T&E UNITED KINGDOM

Fact Sheet: The myth about 'Low Carbon Fuels' for road transport

So called 'Low Carbon Fuels', particularly crop-based biofuels, are being promoted as a quick fix for the decarbonisation of road transport, but evidence shows they are inefficient, resource-intensive, and can be worse for the climate than the fossil fuels they replace.

Key Stats

- ➔ **Crop-based biofuels can emit 16% more CO_2 than fossil fuels[1]**
- ➔ **By 2030, biofuels could generate an additional 70 $MtCO_2$ emissions annually compared to fossil fuels**
- ➔ **90% of global biofuel production still relies on food crops that could feed over 1 billion people every day[2]**
- ➔ **Evidence suggests that a significant amount of a key ingredient for 'renewable diesel' is likely fraudulent' and linked to rainforest deforestation[3]**
- ➔ **To produce the same amount of energy, solar power requires just 3% of the land use compared to biofuels**
- ➔ **Waste biofuels cannot scale: one car running on biofuel from animal fats needs waste from 120 pigs a year, and a car running on used cooking oil needs 25 kg of fries' worth of oil every day[4]**
- ➔ **Sustainable alternative fuels that do reduce emissions must be prioritised for sectors that cannot electrify, such as aviation and shipping**

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[1] T&E (2025) CrOP30
[2] T&E (2025) Biofuels in cars: A dead end for Europe
[3] T&E (2025) Palm Oil in Disguise?
[4] T&E (2025) Biofuels in cars: A dead end for Europe

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Biofuels used in road transport increase rather than reduce emissions

- Once indirect land-use change, fertiliser use, transportation and processing are taken into account, total **emissions for crop-based biofuels are greater than fossil fuels by as much as 16%.**
- Switching the UK's road fleet to crop biofuels would **raise total emissions for decades** to come and would make us reliant on overseas imports.
- Even **advanced biofuels cannot scale sustainably**, Europe would need an area the size of France just to meet projected 2030 demand.
- Replacing fossil petrol with **e-fuels delivers no meaningful climate benefit** until well beyond 2040 due to high energy waste and slow production scale-up.[5]

Wider impacts

Food systems

- **90% of global biofuels** rely on food crops, directly removing food from global markets at a time of rising food insecurity.[6]
- Increasing biofuel demand **raises global commodity prices**, undermining food affordability for low-income households. Wheat is a popular feedstock and biofuel use competes with key staples like bread and pasta.

Environment

- Expanding crop-based biofuel production **drives deforestation**, land conversion and biodiversity loss.
- **Fraud risks** in the used-cooking oil (UCO) supply chain appear to be escalating as demand exceeds verifiable global supply, further increasing rates of deforestation. Palm oil mill effluent, a key ingredient in biodiesel is one such example.[7]

