

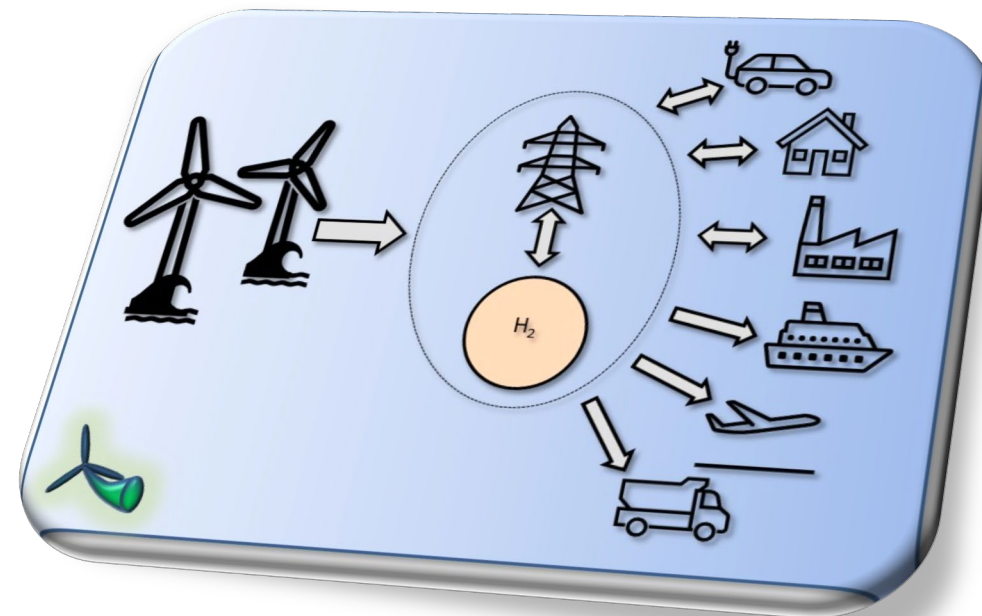
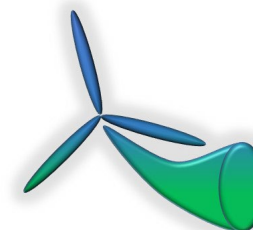
Ocean-REFuel (Ocean Renewable Energy Fuel)

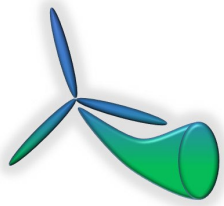
“Next generation Renewable Ocean Energy”

*Prof. Maurizio Collu, University of Strathclyde,
on behalf of Prof. Feargal Brennan (PI)*

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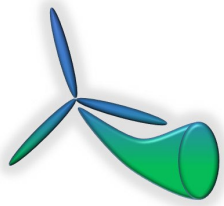
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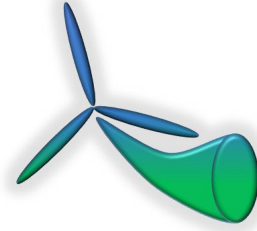
The Context

- Tremendous success of early offshore wind spurring ambitious Government targets and investor confidence;
- The intermittency and curtailment of renewable energy resources coupled with vastly increased capacity makes energy storage increasingly important;
- There remains extremely large Ocean Energy potential which can never be fully utilised by the electricity network;
- Whereas enormous strides have been accomplished within the renewable power sector, the same can not be said for renewable heat and transport which account for more than 60% of UK energy demand;
- **Ocean-REFuel** has the potential to establish the building blocks to ensure Ocean Energy to Fuel potential is developed to maximum effect ensuring safety, sustainability, resilience, affordability and environmental sensitivity.



Ocean-REFuel Vision: a whole Energy Systems Approach

- To establish **fundamental scientific and engineering understanding** for the conversion of Ocean Renewable Energy to liquid and gaseous fuels;
- To accelerate the development and unlock the potential of converting ocean energy into **new energy vectors other than electricity**; directly addressing challenges associated with energy storage, renewable heat and the decarbonisation of transport;
- To deliver a real **step-change** in our ability to harness offshore wind and marine renewable energy potential and contribute in a major way to the decarbonisation of the energy and transport sectors at a global scale;
- Positioning the **UK as a global leader** in Ocean Renewable Energy Fuels and developing exploitable technologies and methods for global markets.

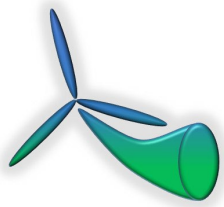


Ocean-REFuel

Research Workstreams

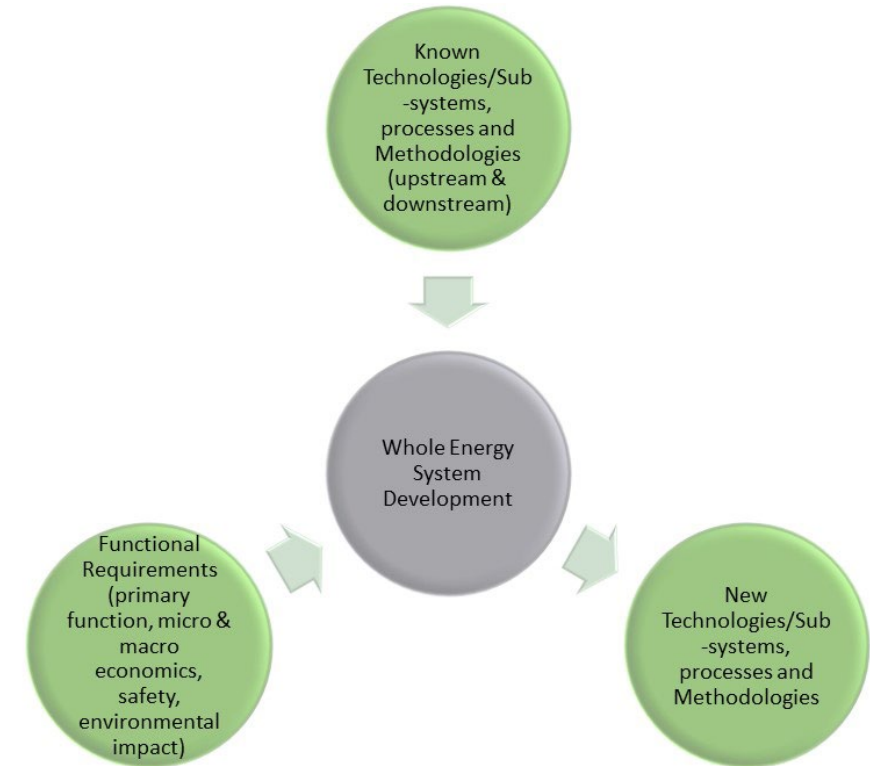
Cross cutting Themes

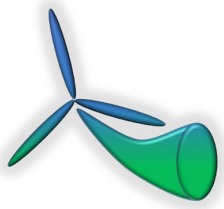
	Materials	Safety	Socio Economics	Process Engineering	Environmental Impact
Offshore structures, logistics and power generation	●	●	●		●
Power to Carbon Free Fuel	●	●		●	●
Carbon Free Fuel transportation and storage	●	●	●	●	●
Networks, Compatibility and Demand		●	●		



Ocean-REFuel Deliverables

- Blueprint for the first integrated Ocean Renewable Fuel production facility;
- Solutions for flexible Ocean Renewable Energy Fuels strategies to decarbonise different sectors;
- Fully assess the opportunities and impact of Ocean Renewable Energy Fuels;
- Development of new technologies and sub systems, processes and methodologies.





Ocean-REFuel Stakeholder Group

