

4th Newsletter

January 2026



11 Partners



48 Months



8 Work
Packages



10 Countries



Estimated Project
Cost € 3,000,000

SUSTEPS : SUSTAINABLE, SECURE, AND COMPETITIVE ENERGY
THROUGH SCALING UP ADVANCED BIOFUEL GENERATION

COORDINATOR

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Funded by
the European Union

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Project progress in our coordinator's words

PhD. Abdullah Z. Turan

SUSTEPS has been steadily advancing toward its vision of sustainable, algae-based biofuels, with progress across international collaboration, technology development, and regional deployment. A key milestone has been the establishment of five international expert groups across different countries, enabling active knowledge exchange, alongside the development of a comprehensive process model covering the full microalgae-to-biofuel pathway, which now supports early sustainability assessments.

Technically, the project has identified efficient microalgae strains optimized for growth using flue gas and wastewater, analyzed wastewater streams as nutrient sources, and developed a dedicated wastewater treatment system for algae cultivation. A new hydrothermal conversion setup is now operational and already producing promising crude biofuel outputs, while upgrading studies using biocrude and new catalysts are underway, complemented by parallel research on aqueous-phase valorization to assess multiple recovery and recycling strategies.

Regional case studies in Brazil, Canada, and Morocco are progressing well, focusing on integrating green hydrogen into the system and evaluating local conditions for scale-up. In parallel, SUSTEPS is actively collaborating with other EU-funded advanced biofuel projects through clustering activities, shared workshops, cross-project working groups, and joint dissemination efforts, strengthening methodological alignment and reinforcing the European innovation landscape for sustainable fuels.

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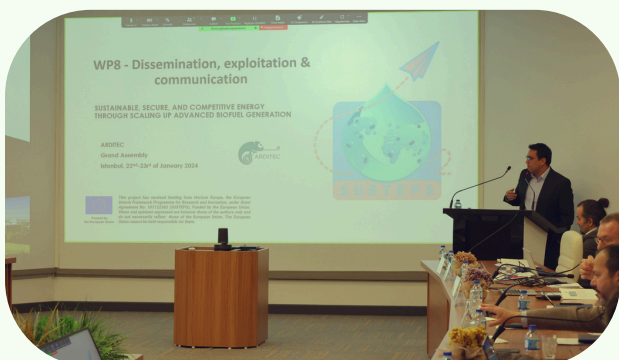
Key milestones reached on the path to our goals



**International working groups
established**



**Membrane and chromatography
sequence identified**



**Concrete exploitation routes
are defined**



**Baseline to assess three
pillars of sustainability**



**Start of reformer
operation**

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Joint efforts with sister initiatives

SUSTAFUELS cluster

SUSTEPS is proud to be part of the SUSTAFUELS cluster, a joint initiative aimed at maximising technical innovation, impact, and outreach toward a greener and more circular transport system. Within the cluster, we collaborate with nine projects focused on advancing algae-based sustainable fuels through shared expertise and coordinated action.



The SUSTAFUELS Cluster is designed to go beyond joint communication and dissemination activities. Its members will collaborate on technical topics, share best practices in LCA and techno-economic assessments, and align efforts to develop integrated, circular value chains, as well as organise sessions on common topics of interest and participate together in commercial fairs & exhibitions, optimising resources.

You can access and read the full press release in our channels:
<https://susteps.eu/sustafuels-cluster/>

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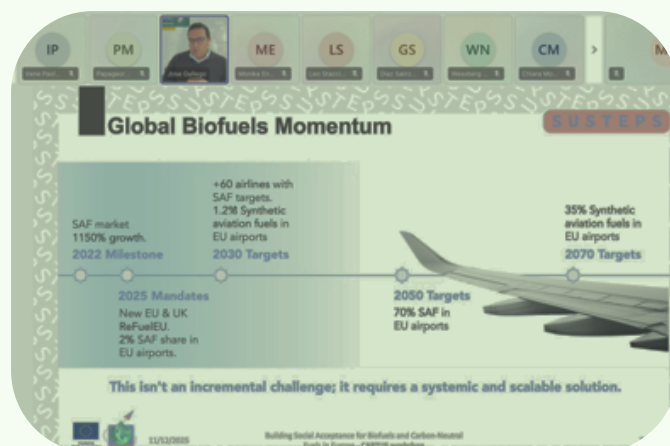
Joint efforts with sister initiatives

WEBINAR: Building Social Acceptance for Biofuels and Carbon-Neutral Fuels



SUSTEPS started off the webinar section with a presentation by José Gallego, President of the French Association, ARDITEC. He emphasized how algae-based biofuels and sustainable aviation fuels (SAF) are contributing to the growing global biofuels momentum, offering not only climate benefits but also positive social impacts, including job creation, regional development, and circular use of resources.

