

PRESS RELEASE

EU project's efforts toward a sustainable transition to biofuels for the shipping sector

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The **M²ARE project** successfully hosted a parallel event at the 33rd European Biomass Conference & Exhibition in Valencia, Spain. This significant gathering brought together in total **five leading EU projects - COCPIT, SEAFAIRER, FUEL UP, POSEIDON and M²ARE** - to showcase **diverse approaches** and **innovative solutions** aimed at developing a more sustainable biofuel market for the global shipping sector.

The event underscored the urgent need for decarbonization in **maritime transport**, which currently accounts for **3-4% of total EU emissions**. Through a series of insightful presentations and a concluding panel discussion, the projects highlighted their ambitious goals and technological advancements.

Key Highlights from the Participating Projects:

- **M²ARE Project** (Presented by Michael Bampaou, CERTH): M²ARE is at the forefront of decarbonizing the maritime industry by utilising methanol instead of conventional fossil-based maritime fuels to decrease Greenhouse Gas (GHG) emissions. The project focuses on the innovative use of biogenic CO₂ from various sources (biogas, biomass power plants, pulp and paper mills, and fermentation processes) and renewable hydrogen to produce methanol. A next-generation methanol pilot plant is under development to demonstrate a tailor-made maritime methanol synthesis process, ensuring compatibility with existing shipping engines.
- **COCPIT Project** (Presented by Evanthia Nanaki, HelleniQ Energy): COCPIT is delivering significant benefits for decarbonization in both shipping and aviation. Aligning with ambitious climate goals like the IMO GHG strategy and FuelEU Maritime regulation, COCPIT is pioneering microalgae cultivation in photobioreactors with semi-transparent photovoltaic shells. These microalgae are converted into sustainable fuels via Hydroprocessed Esters and Fatty Acids (HEFA) and Hydrothermal Liquefaction (HTL pathways).
- **SEAFAIRER Project** (Presented by Daniel Pichler): Seafairer introduces a "Waste-to-Value" approach through an innovative thermochemical conversion process. This single-unit system co-generates high-quality bio-oil (a promising marine biofuel), hydrogen-rich syngas for process self-sufficiency, and biochar as a stable carbon sink. Utilizing biogenic feedstocks like rice husk, biowaste sieving material, and agave bagasse, the project aims for direct biofuel application and integration into existing refinery infrastructures.
- **FUEL UP Project** (Presented by Duncan Akporiaye, SINTEF): Fuel-Up is transforming forest waste into advanced, sustainable biofuels for the aviation and marine transport sectors. This EU co-funded project targets an impressive 80% reduction in GHG emissions compared to conventional fossil fuels and a 47% reduction against current advanced biofuels. Fuel-Up is dedicated to building new EU biofuel value chains, with a vision for widespread deployment across 25 sites in 12 potential EU countries by 2040.
- **POSEIDON Project** (Presented by Feliu Sempere): POSEIDON is pioneering the use of e-methanol as a marine fuel, demonstrating innovative solutions across the entire value chain. The project explores biogenic CO₂ from biogas and industrial CO₂ from lime production to create a sustainable e-methanol supply. A new hybrid power-to-e-methanol technology (TRL7) will be built and tested, with the produced e-fuel undergoing rigorous testing in engines and open-sea trials. POSEIDON also aims to establish e-methanol value chains in the ports of Valencia and Thessaloniki.

The event, organized by **ETA Florence** as a partner of the M²ARE project, concluded with a dynamic panel discussion. Experts delved into the **technological challenges** and **opportunities** of adapting biofuels for existing shipping engines, discussing **promising feedstocks**, **critical testing** and **certification requirements**, and **industry contributions** for faster adoption. **Economic** and **logistical considerations for biofuel integration**, **their impact on reducing greenhouse gas emissions**, and future collaboration among Horizon Europe projects were also key topics. This parallel event served as a crucial platform for **fostering collaboration** and **accelerating the transition** to sustainable maritime fuels, reinforcing Europe's commitment to a more sustainable future for the shipping industry.



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