The port of Oostende will implement an H_2 refuelling system for open sea operation

Long Term Effects

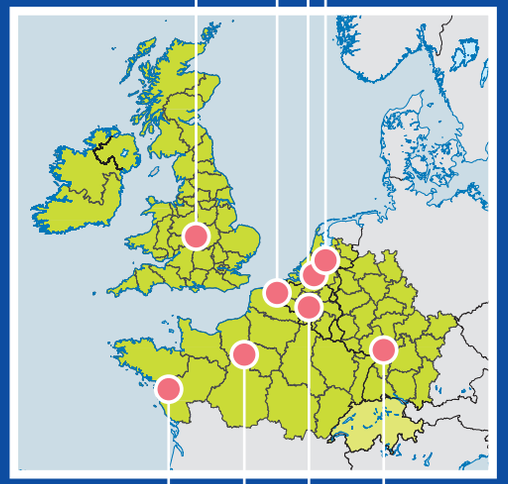
By the end of the project H2SHIPS will have implemented measures leading to a direct decrease in GHG emissions and will have laid foundations for the uptake of its technologies. Around 2 % of fleet renewal (retrofit or new) are expected leading also to a positive impact on cross-sector industry uptake. This will lead to the creation of several jobs every year within the new H_2-powered water transport industry. All in all, emissions reductions and job creation will leave beneficial impacts on the water transport sector and port cities.

Project Data:

The Project has a total budget of € 6.33 million and receives € 3.47 million from from Interreg North-West Europe between 2019 and 2022. H2SHIPS has 13 Partners from 5 countries and is coordinated by Europäisches Institut für Energieforschung (EIfER).

H2SHIPS Project Partners:

- Haven Oostende
- Technische Universiteit Delft
- · Havenbedrijf Amsterdam
- · Tata Steel Europe
- University of Birmingham



- Navalu
- · Steinbeis 2i GmbH
- · Europäisches Institut für Energieforschung
- · Hynamics
- · SYCTOM
- · HAROPA Ports de Paris
- · Hydrogen Europe
- · Transport & Environment

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Interreg
EUROPEAN UNION
North-West Europe
H2SHIPS
European Regional Development Fund

System-Based Solutions for H_2-fuelled Water Transport in North-West Europe

The Port of Amsterdam will implement a hydrogen-powered port vessel

The H2SHIPS Project

The Interreg North-West Europe project H2SHIPS will demonstrate the technical and economic feasibility of hydrogen bunkering and propulsion for shipping and will identify the conditions for successful market entry for these technologies. Two pilot projects will be implemented as part of H2SHIPS: A hydrogen powered port vessel will be built in Amsterdam and in Belgium a H_2 refuelling system suitable for open sea operation will be developed and tested. A further major output will be an action plan for the implementation of an H2SHIPS pilot on the river Seine in Paris in 2022. H2SHIPS will demonstrate the added-value of H_2 for water transport and develop a blueprint for its adoption across North-West Europe which can avoid considerable GHG and particle emissions arising from shipping.

Why H2SHIPS?

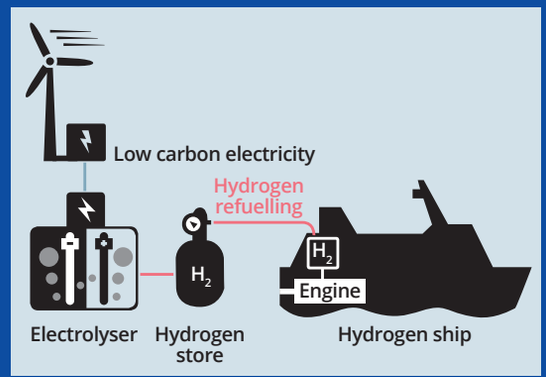
Reducing GHG emissions in the transport sector is crucial for climate change and air quality. Water transport plays a key role for persons and goods in North-West Europe, which concentrates 84 % of European inland freight. However, almost 100 % of inland vessels are fuelled by gasoil which, similar to diesel, emits CO_2, nitrogen oxides (NO_x), particulate matter (PM) and sulphur dioxide (SO_2). Inland waterways and maritime transport sectors thus have large potentials to become more environmentally friendly.

The Benefits of Hydrogen Solutions

Advantages of hydrogen propulsion technologies over conventional combustion engines are considerable: Hydrogen can be converted into mechanical or electrical energy completely free of any emission. In addition, hydrogen propulsion systems operate silently and require less maintenance. Hydrogen propulsion is already close to full market maturity and is the only option that allows total decarbonisation of waterborne transport with high efficiency and high energy density. Its uptake requires dedicated infrastructure, close to end users. With predictable routes and proximity with other industries, water transport proves particularly well suited to hydrogen solutions. H2SHIPS aims to kick-start the necessary value chain.

Main Project Outputs:

- A demonstration project for H_2-powered water transport of passengers
- A demonstration project for offshore H_2 refuelling system
- A replication study for inland cargo ships
- An action plan for the implementation of a pilot in Paris in 2021–2022
- A blueprint for the uptake of a new hydrogen-based transport system in North-West Europe
- The creation of an H_2 value chain that supports transport operators in implementing H_2 products/services developed by enterprise-research cooperation



www.nweurope.eu/h2ships/