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PRESS RELEASE

Sufficient Biomass, Strong Supply Chains: Concawe Study Points to a Feasible Future for Advanced Biofuels

Brussels, 2 December 2025: FuelsEurope announces the publication of a major new study conducted by Concawe in collaboration with Utrecht University and TNO, titled "Sustainable Biomass Feedstock Supply Chains for Advanced Biofuels". The study provides one of the most detailed, scientifically robust assessments to date of Europe's capacity to mobilise sustainable biomass for advanced biofuels under a range of demand and availability scenarios for 2030 and 2050. The study concludes that Europe's domestic sustainable biomass is sufficient to meet the projected demand for advanced biofuels and competing sectors in both 2030 and 2050 scenarios.

At a time when the debate around biomass availability is increasingly polarised, this research offers a scientific, data-driven and transparent analysis to support EU policymakers, industry, and the broader scientific community. It builds on Concawe's long-standing reputation for scientific integrity and technical excellence, applying high-resolution spatial modelling, optimisation of supply-chain configurations, and rigorous cross-comparison with other prominent EU studies.

A reference study for Europe's advanced biofuels debate

The study assesses the availability and mobilisation potential of the most important Annex IX-A solid bio-feedstocks under RED II, covering around 80% of the total sustainable biomass considered in Concawe's 2021 Imperial College London (ICL) assessment. Key findings include:

- Europe's domestic sustainable biomass is sufficient to meet the projected demand for advanced biofuels and competing sectors in both 2030 and 2050 scenarios.
- By 2050, optimal supply chains increasingly rely on advanced technologies such as Gasification and Fischer Tropsch (GFT), and Hydrothermal Liquefaction (HTL).
- Refineries will be a cornerstone of economically efficient supply chains. Their existing processing and storage infrastructure makes them ideal sites for integrating future biorefineries at the lowest possible cost, with between 47 and 64 large-scale biorefineries estimated to be integrated with existing refinery sites by 2050, according to the optimisation modelling results. Geography is a decisive factor in shaping optimal supply-chain configurations and technology choices. For example, Scandinavia could develop into a major hub for decentralised biomass supply and supplier of biocrude to EU areas with limited bioresources but high biofuel demand, such as North-Western Europe. Thanks to its strong port and refinery network, North-Western Europe could in turn emerge as a central upgrading hub for producing drop-in biofuels.
- Innovations in agricultural and forestry management and novel energy crops deployment, along with the integration of green hydrogen in biorefineries will enhance biomass use efficiency and enable Europe to meet biofuel demand with reduced pressure on bio-feedstock availability.

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Scientific integrity at the core

The study's methodology relies on advanced spatial modelling of biomass availability and transport networks, system-level optimisation of supply chain pathways, and detailed economic assessments. Its results are broadly consistent with other authoritative EU studies, including DG RTD (DI Fuels), and the ICL Concawe study, reinforcing its credibility and value as a reference document for stakeholders.

Liana Gouta, Director General of FuelsEurope and Concawe, stated "In a period where concerns are raised about the availability of sustainable biomass, this study stands out for its scientific depth, transparency and methodological rigor. It confirms that Europe has the capacity to sustainably mobilise the biomass needed for advanced biofuels, provided that we optimise supply chains and continue improving biomass management practices." She added "Concawe's work, carried out with respected academic partners, offers a reference framework for policymakers, industry, and researchers. It will help Europe ground its decisions in evidence and support the scale-up of advanced biofuels as an essential pillar of transport decarbonisation."

A tool for evidence-based policymaking

FuelsEurope believes that high-quality, science-based assessments are essential for developing credible pathways for transport decarbonisation. This study provides policymakers with a realistic and technically detailed picture of how Europe can build robust, economically viable and sustainable biomass supply chains for advanced biofuels, and supports well-informed policy and legislative decisions.

The full study and supporting materials are available on the Concawe website.

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Note to Editors:

The Concawe Report can be found here.

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