be expected to rise.
- **The second hand EV market is growing:** Sales increased by 57% in 2024[20]. Additionally, second hand EVs are now falling cheaper than equivalent ICE models, with EVs on average 14% cheaper after 4 years[21].
- **EV drivers are satisfied with their decision:** 85% of EV drivers say that they are happy with their experience[22].
- **Misinformation remains a problem:** Information about charging times, battery longevity, and even the phase-out for new petrol and diesel car sales has been distorted with people thinking much more pessimistically around the realities of having an EV.

Synthetic fuels and biofuels are not the answer

Biofuels and synthetic fuels have been proposed as an alternative option to decarbonise road transport, but these are not viable alternatives for meaningfully reducing carbon emissions. and protecting the environment.

- **Biofuel production has significant land requirements:** Production competes with food production raising food prices and significantly contributing to deforestation. To produce enough biofuels and synthetic fuels at a scale needed would require a vast amount of land and water[23]. When it comes to biofuels from wastes, we already use more than 10 times used cooking oil (a major feedstock for biodiesel) than we collect, risking fraudulent imports from abroad which mislabel virgin palm oil as used cooking oil. Palm oil is a major driver of rainforest deforestation[24].

[19] EV Magazine (2024) EY Reveals UK Consumer Interest Shifts Towards EVs
[20] SMMT (2025) Demand for used EVs rises to record levels as second-hand car market grows in 2024
[21] Parkers (2025) Used electric car prices falling fast - is now the time to buy?
[22] Office for Zero Emissions Vehicles (2024) Electric vehicles: costs, charging and infrastructure
[23] Friends of the Earth (2017) 4 reasons why biofuels aren't the answer to climate change
[24] Transport & Environment (2024) Used Cooking Oil: The Certified Unknown

- **Synthetic fuels are expected to bring a significant cost to drivers:** By 2030 running a car on e-petrol compared to a BEV is expected to be 43% more expensive for the average driver[25].
- **Synthetic fuels are inefficient:** Driving a car on e-fuels produced from renewable electricity would require close to five times more energy than when driving a BEV. BEVs also will result in 38%-46% less CO_2 emissions over their lifecycle compared to synthetic fuels.[26]
- **Battery technology is accelerating:** We know that the technology behind electric vehicles and batteries is advancing quickly, making EVs the most attractive option in terms of reducing emissions. Whereas there is no meaningful supply of synthetic fuels.
- **Synthetic fuels are best used elsewhere:** Production of synthetic fuels needs to be prioritised for long-distance transport modes such as aviation and shipping, which cannot use batteries to decarbonise. Huge volumes of these fuels will already be required in those sectors.

Further information

About us

We are the national office of the European clean transport NGO T&E whose aim is to achieve a zero-emission mobility system that is affordable and has minimal impacts on our health, climate and environment and is accessible to all.

https://www.transportenvironment.org/te-united-kingdom

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[25] Transport & Environment (2021) E-fools: why e-fuels in cars make no economic or environmental sense
[26] Transport & Environment (2021) E-fools: why e-fuels in cars make no economic or environmental sense