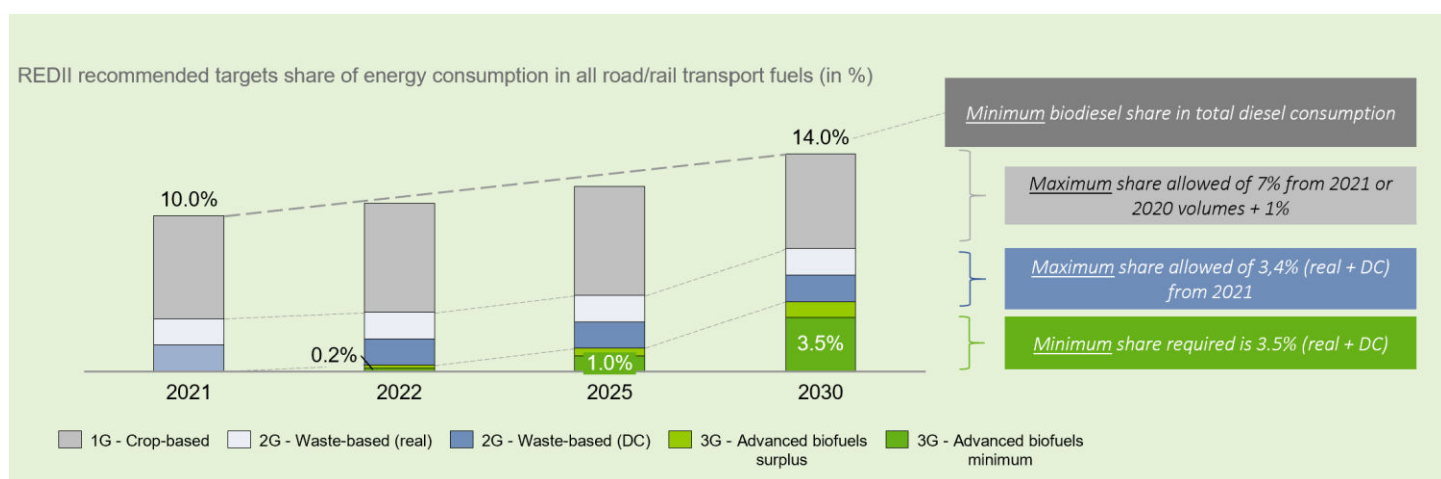


## Are biofuels producers ready for the next EU energy transition?

**The next energy transition in the EU.** During the next decade, EU fossil fuel share in the transport sector will steadily decline as EU long-term trajectory is to move towards zero CO<sub>2</sub> emissions by 2050. In order to support this transition, the Renewable Energy Directive II (RED II) was adopted on December 2018 by the European Parliament increasing the overall blending requirement on fuel distributors for all segments of transport and promoting the so-called advanced biofuels. Gradually, consumption must shift away from massive use of crop-based and waste-based biofuels and be aligned by 2030 with the following objectives:

1. **crop-based biofuels** must account for less than 7% of the total diesel output
2. **waste-based biofuels** must account for less than 1.8% of the total diesel output
3. **advanced biofuels** output must exceed 1.8% of the total diesel output

According to RED II mandates, the EU biodiesel demand for road transport is then expected to grow from around 10% to 14% - including double counted biofuels - of the EU total diesel consumption in the period 2021-2030



**The Oil & Gas and biofuels producers dilemma.** The EU REDII legislation is significantly driving the demand for biofuel in the European. In this context of a fast-growing market, both local and global oil and gas and biofuel want their piece of the cake, by either increase their presence in the EU market by building new factories or enter the EU biofuel market. A few oil and gas and biofuel producers apprehend the fact their margins could be impacted by this boom in demand and feel vulnerable to the price of feedstocks. They decided to make their moves to take control of waste-based and advanced feedstocks and the logistic assets everywhere around the world, especially in the region Asia-Pacific. However, a lot still have not a clear vision of the required steps in order to deploy investments maximizing margins, while ensuring supply-chain risks at lower levels. Why?

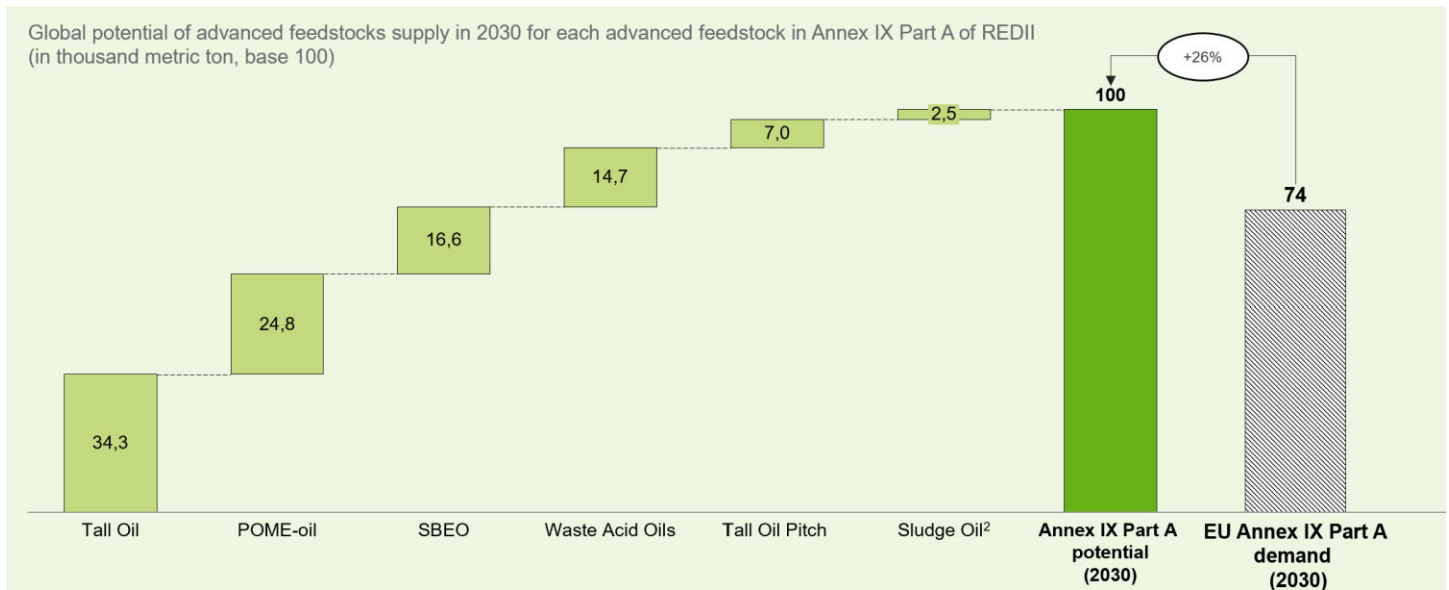
**1 - Uncertainties around the EU biofuel demand.** EU crop-based biodiesel demand will start declining from 2024 because of both feedstock caps on blending rate constrained by RED II mandates, and EU diesel consumption declining in the transport sector. Likewise, waste-based biodiesel demand - consisting mainly on UCO and waste animal fats - will reach the REDII maximum levels no later than 2026, followed by a steady decline onwards. Regarding supply however, Europe must today import almost half of its waste-based feedstock needs and the availability of waste-based feedstock - imported - for the biodiesel sector shall not be taken for granted as WB is globally sought-after:

