

## Used Cooking Oil (UCO) – Availability, demand and impact of the ReFuelEU proposal

UCO plays an important role for sustainability in the European heavy road transport and shipping sectors. From this waste feedstock, biofuels such as biodiesel are made, achieving reductions of up to 90% compared to fossil diesel. However, the supply of these feedstocks and the very existence of the biodiesel sector are under pressure due to increasing demand, partly driven by European policy. In this paper we look at the availability, demand and the significant impact of the ReFuelEU proposal for blending in the aviation sector, concluding that there is not enough UCO to meet the demands of all transport sectors. This valuable waste feedstock should therefore be used where it is most efficient and yields the most climate benefits.

### How much UCO is available in the European Union?

The European collection system is well developed and seems to be expanding only slowly. In 2019-2020, approximately **1.1 million tonnes of UCO** was collected<sup>1</sup>. To determine what is available towards 2030, the available studies examine two approaches:

1. *Based on current collected volumes, trends and the challenge of the sector.* Following this approach, the total volume remains approximately the same as commercial collection in Europe seems to be saturated, while collection from households faces many challenges.
2. *Based on the potentially available UCO.* The approach thus assumes the total available volume, rather than what is effectively collected. A range of 2 to 3 million tonnes of UCO emerges.

The latter approach, however, gives a distorted picture of the actual figures, since the principle of

'availability does not equal collectability' applies. Studies using these approaches therefore more often present figures that are unfeasible and outside the logic of the collection potential of UCO.

The example of German UCO collection shows the extent of this problem. The MVaK (German Association for Biofuels from Waste) estimates the national collection potential at around 250.000 tonnes by 2030, while the Imperial study<sup>2</sup> assumes 600.000 tonnes potential for 2030 and a staggering potential of 1.2 million tonnes for 2050.

### How much UCO is needed?

The answer is related to the proposed legislation under the "Fit-for-55" package. The Brussels-based NGO Transport & Environment (T&E) has estimated that **8.1 million tonnes of UCO**<sup>3</sup> will be needed to meet the 2030 mandates for the transport sectors (assuming all biodiesel demand from the transport sector comes from UCO). This figure is not fully representative of actual demand, as other feedstocks (waste or otherwise) will also be used.

However, it illustrates the huge challenge the EU faces in meeting demand already in 2030, when UCO is still expected to be the most mature waste feedstock in terms of volumes. At the same time, conventional feedstocks (food and feed crops) will be capped, which will only increase the demand for UCO for the transport sectors.

If the EU collects 1 million tonnes of UCO annually with a limited possibility to increase the collectable quantities and imports an additional 1.3 million tonnes<sup>4</sup>, there is a discrepancy between the quantities we have - and need - to meet demand. Imports would therefore have to increase significantly; at least threefold. This is unsustainable, risky and puts enormous pressure on the supply chain of UCO. Also in the light of decreasing Europe's dependency from raw materials from unstable regions, increasing import significantly is undesirable.

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<sup>1</sup> Greenea (2021) - [Greenea Horizon 2030: Which investments will see the light in the biofuel industry?](#)

<sup>2</sup> Imperial College London Consultants (2021) - [Sustainable Biomass Availability in the EU, to 2050](#)

<sup>3</sup> T&E (2022) [FuelEU Maritime: T&E analysis and recommendations.](#)

<sup>4</sup> Import estimates from Greenea (2021) - [Greenea Horizon 2030: Which investments will see the light in the biofuel industry?](#)

### What effect will the ReFuelEU proposal for aviation have on this?

The European Commission's ReFuelEU proposal currently does not include limits on the use of waste fats such as UCO and animal fats, which are by nature limited in availability and are currently used more efficiently for heavy road transport and shipping. Under the proposal, about **1.5 million tonnes of UCO** would be needed already in 2025 to comply with the mandate, while the amount needed in 2030 increases to almost **3 million tonnes of UCO**.

Currently, there are some proposals on the table in the European Parliament that should limit the use of UCO in aviation:

- MEP Casares has introduced in the draft report a 1.7% limit on feedstocks from the Annex IX-B feedstock list (consisting of waste lipids), equal to the limit in the Renewable Energy Directive. This means that the demand for aviation in 2025 will be 1.24 million tonnes.
- MEP Paulus proposes a limit of 650,000 Mtoe, which is equal to 1.4% of the total aviation blending mandate of 2%. This means that the demand for aviation in 2025 is just over 1 million tonnes.

Given the limited availability and collectability of this waste feedstock, the created demand is therefore considerable, especially when one considers that the use of these feedstocks for aviation is much less efficient than their use for road transport and shipping. This would mean that more feedstocks would be needed to produce the same amount of fuel.

An aviation mandate as proposed would therefore have an enormous impact on the biodiesel sector in the European Union. A policy-driven shift of these waste feedstocks to aviation will force biodiesel plants across Europe to close, at the expense of sustainability in road transport and shipping. Policy makers should therefore enforce the principle of using feedstocks where they yield the most climate benefits.

#### **About NBAA**

NBAA is an alliance of five producers of waste-based biodiesel with a production site or establishment in the Netherlands. The alliance is closely linked to European trade associations for biofuels from waste streams. The NBAA's joint mission is to draw attention to the advantages and opportunities of this sustainable biofuel.

Besides sharing knowledge and expertise, NBAA represents the interests of the industry to ensure that biodiesel from waste receives a fair treatment in legislation and regulation. A level playing field within and between the sectors is important in this respect. NBAA is a reliable discussion partner that aims to ensure well-considered policy choices that will benefit sustainability in the Netherlands.

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