

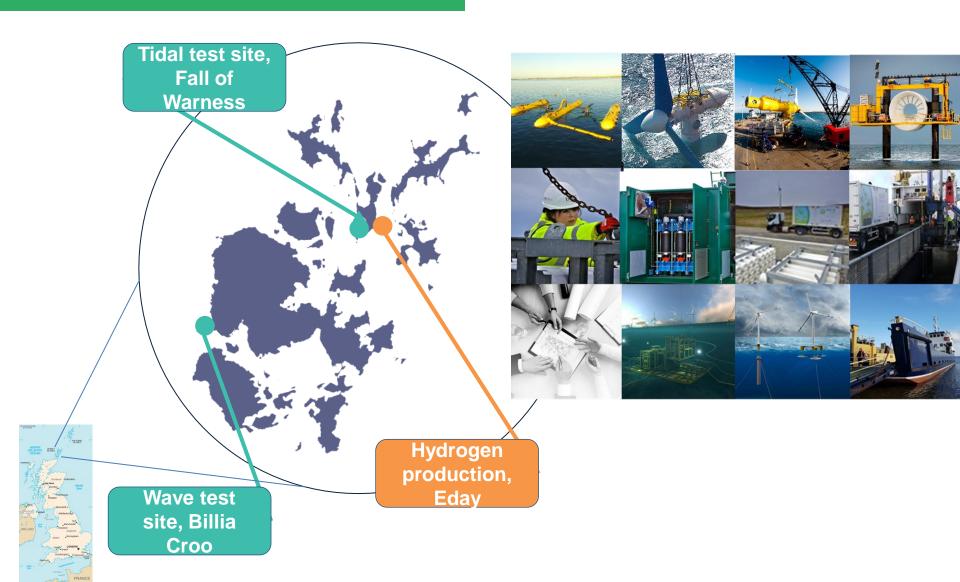


The hydrogen islands: putting EMEC research and development in context for an emerging North Sea cluster

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Introducing EMEC

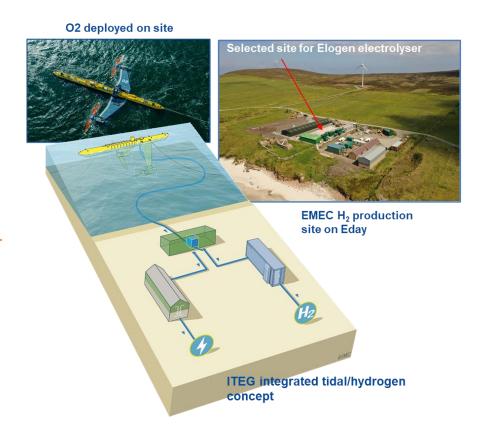




In Orkney, Power-to-X also means tidal-to-hydrogen

- Integrated tidal & hydrogen storage solution (ITEG)
- 2021/2022 deployment in Orkney
- 3 low carbon technologies
 - Orbital O2 2MW tidal turbine deployed April 2021
 - Elogen 500kW electrolyser due Summer 2022
 - Energy Management System (EMS)
- €11m budget from Interreg North-West Europe
- 20 direct jobs maintained and 40 indirect jobs







Hydrogen R&D Programme



Producing hydrogen via electrolysis
 We power our electrolysers using tidal and wind generation co-located at our test sites



2. Storing and handling hydrogen We have demonstrated inter-island transport of hydrogen, and developed state-of-the-art mobile refuelling equipment



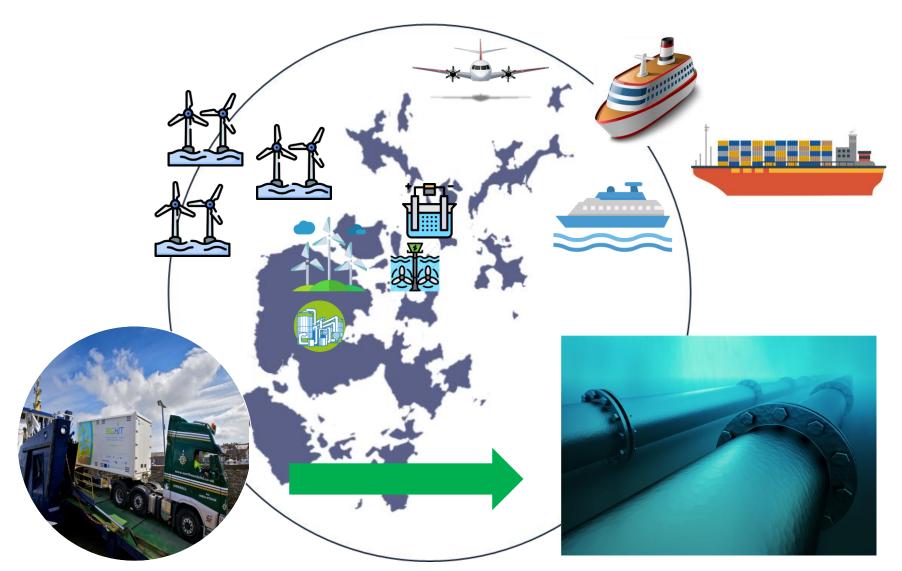
3. Developing hydrogen use cases to support decarbonisation activities
Our projects have tested new ways of using hydrogen, including in transport, in vans, ferries and aeroplanes, in industrial heat, investigating feasibility for use in distilling, and in providing auxiliary power to ferries while quayside





Innovation in hydrogen is shaping the future Orkney energy landscape









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