



MH₂

HYDROGEN KINGDOM
TEYRNAS HYDROGEN

MILFORD HAVEN:

HYDROGEN

KINGDOM



Accelerating the production of low carbon hydrogen for South Wales and the Celtic Sea region.

The Milford Haven: Hydrogen Kingdom project is a collaboration between Celtic Sea Power, Dolphyn Hydrogen, Wales & West Utilities, and the Offshore Renewable Energy Catapult.

Together, we aim to accelerate the production of affordable low carbon hydrogen at scale.

MH:HK will progress the design and consent for a project producing green hydrogen offshore in the Pembrokeshire Demonstration Zone (PDZ) in a world first hydrogen from floating wind development.

MH:HK will deliver a range of benefits to the South Wales and wider Celtic Sea region by:

- Ensuring Pembrokeshire leads in production of green hydrogen.
- Providing opportunities for investment in local infrastructure and technology.
- Providing certainty to Project Union: a pipeline terminating at Milford Haven, and the likely landing point of green hydrogen produced in the PDZ through MH:HK.
- Providing certainty to Hyline Cymru: a pipeline originating in Milford Haven delivering hydrogen to industrial users in Llanelli and Port Talbot.
- Contributing towards the £3.5 billion hydrogen industry inward investment target by Celtic Sea Freeport.
- Contributing towards the Milford Haven Future Energy Cluster and UK Government targets for hydrogen production.

Advancing the delivery of Dolphyn Hydrogen Technology.

Developing a consenting process for accelerated deployment.

Investigating the potential for wave energy co-location with hydrogen in the PDZ.

Delivering an integrated solution connecting offshore generation with onshore hydrogen distribution.

MHK Project Partners



Celtic Sea Power’s purpose is to maximize the economic opportunity that marine energy in the Celtic Sea presents. Their work on environmental and technical constraints impacting FLOW connectivity to the provides detailed understanding of current and future issues associated with deliverability of MH:HK.



Dolphyn Hydrogen is an independent business created to take forward the Dolphyn green hydrogen from floating offshore wind technology. Dolphyn are seeking deployment opportunities in the Celtic Sea to bring green hydrogen ashore and are responsible for anchor array and pipeline design for the project.



The Offshore Renewable Energy **Catapult** is a leading research and technology organization dedicated to advancing offshore renewable energies. They will be responsible for project management of MH:HK, in addition to leading on stakeholder engagement and strategic benefits.



Wales & West Utilities operate an extensive network of more than 35000 km of pipes to transport gas to customers throughout Wales and the Southwest of England. They are responsible for developing the Hyline interface and driving for consumer savings in the MH:HK project.

Celtic Sea Power are the leaseholder for the Pembrokeshire Demonstration Zone (PDZ): a 90 km² area off the south coast of Pembrokeshire which is currently designated for wave and tidal test and demonstration activity. MH:HK will aim to update the existing scoping for the PDZ to include the potential for green hydrogen pipelines, and to assess the potential for coordinating green hydrogen in proximity to electrical cable corridors.

The Dolphyn Hydrogen concept is a first of a kind patented technology using offshore wind to power hydrogen production technology, all located on top of a floating platform. It’s a scalable solution without electrical grid connection aimed at bringing hydrogen directly to areas of hydrogen demand. Dolphyn Hydrogen are actively seeking opportunities to deploy their technology in the Celtic Sea. Aiming to produce ultra-low carbon hydrogen by 2030, supporting targets for hydrogen and the decarbonisation of major industry in South Wales.

Wales and West Utilities are leading plans for a hydrogen pipeline in South Wales to accelerate the decarbonization of industry and gas customers in the region. The proposed pipeline will stretch from Pembrokeshire to the Swansea Bay area.

The MH:HK project will seek to progress engineering designs for the interface connecting potential hydrogen production in the Celtic Sea to the Hyline Pipeline between Neath Port Talbot and Pembrokeshire.

