

Methanol as an Energy Step towards Zero-Emission Dutch Shipping (MENENS)

The goal of MENENS is to accelerate the route to emission-free shipping by developing adaptive system solutions based on methanol. This project has been awarded a grant of EURO 24.3 million.

Sailing on methanol makes a major CO₂ reduction possible and is seen in the international maritime sector as one of the most feasible fuels for large-scale introduction in the short to medium term. The 22 partners in the MENENS project represent the Dutch maritime sector right across the board, from fleet owners to ship designers, shipyards and suppliers.

As can be seen below, the research focus is broad; from in-depth knowledge development on methanol power generation (WP1), storage safety (WP2), system design & integration (WP3), and lab testing including power & energy management and control (WP4), to on board realisation by retrofits, full-scale measurements and validation feedback (WP5-7). Use cases are being defined to look beyond the horizon and envision the ships of the future. This will serve as a basis for the scope of the WP3-4 research group, which examines the future power & energy system design.

Christian Veldhuis
c.veldhuis@marin.nl

Developing sustainable power & energy systems for the wide range of ships requires a high degree of flexibility regarding design, technology and system choices. The project results in directly applicable knowledge and design solutions in the field of engine performance for various combustion systems, fuel cells, and mechanical, electrical and hybrid power & energy systems suitable for the dynamic operational conditions that are typical for the maritime sector.

MARIN's goal in this project is two-fold: to develop the necessary knowledge and tools to create the power & energy systems of the future, and actually design and test those systems for specific use cases. We are considering the broader picture, and where methanol stands when compared to other system solutions and the possible design trade-off decisions. We are working in close cooperation with all the MENENS partners and will make direct links to the research done in the SH2IPDRIVE project (outlined in the following pages).

