Marine biological resources

FILHYPYNE

USING A HYDROGEN/FUEL CELL HYBRID AS A NEW MEANS OF FISHING BOAT PROPULSION

The aim of the FILHyPyNE project is to design a 12-metre, multipurpose fishing boat (pot fishing, drift netting, etc.) powered by a hydrogen/fuel cell system. The electric propulsion system (200kW electric motor) will be fed by a hydrogen generator/fuel cell of around 210kW and electric batteries. An onboard store of 120kg of hydrogen in gas cylinders will meet all the energy needs of this type of boat. The hydrogen will be supplied from an onboard rack to avoid the need for any cumbersome harbour infrastructure.

The project will test and validate how the hydrogen/fuel cell technology performs technically, economically, environmentally and socially in real-life working conditions. The fuel cell will be designed to operate on a continuous basis with the batteries being used in transitional phases and during periods of peak power consumption. The batteries will be recharged by the fuel cell when not being called on. Innovation lies in the scale of the systems that will be developed – numerical simulation models validated in real-life conditions, innovative architecture relating to the constraints imposed by this new propulsion system and components tried and tested for marine applications.

The target market for boats equipped with the hydrogen/fuel cell system will be around 210 boats (fishing, leisure and waterways) per year over ten years.

The operating company set up as part of the project will develop three types of activity:

- Servicing linked to the engineering of the hydrogen/fuel cell propulsion systems
- Training in the use of boats equipped with hydrogen/fuel cell propulsion
- Promoting/raising awareness of hydrogen technology.

Partners

Companies

Naval Group, Nantes-Indret [Project Developer]
Bureau d'études Mauric, Nantes
Mission Hydrogène, Nantes

Research centers

École Nationale Supérieure Maritime (ENSM), Nantes
Université de Nantes, Nantes

Other partner

COREPEM des Pays de la Loire, La Turballe

Funder

Sans financement public

Labelisation

30/03/2012

Overall budget

3 834 K€