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## How to increase the use of alternative fuels for cars

Find out about alternative fuels for cars and the EU measures to increase their uptake in order to reduce carbon emissions.

Road transport accounts for about a fifth of the EU's carbon emissions. The EU wants to reduce its impact on the climate by promoting the use of renewable and low-carbon fuels.

*Read more [facts and figures about CO2 emissions from cars](#)*

### What are the different types of alternative fuels?

[Alternative fuels](#) are fuels or power sources used to substitute fossil fuels in transport, which can help to decarbonise the sector.

### Alternative fuels for zero-emission vehicles

**Alternative fuels for zero-emission vehicles** include electricity, ammonia and hydrogen.

- **Electricity for cars** comes from different sources: power stations burning fossil fuels, renewable energy sources and nuclear power plants. Electric vehicles emit no pollutants, while hybrid configurations require less oil and reduce CO2 emissions.
- **Ammonia** can contribute to a substantial reduction in overall CO2 emissions as ammonia's only by-products are water and nitrogen.
- **Hydrogen**, often used for heavy-duty road vehicles and still in its early stages, is extracted from water or organic compounds. The environmental impact and energy efficiency of hydrogen depends on how it is produced, which means whether it was produced using renewable sources such as solar, wind or biogas or by using fossil fuels.

*Read about [the benefits of renewable hydrogen for the EU](#)*

### Renewable fuels

**Renewable fuels** include biomass fuels and biofuels, synthetic and paraffinic fuels, including

ammonia (mentioned earlier), produced from renewable energy.

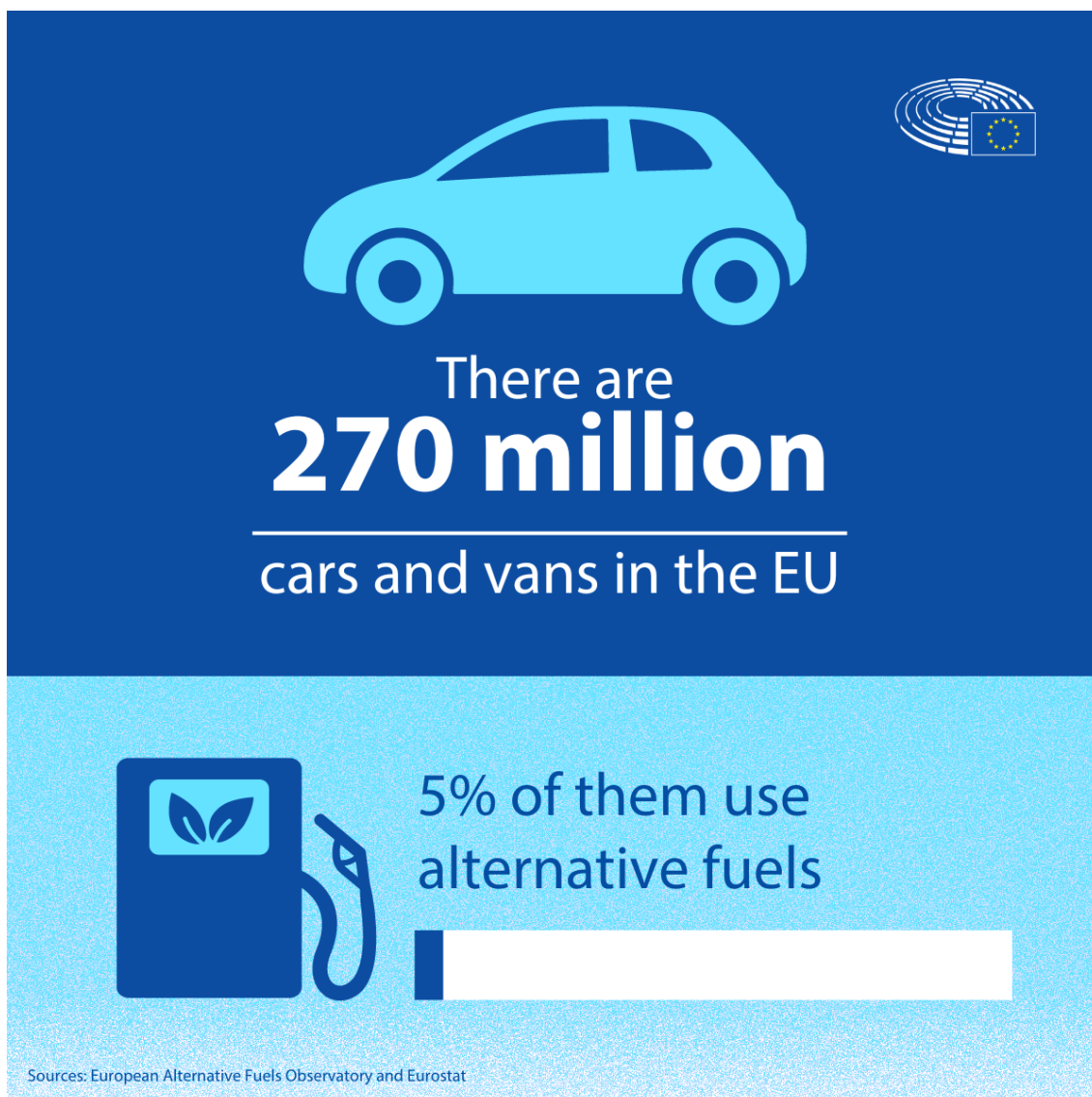
**Biofuels** are biodegradable fuels, manufactured domestically from vegetable oils, animal fats, or recycled restaurant grease. They are currently one of the **most important type of alternative fuels, accounting for 4.4% of fuel consumption in EU transport.**

They can contribute to a substantial reduction in overall CO<sub>2</sub> emissions, if they are produced sustainably. However, there is a risk that they will use land that would otherwise have been used for other purposes such as for the production of food or crops.

