

OPHARM

Offshore production of hydrogen analysis and roadmap

DURATION: 18 months | LAUNCH: 2021 | Total budget: €388K

CONTEXT

There is a growing interest for hydrogen as a complementary energy carrier for industrial and mobility applications. Hydrogen storage is an alternative to batteries and an element of response to the intermittent nature of renewable energies, in a long-term perspective. Up to now, hydrogen production technologies have been developed mainly for land production. These technologies are transferable towards offshore renewable energies but will require special attention to mitigate the constraints of the demanding offshore environment. **As offshore wind farms move further and further from the shore, the costs associated with power cables increase. In this context, offshore hydrogen could be a competitive option.**



TECHNOLOGIES



STAGES OF THE VALUE CHAIN



Preparatory studies

OBJECTIVE

To produce a roadmap and decision-making tools for the future players of the offshore renewable hydrogen market, with a focus on wind farms.

SCIENTIFIC CONTENTS

- Landscape **analysis**
- Identification of **solutions and risks** for offshore hydrogen production
- Development of **tools** for offshore hydrogen production analysis
- Preparation of a hydrogen **roadmap** for the offshore wind industry

EXPECTED RESULTS

- State of the art of existing production, storage and export technologies
- Mapping of on-going experimentations, current developments and European infrastructures
- Analysis of market potential
- Database of the cost of components and operations and carbon footprints
- Risk analysis and monitoring procedures
- Review of the regulatory framework and norms for certification
- Methodology and numerical tool for multi-criteria evaluation of industrial farm and network scenarios
- Roadmap for hydrogen production branch, with a focus on France and Europe

PARTNERS



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