

The COCPIT project explores 7 alternative scenarios to optimize sustainable biofuel production from microalgae.

These scenarios combine factors like plant location, solar efficiency, and integration with existing infrastructure. The goal is to identify the most efficient and sustainable configurations, adaptable to various regions and conditions.

The various prospective scenarios will shape the methodology of the decision tool developed within the project, guiding its development and enhancing its ability to provide tailored recommendations.

Partners



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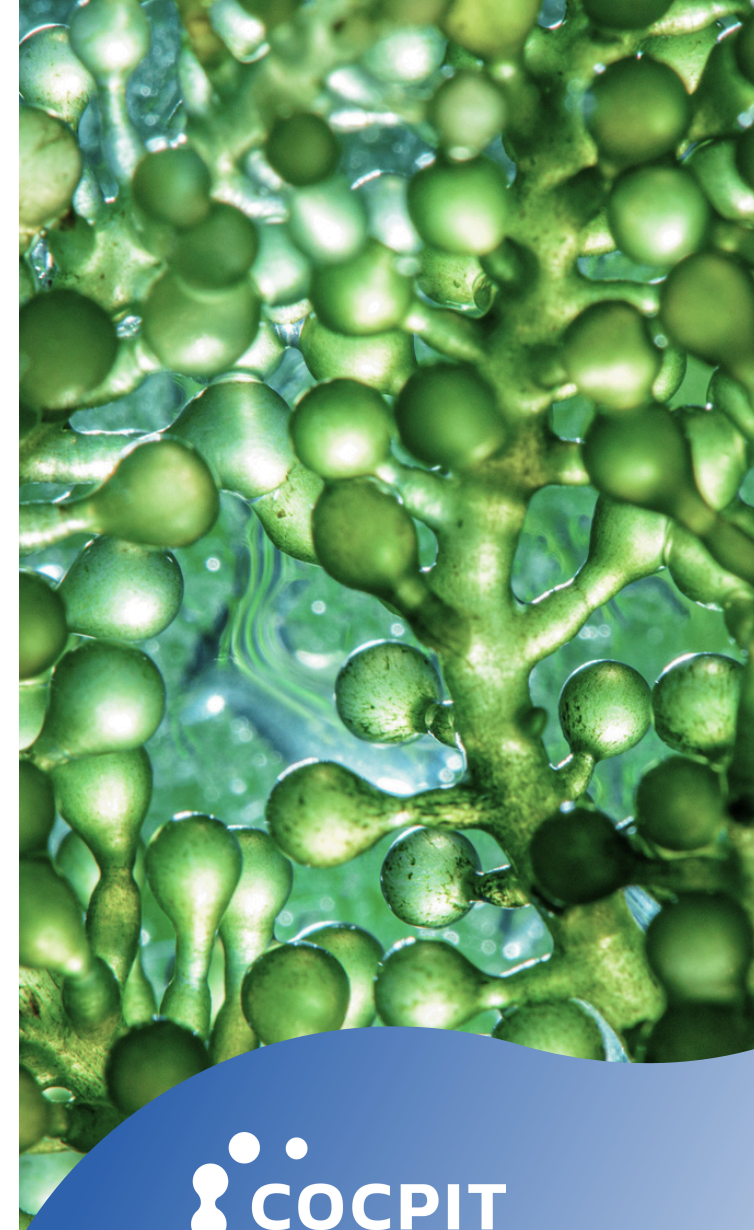


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Funded by
the European Union

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement No. 101122101. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



**Biofuel Production from Algae:
Scenarios and Decision-Making
Tool**

Aviation and maritime are among the hardest sectors to electrify, making their decarbonization dependent on sustainable fuels, especially bio-based alternatives.



Given the complexity and economic risks of SAF production chains, the EU requires a new tool to assess economic viability and mitigate investment risks.



COC PIT aims to develop a decision-support tool to help investors identify the most suitable solutions for sustainable aviation and maritime fuel production.



Tool Impact Areas

- **Process Design:** Creation of alternative process flow sheets for SAF production through microalgae conversion.
- **Material and Energy Balances:** Estimation of material and energy flows, and sizing of unit operations for different plant capacities.
- **Unit Optimization:** Optimization of specific unit operations to improve efficiency and reduce costs.
- **Techno-Economic Analysis:** Estimation of key financial metrics, such as Minimum Selling Price and Fixed Capital Investment, as well as Life Cycle Assessment indicators (e.g., global warming potential).
- **Risk Assessment and Profitability Evaluation:** Evaluation of process profitability and associated risks using Monte Carlo simulations.

