



Sustainable On-site and Innovative Technologies for Advanced Transport BioFuels from MicroalGae



Challenges

- Around 25% of the EU's CO₂ emissions are produced by the transport industry
- The European transport sector must make the transition to sustainable decarbonised solutions
- Microalgae are a promising solution, due to their rapid growth rate and unique ability to capture CO₂, which can be converted into biofuels
- Treatment of microalgal biomass involves high energy consumption and costs
- Stable and versatile catalytic conversion processes for biofuel synthesis

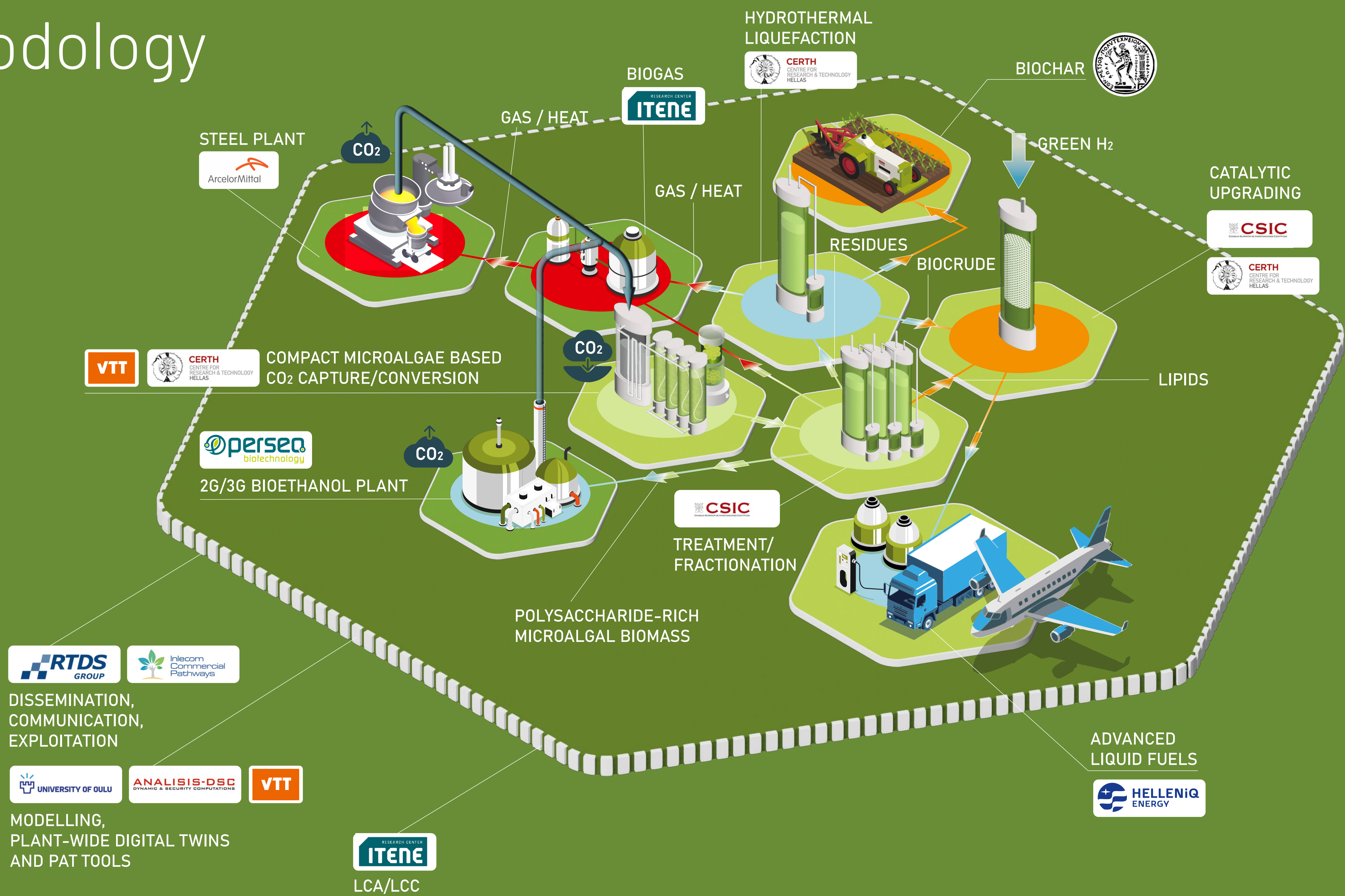
Objectives

- Evaluate the FUELGAE solutions to capture CO₂ through microalgae and convert them into **Advanced Liquid Fuels (ALFs)**
- Develop and validate novel microalgal biomass treatment processes to maximise the production of **Advanced Liquid Fuels (ALFs)**
- Enhance the circularity of the FUELGAE process by using subproducts to obtain biogas and biochar
- Boost the efficiency of biofuel production with online measurement technologies (PAT) and digital modeling tools
- Assess the overall sustainability and economic viability of FUELGAE innovations

Solutions

The project aims to develop a novel model for the production of **Advanced Liquid Fuels (ALFs)** from CO₂ emission streams in two industrial sectors - biorefineries and energy-intensive industries, through a microalgae pilot plant integrated into their infrastructure. Additionally, the project will employ hydrothermal liquefaction and biogas processes to produce biochar, which will be tested in agriculture to enhance soil fertility, improve plant growth, and provide crop nutrition.

Methodology



Project Coordination

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12
Partners

6
Countries



Project Communication

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€ 5M
Budget

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