

FLAGSHIPS

CLEAN WATERBORNE TRANSPORT IN EUROPE



FLAGSHIPS

Project ID	826215
PRR 2025	Pillar 3 - H ₂ End Uses - Transport
Call Topic	FCH-01-2-2018
Project Total Costs	6 766 811.83
Clean H ₂ JU Max. Contribution	4 999 978.75
Project Period	01-01-2019 - 30-09-2026
Coordinator Beneficiary	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY, FI
Beneficiaries	SOGESTRAN, SOGESTION, FUTURE PROOF SHIPPING BV, LMG MARIN FRANCE, LMG MARIN AS, NORLED AS, SEAM AS, MARITIME CLEANTECH, PERSEE, Compagnie Fluviale de Transport, BALLARD POWER SYSTEMS EUROPE AS, ABB OY, KONGSBERG MARITIME AS

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PROJECT AND GENERAL OBJECTIVES

Two commercially operated hydrogen fuel cell vessels will be demonstrated, one in France (Paris) and one in the Netherlands (Rotterdam). The Paris demonstration vessel is a self-propelled barge operating as a goods transport vessel in the city centre and the Rotterdam demonstration vessel is a container vessel transporting goods between Rotterdam and Duisburg. The Rotterdam demonstrator started its operation in April 2024 and the Paris demo will follow during 2025.

NON-QUANTITATIVE OBJECTIVES

- The project aims to develop and demonstrate bunkering technologies based on swapping gaseous hydrogen fuel containers.
- Procedures for hydrogen bunkering by swapping hydrogen storage containers are being developed.

PROGRESS, MAIN ACHIEVEMENTS AND RESULTS

- The FCwave fuel cell module has gained type approval by DNV.
- The H₂ Barge II demonstration vessel (Rotterdam) has been launched and started its operation in April 2024.



- The Zulu demonstration vessel (Paris) is ready and taking its last steps in the approval process.

FUTURE STEPS AND PLANS

- The commercial operation of both vessels will be demonstrated for 18 months.
- The results of the demonstration vessels will be analysed.

PROJECT TARGETS

Target source	Parameter	Unit	Target	Achieved to date by the project	Target achieved?
Project's own objectives	Develop necessary safety measures of H ₂ and FC vessels to enable their class' approval.	-	Class approval gained	CCNR approval gained for both vessels	✓
	Demonstrate the operation of a hydrogen-fuelled 1.2 MW power class cargo vessel in the Rotterdam-Duisburg route for at least 18 months.	Months	18	10	⚙️
	Demonstrate the operation of a hydrogen-fuelled 400 kW power class self-propelled barge in the Paris area, France for at least 18 months.	Months	18	-	