
1 MW ZERO EMISSION DRIVE TRAIN DEMONSTRATOR PROJECT

SUMMARY

The project aims to accelerate the shift to clean marine shipping by demonstrating a physical model of a clean propulsion system, that can be used by ship builders, operators and legislators to help drive meaningful progress towards emission free shipping in the future. The Maritime sector requires clean propulsion demonstrators to build trust that clean propulsion is possible.

“A megawatt is a huge amount of power but it only a stepping stone to bigger systems that ships require” said Ecomar CEO and Founder Eugene Bari. “We are confident that we can build this larger demonstrator within the next 10 months. It’s going to be a game changer for the industry.”

The demonstrator will be built in Ecomar Propulsions Hampshire research facility and includes a number of radical designs, but the company are keen to stress that all the technologies are already proven. It is a truly ground-breaking combination joining a whole host of independent innovations into one reliable full propulsion system.

The project team will use the design of our newbuild that uses this electric and hydrogen hybrid system with adaptability to also use methanol, ammonia or other alternative fuels with minimal disruption in refit. This project includes all naval architecture, propulsion and operator inputs. It is powered by clean energy with a 10 day range and a 1MW powertrain, providing the physical limitation and operational constraints for the 1MW demonstrator.



Figure 1 – Ecomar Demonstrator Example, this project aims to demonstrate the engine room of a 44 metre OSE designed Ship for Zero Emission Propulsion (credit: Ecomar)

The project is part of the Clean Maritime Demonstration Competition Round 2 (CMDC2) which was launched in May 2022, funded by the Department for Transport and delivered in partnership with Innovate UK. As part of the CMDC2, the Department allocated over £14m to 31 projects supported by 121 organisations from across the UK to deliver feasibility studies and collaborative R&D projects in clean maritime solutions.

The CMDC2 is part of the UK Shipping Office for Reducing Emission's (UK SHORE) flagship multi-year CMDC programme. In March 2022, the Department announced the biggest government investment ever in our UK commercial maritime sector, allocating £206m to UK SHORE, a new division within the Department for Transport focused on decarbonising the maritime sector. UK SHORE is delivering a suite of interventions throughout 2022-2025 aimed at accelerating the design, manufacture and operation of UK-made clean maritime technologies and unlocking an industry-led transition to Net Zero.

PROJECT PARTNERS



University
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