FAQs on the phase-out of combustion engines in 2035 and electric mobility

From 2035 onwards, no new petrol or diesel cars will be permitted to be registered in the EU – marking a significant milestone in climate action, as well as representing a major change for consumers, industry and politics. Some people are concerned about the future of their cars and are asking themselves: What will this mean for my car? Is there sufficient charging infrastructure? Are electric vehicles really more climate-friendly? What role will hydrogen and e-fuels play in the future?

Oeko-Institut has compiled the most important questions and answers in a concise FAQ, providing clear and comprehensible information. This FAQ covers everyday topics such as charging and costs, environmental issues, and the opportunities for the German automotive industry in an increasingly electrified world.

Overview

1 Background and the basics

What exactly has the EU decided?

From 2035 onwards, selling new petrol or diesel cars and vans in the EU will incur a penalty unless an exemption is granted. The goal is to make the transport sector climate-neutral by 2050.

When will the ban on combustion engines come into effect?

The ban on combustion engines will apply to new cars from 1 January 2035.

However, fleet-wide CO_2 emission standards have been in force since 2012. According to these targets, the average CO_2 emissions of all newly registered cars in the EU must be gradually reduced. These targets have become increasingly rigorous since then and will result in the phase-out of combustion engines by 2035.

Does this only apply to new cars or also to vehicles that are already registered?

This only affects new registrations. Already registered cars with combustion engines may continue to be driven, sold and repaired.

Why has the EU introduced this regulation?

Transport accounts for around one-fifth of the EU's greenhouse gas emissions. Without phasing out fossil fuel engines, climate targets cannot be achieved. Another objective is to maintain the competitiveness of the European automotive industry in the context of the global transformation of the sector.

2 Vehicle types and possible alternatives (e-fuels)

Does this only apply to cars or also to lorries, buses and motorcycles?

Yes, for the time being the regulation only applies to passenger cars and light commercial vehicles. Lorries and buses have been subject to separate regulations since 2020.

What about plug-in hybrids?

Plug-in hybrids will also no longer be permitted for new registration after 2035, as they are powered by a petrol or diesel engine in addition to an electric motor.

Are hydrogen-powered vehicles affected?

Vehicles equipped with hydrogen fuel cells are considered to be emission-free and can be registered in the long term without penalty payments.

However, it should be noted that fuel cell vehicles are significantly more expensive to purchase and operate than battery electric vehicles. Consequently, they do not play a central role in the development of passenger cars and small vans.

Can e-fuels save the combustion engine?

E-fuels are produced from hydrogen and CO_2 using renewable electricity. However, this process involves high conversion losses. Passenger cars powered by e-fuels are significantly more expensive and up to five times less efficient than electric cars that use electricity directly in their batteries.

Due to the high investment costs and the time required to build the necessary production plants, which are also needed for other modes of transport (such as aviation), relevant quantities of e-fuels will not be available until after 2035.

When are e-fuels and hydrogen climate-friendly?

E-fuels and hydrogen are climate-friendly only when the electricity comes almost entirely from renewable energy sources and when climate-friendly sources of CO_2 are used in e-fuel production, e.g. direct air capture and CO_2 captured from the exhaust gases of sustainable biomass use.

3 Exceptions and special regulations

Are there any transition periods or derogations?

Yes. Until 2035, manufacturers producing only small volumes of cars are subject to other targets. However, the general deadline of 2035 for the phase-out of combustion engines remains in place for all manufacturers.

4 Impact on consumers

Can I still drive my petrol or diesel car after 2035?

Yes, you can drive it for as long as you want – in other EU countries as well as Germany.

How long can I still buy used combustion engines?

The trade in used cars with combustion engines will still be permitted after 2035.

Will repairs and spare parts continue to be available for combustion engines?

Over time, the infrastructure for filling stations and workshops for vehicles with combustion engines will become less dense and may also become more expensive to use. However, there is no reason to believe that repairs and spare parts will not be available in the long term.

5 Further questions about electric vehicles

5.1 Charging infrastructure

Is the charging infrastructure sufficient for so many electric vehicles?

At the moment, there are enough charging points for the existing fleet of electric vehicles.

Are there enough public charging points – even in rural areas?

The provision is better in cities, while in rural areas the density of charging points is lower, as is the case with petrol stations. Support programmes are helping to expand the infrastructure.

How can I find an available charging point while on the road?

Apps and car computers display location and availability information in real time, enabling you to plan your route with charging stops.

Do I need my own charging infrastructure at home?

No, you can also use public charging stations. However, a private wallbox makes charging much more convenient and often cheaper.

How long does it take to charge an electric car?

With fast chargers, it usually takes 20 to 45 minutes to achieve a sufficient range; at home, it often takes overnight.

Will charging be faster in the future?

Yes, new technology and increasing charging capacities will reduce charging times.

What do I do if the charging stations are occupied?

Apps show alternatives, and the charging infrastructure is constantly being expanded.

5.2 Range

How far can I drive an electric car today?