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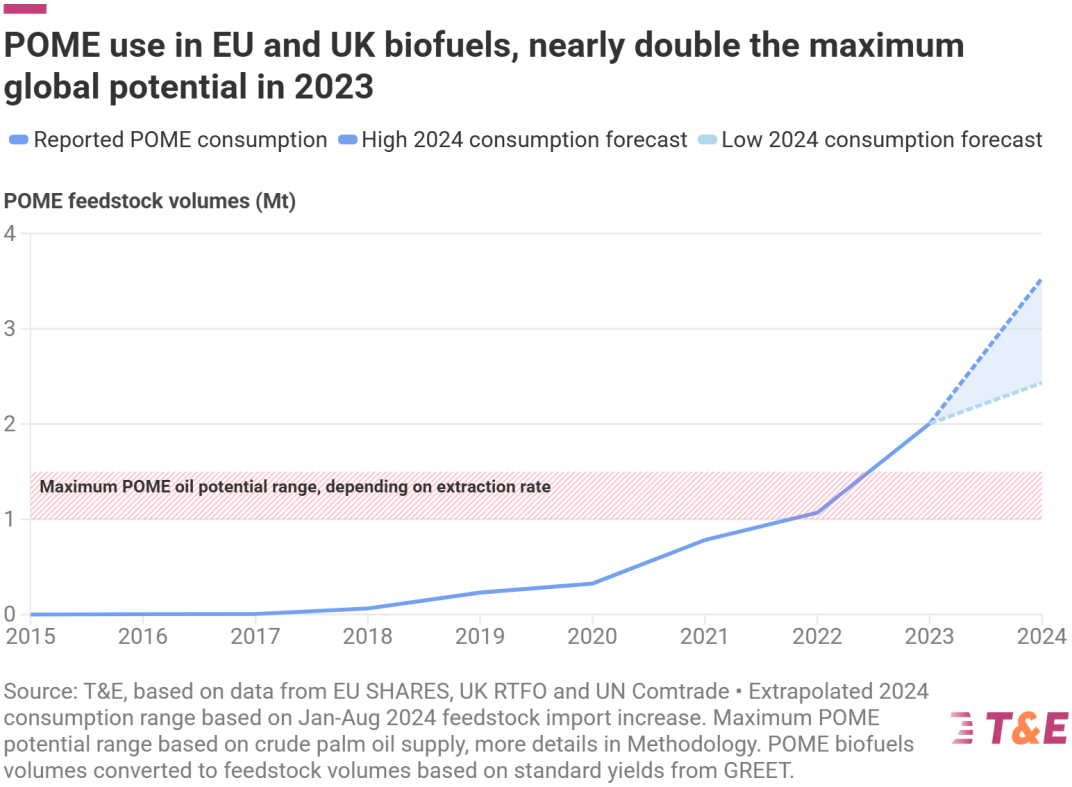
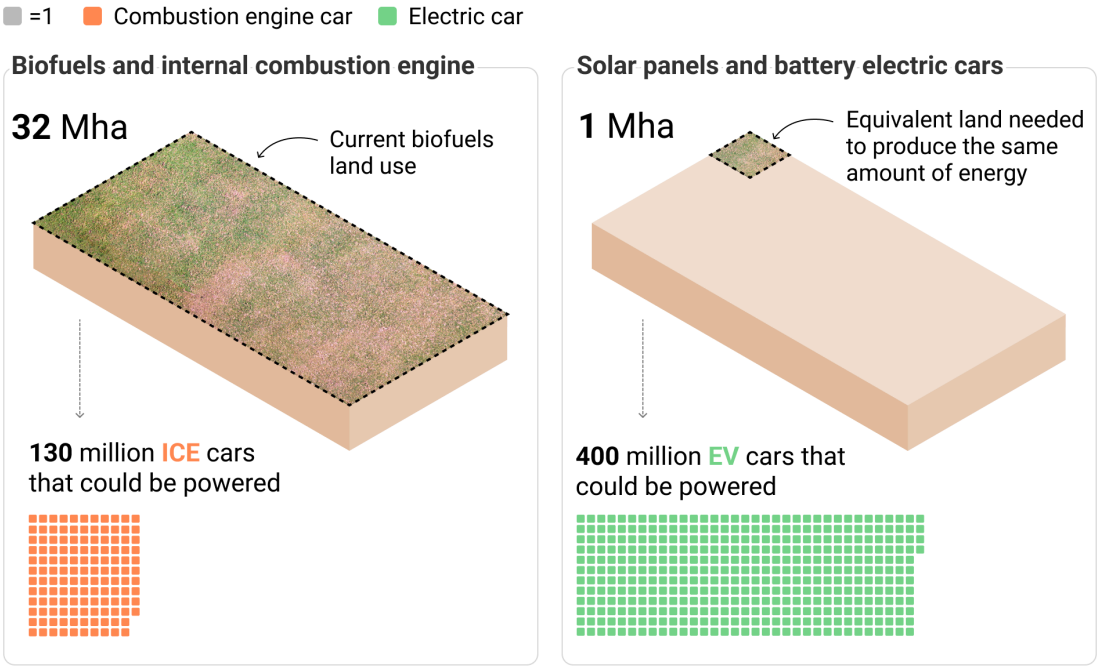
[5] T&E (2025) CrOP30
[6] T&E (2025) Biofuels in cars: A dead end for Europe
[7] T&E (2025) Palm Oil in Disguise?



Alternative fuels are not scalable for road transport

- FuelS dependent on land for production are **inherently limited and cannot scale** without enormous environmental damage.
- A fraction of land required for biofuels would be needed for **solar power to deliver the same energy.** With EVs being more efficient than ICE vehicles, there is an even further benefit to electrification.

Only 3% of the current land used for biofuels could power close to a third of the global car fleet with solar electricity



Source: T&E, based on Cerulogy (2024) and own calculations. Assuming diesel cars running on 100% biofuels, while in practice biofuels are still mostly blended in small quantities with fossil diesel or petrol. More details in the Methodology section

The right energy for the right sector

Alternative fuels that do reduce emissions, primarily e-fuels produced from renewables, green hydrogen and captured CO2, must be prioritised for sectors **where electrification is not viable**, such as:

- **Aviation** - Sustainable Aviation Fuel (SAF) mandates will already require nearly all available advanced biofuel supply
- **Shipping** - fuels like green methanol or ammonia will require large volumes of renewable energy and must not compete with road transport

Using scarce alternative fuels in cars **diverts supply from sectors with no alternative pathway**.

Further reading

- ➔ CrOP30: Why burning food for land-hungry biofuels is fuelling the climate crisis (2025)
- ➔ Biofuels in cars: A dead end for Europe (2025)
- ➔ Palm Oil in Disguise? (2025)

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 while locking in growth and jobs for the UK.

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

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