## Low carbon fuels based on natural gas

There are other fuels that could help reduce emissions on the way to achieving zero emissions from transport. These include the following:

- **Liquefied petroleum gas (LPG)** is derived from crude oil and natural gas, and in the future also from biomass. It emits 35% less CO<sub>2</sub> than coal, 12% less CO<sub>2</sub> than oil and almost no dangerous fine air particles. There is a well-established infrastructure for automotive LPG, also known as autogas, in some countries, but as standards become stricter, LPG will not be able to provide the steep reductions in emissions that are needed.
- **Compressed natural gas (CNG)** is produced by compressing natural gas, usually methane.
- **Liquefied natural gas (LNG)** is produced by purifying natural gas, usually methane, and super-cooling it to turn it into a liquid. It does not have a significant potential to reduce emissions, so MEPs do not support its use in road transport.
- **Synthetic and paraffinic fuels** are made by using biomass or natural gas, as well as vegetable oils or animal fats.



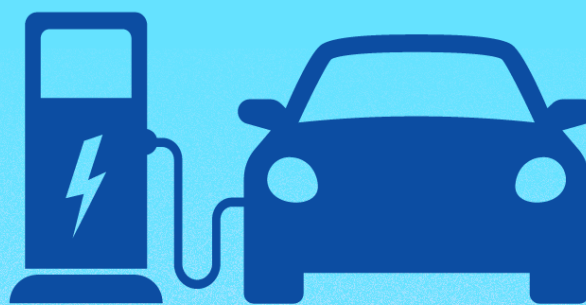
One in 20 cars and vans in the EU already uses alternative fuels

## How many alternative fuel vehicles are there in Europe?

About 5% of cars and vans running today in the EU use alternative fuels. The [number of electric vehicles in the EU](#) has risen to more than 4.4 million in 2022, 16 times more than in 2015.

The switch to zero-emission vehicles must go hand in hand with a comprehensive infrastructure of recharging and refuelling stations. About [360,000 publicly accessible electric recharging points](#) are available in the EU, but most are concentrated in just a few countries (the Netherlands, Germany, France, Italy and Sweden).

## About 360,000 recharging points are available in the EU



Sources: European Alternative Fuels Observatory and Eurostat

The EU already boasts more than 360,000 recharging points

### How does the EU want to increase the use of sustainable fuels?

Amid the rise of fuel prices and in line with the EU's climate goals to reduce greenhouse gas emissions by at least 55% by 2030, the EU is taking action to encourage the uptake of alternative fuels.

***Read more about [EU measures to reduce CO2 emissions](#)***

## Increasing the number of charging and refuelling stations

In March 2023, [Parliament and Council agreed](#) on mandatory national targets for the deployment of alternative fuels infrastructure for cars and trucks. [Parliament adopted the rules in July 2023](#).

During negotiations, MEPs pushed for more recharging stations on major EU roads and secured **electric charging pools** for cars with output of at least 400 kW every 60 kilometres by 2026, increasing to 600 kW by 2028. There should be charging stations once every 120 kilometres for trucks and buses by 2028 on [core Trans-European Transport Networks \(TEN-T\)](#), with 1400kW to 2800 kW power output depending on the road . By the end of 2030, every safe and secure parking area for heavy- duty vehicles must include at least one recharging station with a power output of 100kW.

By 2031, there will be **hydrogen refuelling stations** at least every 200 kilometres along major roads. In 2021, there were just 136 [hydrogen refuelling points](#) in the EU.

The updated rules also foresee simpler recharging and payments. MEPs ensured that, by 2027, the Commission must set up an EU “database” on alternative fuels data to inform consumers about the availability, waiting times and prices at different stations.

The Alternative Fuels Infrastructure Directive also includes provisions for the maritime and aviation sectors. Find out how they will contribute to [cut emissions from planes and ships](#).



**Expanding the EU's alternative fuels infrastructure**

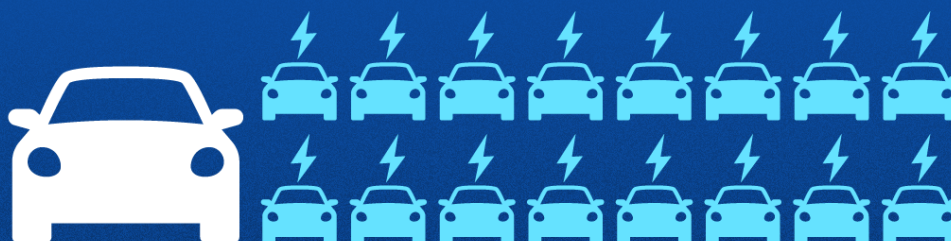
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## Promoting the sales of clean vehicles

The EU recovery plan from the Covid-19 pandemic - [NextGenerationEU](#) - includes €20 billion that can be used for boosting the sales of clean vehicles.

The EU is also setting tougher [CO2 emissions limits for new cars](#) that will encourage the use of sustainable fuels. In 2035, new cars will have to be emissions free.

The number of electric vehicles in the EU has increased to more than 4.4 million in 2022, 16 times more than in 2015



Sources: European Alternative Fuels Observatory and Eurostat

The number of electric vehicles in the EU is rapidly increasing

### Alternative Fuels Infrastructure Directive

[Follow legislative progress](#)

[Infographic: towards more sustainable transport](#)

[At a glance \(July 2023\)](#)