On December 11, 2025, CAPTUS, SUSTEPS, NIAGARA, and REFOLUTION—SUSTAFUELS Cluster partners shared perspectives on social acceptance of biofuels and carbon-neutral fuels via webinar. CAPTUS and SUSTEPS surveys, shared earlier with consortiums and public audiences, highlighted communication needs to bridge gaps in public awareness of lifecycle benefits versus concerns like costs and land use.



You can access and attend the full webinar in our Youtube channel:

[Webinar Building Social Acceptance for Biofuels and Carbon-Neutral Fuels](#)

SUSTEPS 4th Newsletter

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Joint efforts with sister initiatives

WEBINAR: Transport fuels from sustainable resources and biofuel markets



SUSTEPS co-organized a session on December 16, 2025, with the ALFAFUELS Project and EU Commission Booster Programme support. Project coordinators and an Advisory Board member discussed key advancements.

Dr. Abdullah Z. Turan showcased the SUSTEPS project, focusing on catalytic upgrading of microalgae-derived biocrude into advanced, low-carbon transport biofuels. This presentation highlighted how biocrude upgrading pathways can feed into #SAF value chains, positioning microalgae as a promising solution for sustainable aviation and transport.

This session highlighted how combining ALFAFUELS' SAF production pathways with SUSTEPS' algae-based advanced biofuels can help meet growing EU demand for transport fuels, even under feedstock and market uncertainties.

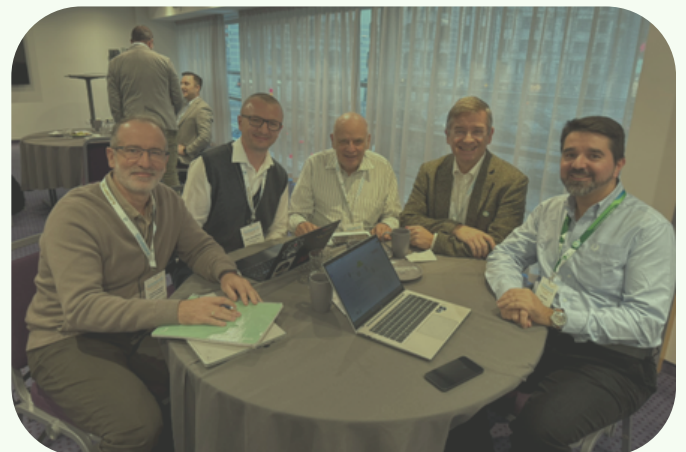


You can access and attend the full webinar in our channels: [Webinar | Transport fuels from sustainable resources and biofuel markets \(ALFAFUELS & SUSTEPS\)](#)

SUSTEPS Visibility and presentations at international events

AlgaEurope Riga, Latvia 2025

AlgaEUrope once again provided an excellent platform for scientific exchange, strategic discussions, and networking across the algae ecosystem on December 09 – 12, 2025. During the conference Professor Berat (BOUN Univeristy) presented progress from the SUSTEPS project, on the development of sustainable aviation fuels from microalgal resources using flue gas and wastewater.



AlgaEurope is one of the leading international conferences on algae biomass, uniting researchers, industry leaders and policymakers from more than 40 countries. The conference was encouraging to exchange views on SAF pathways, techno-economic challenges, and scale-up strategies with both academic and industrial stakeholders. At this event, our partners from Boğaziçi University (BOUN) find the ideal setting to the annual expert round table, as part of SUSTEPS Work with International Working Groups (IWG).

SUSTEPS Visibility and presentations at international events

International Seminar on Energy Transition and Biofuels Itajubá Brazil, 2025

UNIFEI Successfully Hosts International Seminar on Energy Transition and Biofuels on November 7th, 2025.

Over the course of four days, national and international experts gathered at the Federal University of Itajubá (UNIFEI) to discuss one of the main topics of COP 30 as well as the opportunities presented by the global energy transition.



Participants came from a wide range of regions: 65% from Brazil, 17% from Latin America, 12% split between Europe and Africa, 3% from Asia, and 3% from North America, highlighting the international and collaborative nature of the seminar. The seminar also showcased international projects involving UNIFEI, such as SUSTEPS, focused on decarbonization through algae cultivation, presented by Dr. Abdullah Turan from the TÜBİTAK Research Center in Türkiye, SUSTEPS Project Coordinator.

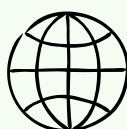
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