

DEVELOPMENT HIGHLIGHTS



Funded by the European Union

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Advancing biogenic CO₂ valorisation

New solutions for CO₂ capture, reuse and storage within biofuel production.



13 partners from 8 countries

Engineering, biotechnology, sustainability, and market analysis.



5 functional prototypes (FP)

Demonstrating integrated and sustainable technological solutions for highly efficient biogenic effluent gases CUS within the biofuels value chain.

PORTFOLIO OF SOLUTIONS



FP1-Biological conversion of biogenic CO₂ into microalgae biomass for biofuel production and enzyme extraction.



FP2-Upgrading biogas via hydrogen-driven methanogenesis using a trickle-bed reactor.



FP3-Transforming pyrolysis syngas into renewable biomethane under mild biological conditions.



FP4-Producing pyrolysis gases and high-quality biochar for energy and agronomic applications.



FP5-Boosting methane yield, reducing CO₂ content and improving digestate quality by coupling a microbial electrolysis cell with two-phase AD.

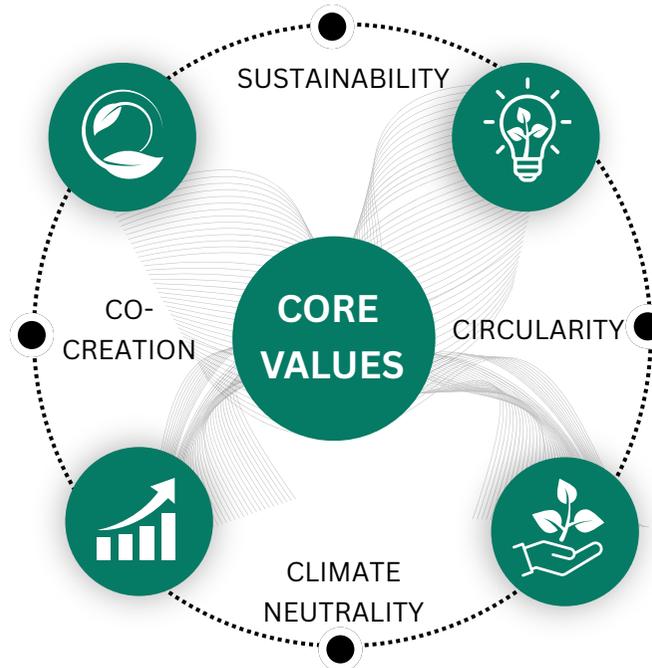
ABOUT US

CRONUS is a Horizon Europe project developing integrated, circular, and carbon-negative solutions for the biofuel industry. By capturing and reusing carbon waste and biogenic effluent gases from ethanol fermentation, combustion, anaerobic digestion, and pyrolysis, CRONUS converts waste streams into valuable products: biomethane, algae biomass, biochar, and renewable gases.

Our goal is to enable next-generation sustainable biofuels and support EU's transition towards climate neutrality whilst having a positive trade-off with productivity, quality and environmental impact.

OUR MISSION

To make the energy supply cleaner, more secure, and competitive by boosting cost performance and reliability of a broad portfolio of solutions, in line with societal needs and preferences.



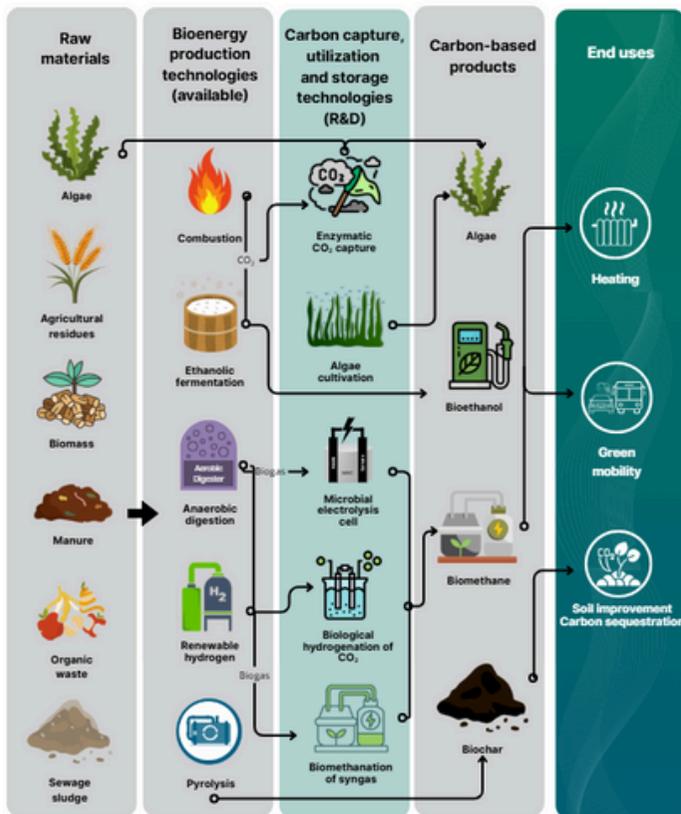
Capture and Reuse Of biogenic gases for Negative-emission - sustainable biofuels



CAPTURE. REUSE. DECARBONISE.

BIONENERGY & CARBON VALORISATION PATHWAYS

To ensure the technical viability of 6 technologies for biogenic effluent gases at the targeted TRL 5, CRONUS validates the technological schemes in relevant environment using 5 Functional Prototypes to minimise the risks and impacts caused by the biogenic gases generation, while ensuring the economic profitability of the integrated biofuels systems.



EU CLIMATE ALIGNMENT & TRANSITION GOALS

Supporting EU climate ambitions by turning regulatory compliance into a pathway toward climate-neutral and circular bioenergy.

- EU Climate Law & Fit-for-55 (carbon neutrality & emissions reduction)
- RED III & biomethane sustainability criteria
- CSRD & CS3D reporting and due diligence requirements
- Circular Economy & Zero Pollution Action Plans



Become climate-neutral by 2050



Protect human life, animals and plants, by cutting pollution



Help companies become world leaders in clean products and technologies



Help ensure a just and inclusive transition

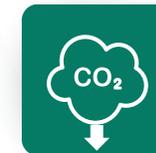
CRONUS HIGHLIGHTS



Industrial-scale validation of biogenic CO₂ capture, utilisation and storage pathways



Five integrated functional prototypes covering the full biofuels value chain



Negative-emission solutions combining biomethane, biochar and carbon valorisation



High replication potential across European bioenergy infrastructures

CONTACT INFORMATION



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