

The course is set: Decarbonising maritime shipping

Seafairer is an Innovation Action funded by the Horizon Europe framework programme under Grant Agreement no.101173002, coordinated by the Technical University of Denmark, with a budget of 10M EUR.

Objective

The objective of SEAFAIRER is to demonstrate the production of improved intermediate biofuels, targeting the decarbonisation of maritime shipping, using an innovative thermochemical conversion process.

Our process will convert the biomass through a single-stage intermediate pyrolysis and post-reforming process into:

- biochar
- advanced biofuel
- syngas

The biofuel which is the focus of the project, then engages in two different pathways:

- **Pathway A (no upgrading)**
Direct use of advanced biofuel, validated by engine and component testing
- **Pathway B (minor upgrading)**
Integration of intermediate biofuel in existing refinery infrastructure

Solutions

- No food vs. feed or iLUC issues
- Decentralised and highly flexible
- Ready to use in marine engines



Navigating the marine biofuel landscape

Hej, SEFAIRER!

24 - 25 September 2024

Consortium **Kick-Off Meeting** - Mutual introduction, foreword by Project Officer Javier Sánchez López from CINEA and agreement on way forward towards Specific Objectives, Deliverables and key Milestones for the first project period.



Decarbonising the Mediterranean

11 February 2025

Presentation and participation of SEFAIRER in **Innovation Initiatives for Decarbonizing the Mediterranean** panel discussion by DTU and Sagava, hosted by Fundación Valenciaport in Valencia, Spain.



EUBCE 2025

9 - 12 June 2025

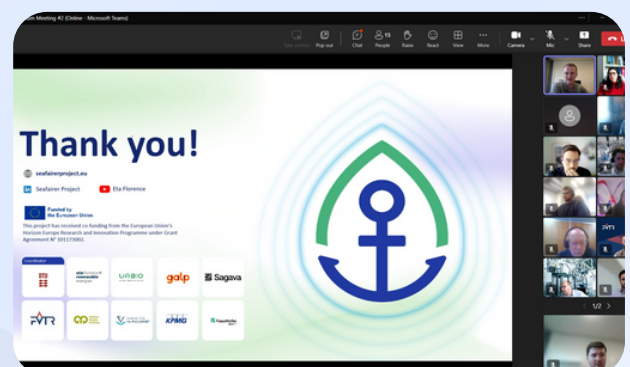
European Biomass Conference & Exhibition - SEFAIRER project booth, project keynote and participation in: "Innovation & Sustainability for Maritime Biofuels" roundtable with other Horizon Europe projects.



Consortium Meeting #2

25 February 2025

Introduction of the members of the External Advisory Board. **Updates** on the **Nordics/Baltics and Mexican COPs** by Sagava and on the **Spanish COP** by Fundación Valenciaport. Progression on biofuel production campaigns presented by Fraunhofer UMSICHT.



Spanish COP launch

19 June 2025

Official launch of **Spanish/Mediterranean Community of Practice**, coordinated by Fundación Valenciaport.

Focus on the ecosystem in and around the Port of Valencia and specific stakeholder needs.



CPH-Malmo Port

30 October 2025

Launch of **Nordic/Baltic COP** by Sagava - Keynote and presentation on biofuel integration in port infrastructure and participation in test bed to accelerate maritime innovation at CPH-Malmö Port.



4th Ship Machinery Conference

24 - 25 September 2025

SEFAIRER presentation at the **4th Ship Machinery Conference**, hosted by FVTR in Rostock, Germany. Discussion on the evolution of the next generation of sustainable propulsion technologies, including advanced biofuels.



Buongiorno, SEFAIRER!

9 October 2025

Consortium Meeting #3, hosted by ETA in Florence, Italy. Foreword by Marco Buffi from the European Commission's Joint Research Centre. Update and discussion on every Work Package and next steps.

Guest participation from partner project ABATE by project coordinator Stella Bezergianni.



Next events

Kraftstoffe der Zukunft

19 January 2026

Biofuels in Shipping

21 April 2026

Servus, SEFAIRER!

6 - 7 May 2026

Consortium Meeting #4, hosted by Fraunhofer UMSICHT in Germany

Strong support by External Advisors

Susanne Hirschmann & Gernot Vogt

Bavarian Research Alliance (BayFOR, Germany)

Members of Environment, Energy and Bioeconomy Unit

Creation of a **strategic network** of European partners
Identify and **catalyse follow-up projects** and funding opportunities that can build on SEAFAIRER's results
Support **commercial exploitation** and engagement of local stakeholders.



Teresa Ponce de Leão

National Laboratory of Energy and Geology (LNEG, Portugal)

President of the Board of Directors of LNEG

Ensure project alignment with **scientific principles, policy frameworks and international practices**.

Provide **strategic direction** to position SEAFAIRER within key EU R&I ecosystems for the project's wider impact.



Pepe Castro

La Unió Llauradora i Ramadera, Spain

Innovation Manager at the Valencia Farmers' and Livestock Producers' Union

Connect economic and regulatory dynamics for feedstock in the Comunidad Valenciana.

Strengthen local **stakeholder engagement** including **feedstock mobilisation** in regional agricultural value chains.



Blaž Likozar

National Institute of Chemistry, Slovenia

Head of the Department of Catalysis and Chemical Reaction Engineering

Knowledge of chemical (process) engineering.

Support in multi-scale process modelling and unit operation.



Remco de Witte

Alfa Laval, Sweden

Global Application Manager at Alfa Laval

Investigating the evolving fuel oils and biofuels in ship's fuel treatment systems.

Supporting guidance on energy efficiency towards the decarbonisation of the shipping industry.



Meet the SEAFAIRER consortium



- Project management and coordination
- Developing a model-based value chain simulation tool & digital twin
- Developing the Community of Practice Nordics/Baltics



- Commercial deployment of the biofuel technology
- Identification and sourcing of advanced feedstocks
- Securing feedstock providers and offtakers for bio-oil, biochar and carbon removal credits



- Design and manufacturing of the biofuel production demo unit
- Production campaigns with selected feedstocks, assessing bio-oil, biochar and syngas quality
- Optimisation of process parameters



- Leading dissemination & communication activities, supporting exploitation pathways
- Designing the visual identity for SEAFAIRER
- Steering stakeholder engagement with other EU projects and initiatives



- Supporting EU-wide and international replicability and implementation studies for wider technology roll-out
- Supporting the business plan for technology commercialisation



- End-to-end biofuel and blend validation
- Component and marine engine testing
- Supporting the 30-day on board demonstration of biofuel at Port of Valencia



- Supporting Life-Cycle assessment and techno-economics assessment
- Mapping wider EU/European advanced feedstock availability
- Supporting logistics and value-chain cost analysis



- Assessing replicability of biofuel value chain at the Port of Valencia
- Coordinate on board demonstration and integration of biofuel in port infrastructure
- Leading the Community of Practice Spain/Mediterranean



- Assessment of biofuel integration in refinery infrastructure
- In-depth characterisation of bio-oil and compounds
- Definition of metrics for co-processing bio-oil in refinery operations



- Leading the Community of Practice Mexico
- Mapping the value chain of agave bagasse as a residual stream from tequila production
- Stakeholder engagement in the wider agricultural industry