1. **Competing road transport fuels relying on WB feedstock:** Renewable Diesel (HVO) demand is rapidly ramping-up in Europe and the main non-veg feedstock used today is waste-based.
2. **Competing industries relying on WB feedstock:** Aviation and marine sectors are also planning on using non-veg feedstock, limiting the feedstock available for the road transport

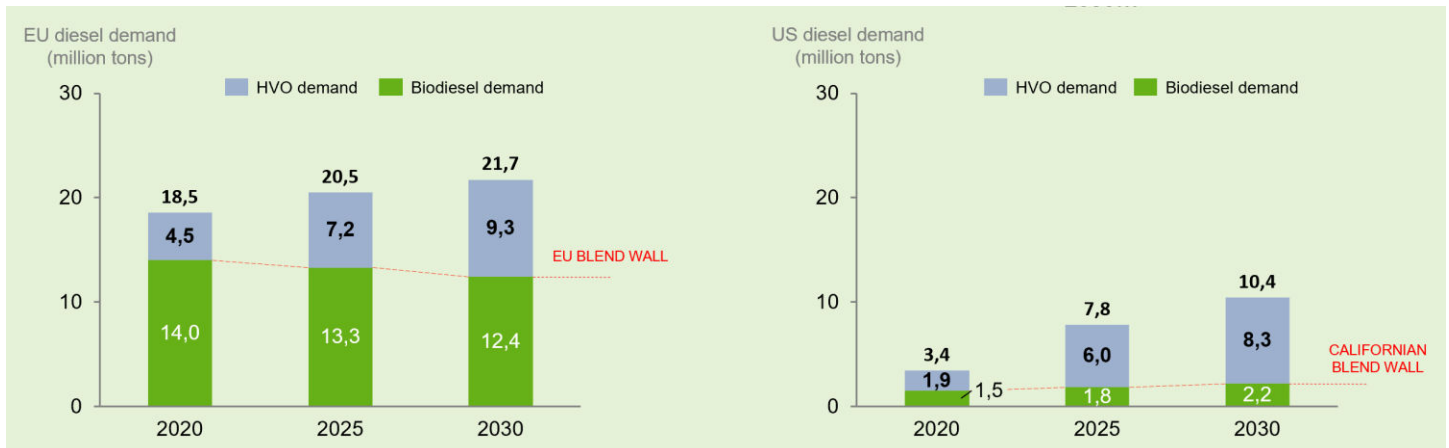
3. **Competing countries willing to rely on WB:** UCO exporting countries - such as China - are on-track to become top biofuel producers and may therefore reduce their exports, harming directly EU UCO imports

Regarding advanced feedstocks - whose supply is almost zero today - the minimum share required by RED II will produce a boom on demand, reaching about 3.56 mt in 2030 in the EU. At the same time, this booming demand creates uncertainties around global advanced-feedstock availability as there is no available public study conducted by the European Commission.

**2 - Lack of knowledge regarding the biofuel feedstock supply.** The EU is the only part of the world which plans to massively use advanced bio-feedstocks to produce biodiesel. We estimated the current global potential is enough and may theoretically meet REDII targets, however today these feedstocks have plenty of other uses and/or are unsuited for biodiesel uses. RED II also impacts the energy consumption of other sectors. For their high GHG savings factor, advanced feedstocks may be also sought after to produce other fuels - such as biogas biohydrogen or biomethane - to contribute to different RED II sub-targets.



**3 - Concerns regarding the global emergence of HVO, a biodiesel alternative.** The “blend wall” is the limit of the total amount of biodiesel that can be blended into diesel or gasoline fixed by vehicle industry and fuel distribution infrastructures. Other sources of biofuels, such as HVO, must be used to go beyond the so-called blend wall. The EU and the US have set low blend wall, leading to booming HVO worldwide demand and therefore capacity is also expected to triple globally by 2025.



Despite all their uncertainties, the biofuel market in the EU is and will continue to be fertile, but overcoming uncertainties is the first and foremost step for ensuring success in the future. Those who decide to move will be best positioned for success in the future.

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