MILFORD HAVEN: HYDROGEN KINGDOM

A First of a Kind Project Producing Offshore Hydrogen From Floating Wind

Fundamentals of the Dolphy Technology

Supported by:

Hydrogen generated offshore from FLOW and piped ashore - no need for electrical or grid connections

Fully scalable technology with a modular design which can be mass produced

Low-carbon hydrogen produced at an affordable cost

7-years of development, with FEED & offshore hydrogen generation trials successfully completed (a UK first)

Opportunity to develop technology for further expansion in the UK and overseas.

Hydrogen Demonstration trials

Trial to demonstrate hydrogen production in floating marine environment

Successfully completed in Summer 2024

No HSE incidents

No unexpected technical issues identified

Lessons learned:

- **Cost and lead time – immature market and unstable market conditions make project planning challenging**

- **EPC, EPCM, EPCI? – Contracting strategy is a key part of managing for success**

- **Existing Regs apply – Regulators have been supportive. Some new regulations are being developed/amended but many are already fit for purpose**

MH:HK Project Outline

v **10-15MW Dolphyn demonstration unit followed by expansion up to 135MW generating >10,000 tons H2 p.a.**

v **Hydrogen pipeline to shore and onwards to reception facility and potential link to HyLine Cymru**

v **Opportunity for wave/tidal projects in PDZ to connect to Dolphyn - no need for any electrical connection to shore**

v **Multiple hydrogen offtakers identified**

Scope of Works Being Progressed Under Innovate UK Programme

Anchor Array and Project Design	Anchor Project Pipeline & Reception Facility	Consenting Pathways
Stakeholder and Strategic Benefits	Consumer Savings	HyLine Interface

Project Management

Looking Further Forward

- MH:HK would be a "World First" for offshore hydrogen generation from FLOW.

- Develop the project towards FID and look to increase UK content

- Prove the Technology in Wales and prepare the Floating Offshore Wind supply chain ahead of Round 5

- Deliver more than 10,000 tons per annum of Hydrogen to Milford Haven Port Area and the wider South Wales industrial region (via HyLine Cymru)

- Long term could create a truly affordable source of low carbon hydrogen at GW scale – bringing significant energy security and decarbonization benefits

- If we don't seize this opportunity in the UK – other nations will take our leading position.

Thank you!

An opportunity to deliver a world leading position in the offshore generation of affordable, low carbon hydrogen at scale.

Nikhil Hardy – Managing Consultant (Bristol)

nikhil.hardy@erm.com

dolphynhydrogen.com