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26/11/2020

Emerald Floating Wind:
A Vision for Cork

Presentation to Energy Cork:

Dr Val Cummins, Operations and Ireland Projects Director, Simply Blue Group


Photo courtesy of Principle Power. Artist: DOCK90

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Introduction to Floating Wind

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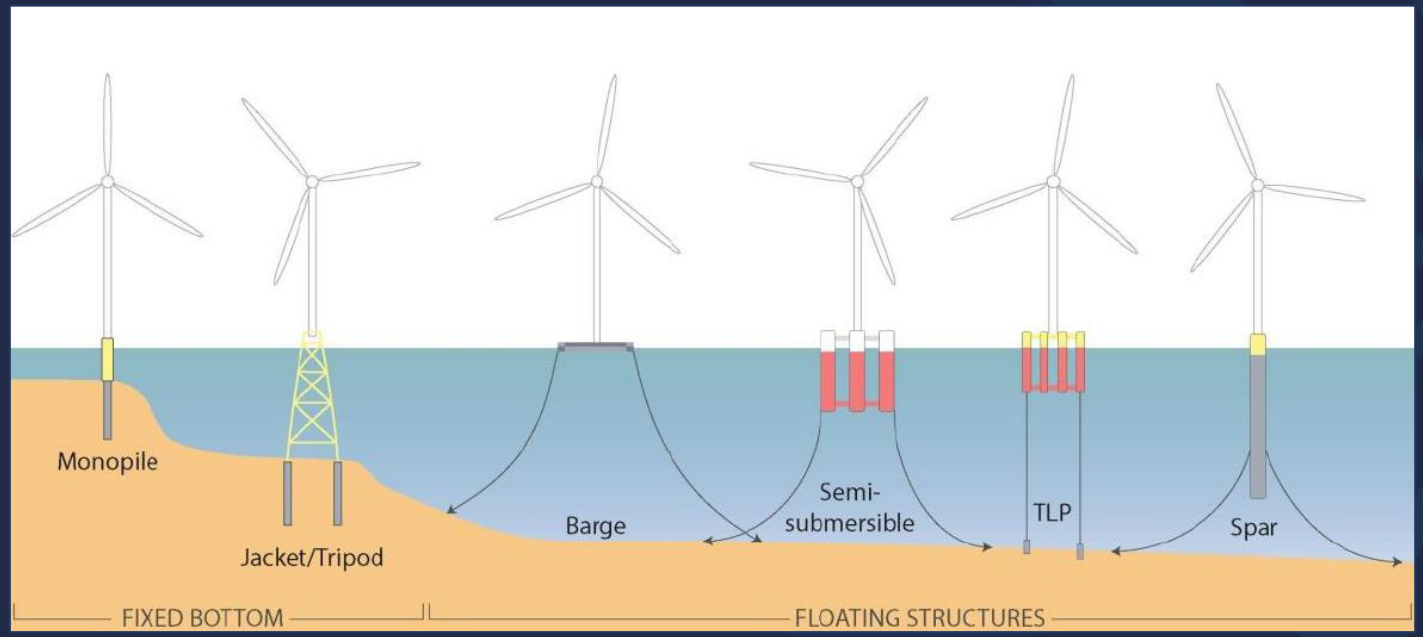
Floating Offshore Wind (FLOW)

What is FLOW?