Many models can travel 300 to 500 kilometres, with some premium vehicles capable of even more. This means that everyday essential journeys can be completed without any problems or the need for constant charging.

Is the range of an electric car sufficient for holiday trips?

Yes, the range is sufficient for holiday trips if you charge the electric car while taking a break from driving, which is common anyway. Fast chargers are widely available on motorways.

How much does the range decrease in winter?

Often by 10 to 30 percent, depending on driving style and heating use.

5.3 Costs and profitability

Why are electric cars still more expensive than cars with combustion engines?

This is mainly due to falling battery costs resulting from mass production. However, the additional costs compared to combustion engines are currently falling sharply. This is due to the steady expansion of production capacities, which reduces unit costs for large production volumes, and fleet-wide emission standards, which encourage manufacturers to bring vehicles to market at favourable prices.

Electric cars are still very expensive at the moment. Will they become cheaper in the future?

Yes, fleet-wide emission standards are ensuring that manufacturers bring more electric cars onto the market, driving down vehicle prices. Technological advances and increased production are also leading to lower production costs and prices.

Are there any government subsidies for switching to an electric car?

Electric cars will be exempt from vehicle tax until 2030. However, there is currently no direct purchase subsidy. A subsidy is planned for low-income households from 2026, but this has not yet been decided. The exemption from vehicle tax is set to continue until 2035.

6 Climate and environmental aspects

What is the scale of the reduction in emissions brought about by the phase-out of combustion engines?

According to the German government's 2025 Projection Report, phasing out combustion engines is the measure projected to have the greatest impact on reducing CO_2 emissions. The report compared the phase-out of combustion engines with the previous fleet-wide emission standards. This is expected to result in around 11.5 million fewer tonnes of carbon dioxide equivalents (CO_2e) by 2035. From 2040 onwards, emissions will be reduced by more than 17 million tonnes of CO_2-e per year.

Are electric cars really more environmentally-friendly than modern combustion engines?

Yes, the greenhouse gas emissions of an electric car over its entire life cycle are substantially lower than those of a vehicle with a combustion engine. A new electric vehicle offers a climate benefit over a diesel car after travelling 45,000 kilometres at most. This benefit is achieved even sooner when compared to a car fuelled with petrol. As the proportion of green electricity increases, this benefit will continue to grow in the future.

How large is the carbon footprint of battery production?

A car with a medium-sized 65 kWh battery causes a carbon footprint of 25 to 30 grams of CO_2e per kilometre over the vehicle's lifetime. This corresponds to emissions of around six tonnes of CO_2e for the production of a 65 kWh battery. However, with increasing production capacities for battery materials and batteries in Europe, a substantial reduction in emissions from battery production is to be expected.

What happens to old batteries? Can they be recycled?

In principle, raw materials such as lithium, cobalt and nickel can be recovered at high rates. However, comprehensive recycling infrastructure is lacking at present, as only a few batteries are currently being taken out of service. As larger quantities become available, it will be possible to recover more of these valuable materials. In addition, regulatory requirements have been established to increase recycling rates for batteries.

In principle, raw materials such as lithium, cobalt and nickel can be recycled with high recovery rates. However, there is still a lack of comprehensive recycling infrastructure today, as there are currently only a few batteries that are being taken out of service. With larger quantities, valuable raw materials such as lithium, cobalt and nickel will be better recovered in the future. In addition, regulatory requirements for increasing recycling rates for batteries have been established.

7 Economy and jobs

What does this mean for the automotive industry in Germany?

A profound structural change: fewer parts in the drive system, but opportunities in battery production, charging infrastructure and software.

Will this result in job losses?

Yes, partly – particularly in CO_2-intensive combustion engine technology. However, new jobs are also being created in areas such as battery production and software development. Overall, the impact on the economy depends on how many electric vehicles are developed and produced in Germany. Without the transition to electric cars, the global trend towards electric vehicles would result in a substantial number of job losses in the medium to long term.

Are there new opportunities arising from electromobility?

Yes, in areas such as charging infrastructure, renewable energies and vehicle software.

8 Global transition to electric vehicles

Why does Germany have to go along with electric mobility?

The automotive industry is a key sector for the German economy, with 70 percent of jobs in the German automotive industry dependent on car exports to other countries. In 2024, 20 percent of newly registered cars worldwide were either entirely electric or plug-in hybrids. New registrations of cars with electric drives will continue to rise in the future – even outside China and the EU.

How is the global market for electric cars developing?

Sales of electric cars are growing strongly worldwide. In 2024, more than 20 percent of newly registered passenger cars were either entirely electric or plug-in hybrids. In China, the largest car market, the share was already approx. 50 percent in 2024. This corresponds to more than 11 million new electric passenger cars (including plug-in hybrids). Growth is also taking place outside the three major markets of China, the USA and the EU, where the number of new electric passenger cars rose by around 40 percent in 2024.

And how does Germany compare to other European countries?

In 2025, the share of new electric car registrations in Germany was slightly above the European average. The leading countries in Europe, however, are mainly in Scandinavia and the Benelux countries.

Further information is available on Oeko-Institut's electromobility webpage

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