

Fuel-Up

Production of advanced biofuels via pyrolysis and upgrading of 100% biogenic residues for aviation and marine sector, including full valorisation of side streams



FUEL-UP is a Horizon Europe Innovation Action aimed at transforming **biogenic waste** into **advanced biofuels** to enable the **green transition** and the **decarbonisation** of the **aviation** and the **marine** transport sectors. To achieve the 2030 goals of the European Commission's "Fit for 55" package, and the EU target towards a **net zero emissions economy** by 2050, a **cost-effective production** of **advanced biofuels** for **marine** and **aviation** sectors must be demonstrated as well as a **reduction in GHG emissions**.

OBJECTIVES



Demonstrating the simultaneous production of renewable SAF and marine fuels from **100% biogenic waste**.



Achieving up to **80% reduction in GHG emissions** compared to fossil fuels and **47%** compared to the state-of-the-art advanced biofuels.



Improving **cost-competitiveness** of advanced biofuels in market place by ensuring all refined streams are compatible for use in aviation and marine fuels.



Paving the way to **EU certification** to ensure that production is compatible with practical usage and that it is socially accepted.



Ensuring that **new value chains** arise by 2030 and replicate by 2035 to then deploy by 2040 in 25 sites among the 12 potential EU countries.

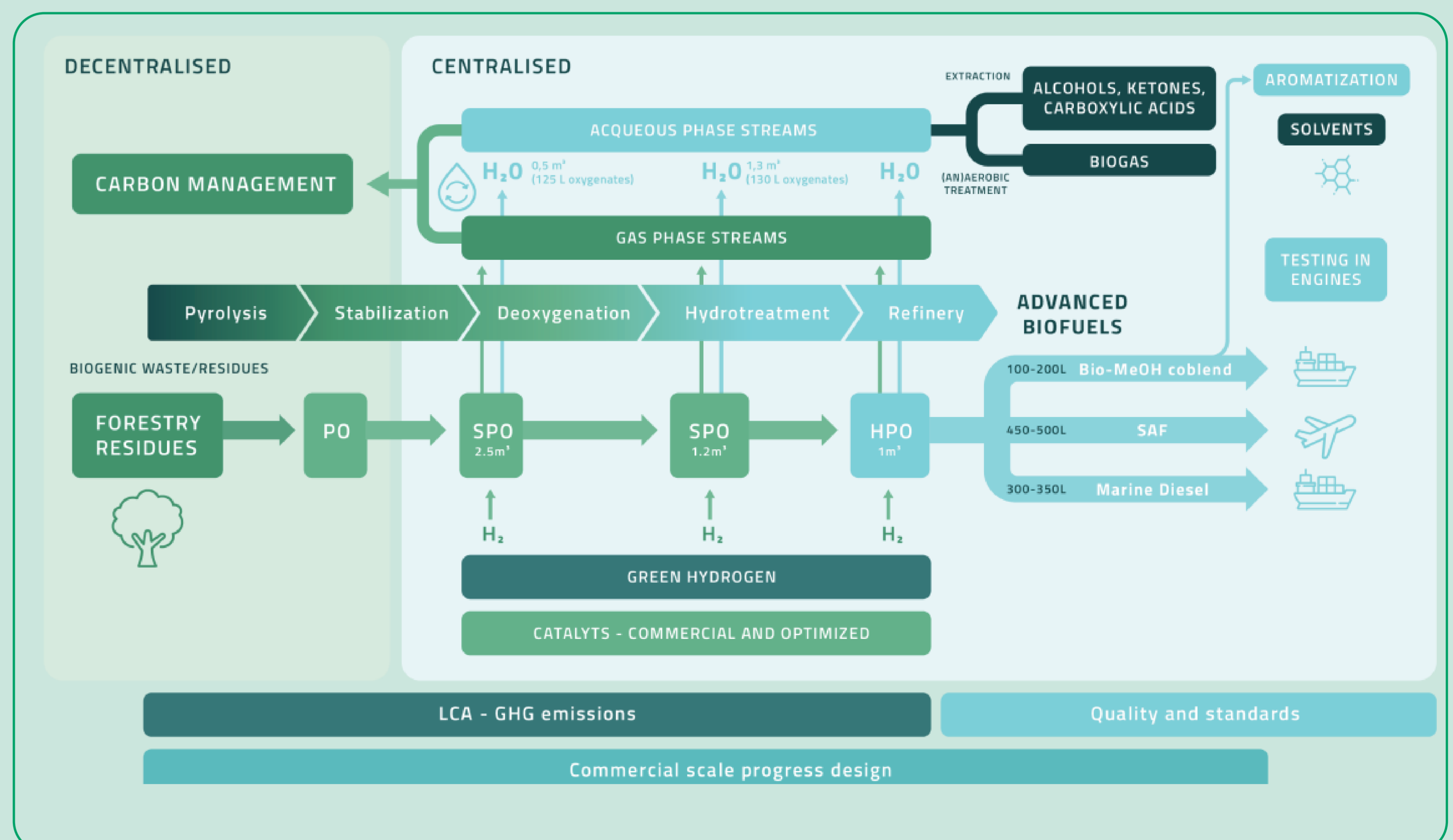


Accelerating **technologies upscaling** with process engineering and techno-economic analysis.

CONCEPT

FUEL-UP focuses on the production of **stabilized deoxygenated pyrolysis oils (SDPO)** from **pyrolysis oils (PO)** derived from **100% biogenic feedstock** that can be subsequently processed towards a fully **hydrotreated oil (HPO)** in a refinery to ensure transformation of all streams into **renewable sustainable aviation fuels (SAF)** and **marine fuels**.

The project will validate, at demo scale, a new route to produce **sustainable liquid biofuels** from **lignocellulosic streams** with **45-50% aviation fuel**, **30-35% in the marine diesel range** and **20% heavy naphtha** at technology readiness level-7 (TRL-7).



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FUEL-UP Project



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