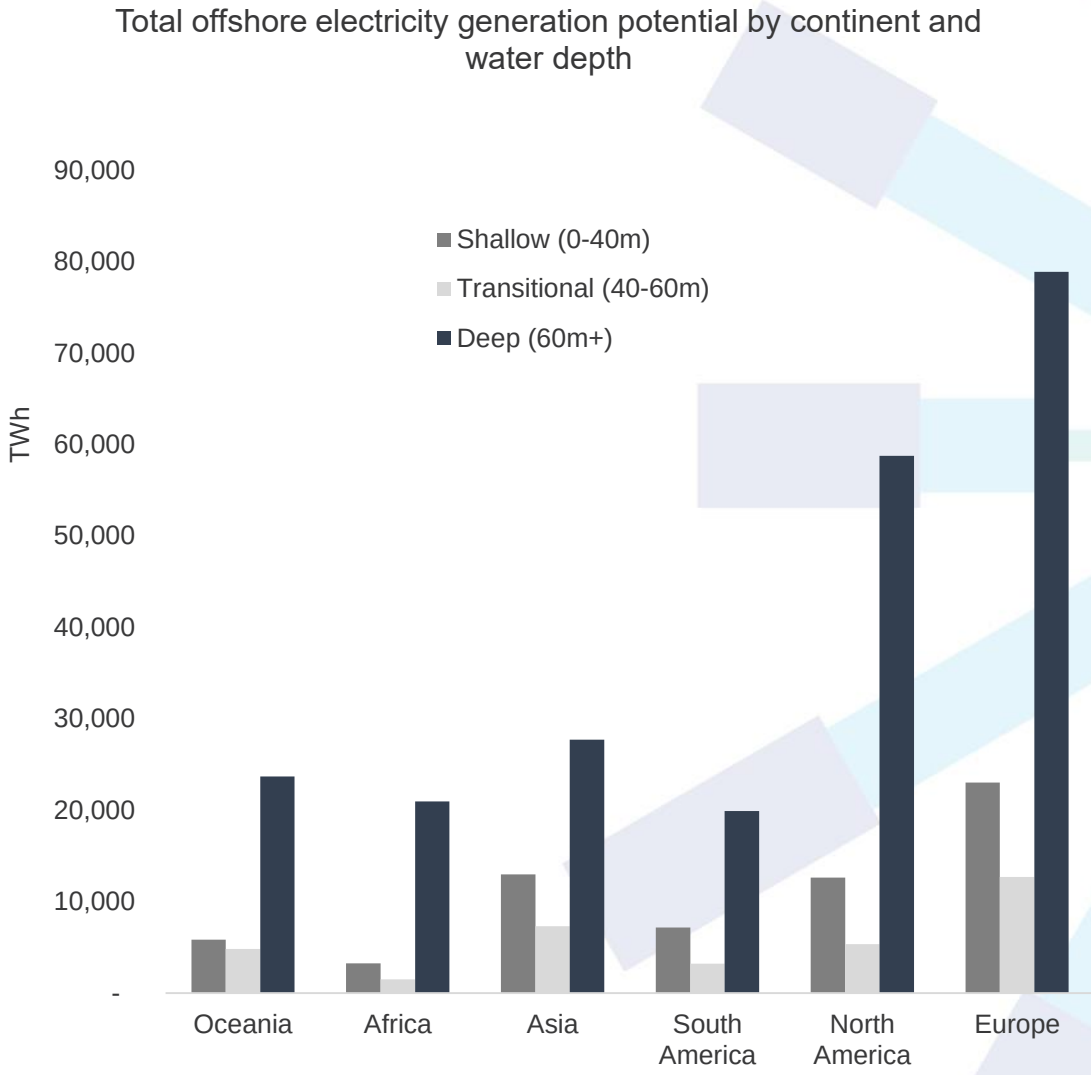
- 80% of the world's offshore wind potential is in deeper waters (>60 m) unsuitable for fixed-bottom foundations
- FLOW technology enables the development of these sites



Source: Eirwind

The Potential of FLOW

- Rapid developments in FLOW foundations are opening new markets
- Floating offshore technology is entering a commercial phase. Development at volume and scale is bringing the cost down.
- With significant deployments internationally, the price will be comparable to fixed within the decade



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FLOW Opportunity for Ireland

Floating wind is to Ireland what North Sea oil was to Norway

Programme for Government 30GW of FLOW for export

Economy

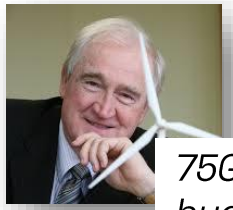
- 6.5-7.3GW of Irish offshore wind by 2030 yields 12,000-13,500 direct & indirect jobs and GVA impact of ~€2bn for the period 2020-2029 *(Kandrot et al, 2020)*

Society

- Balanced regional development
- High quality jobs

Energy Security and Export

- Transformative energy export opportunity
- **Requires new routes to markets; driver for a new green hydrogen economy**



*75GW in Atlantic: "This could be huge, at **1.6 times the value of our single biggest indigenous industry, agri-food and marine,** worth €13.7bn. This would require €150bn of investment in turbines, foundations, equipment and port infrastructure. The State would receive about €530m a year in licensing and rental fees, plus further exchequer returns from employment and corporate profits from it, and spin-off economic activity".* (Source: **Eddie O Connor, May 2020**)

1GW of floating wind by 2030

Boris Johnson, UK,
6th Oct 2020

Impact on Cork

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Who We Are

The leading early-stage developer of sustainable and transformative marine projects

- Floating wind
- Wave energy
- Low impact aquaculture

Irish, blue-economy development company

- Over 30 people across eight countries and three continents
- Head office in Cork, eight new jobs announced in Sept 2020

Floating wind

Wave energy

Sustainable aquaculture

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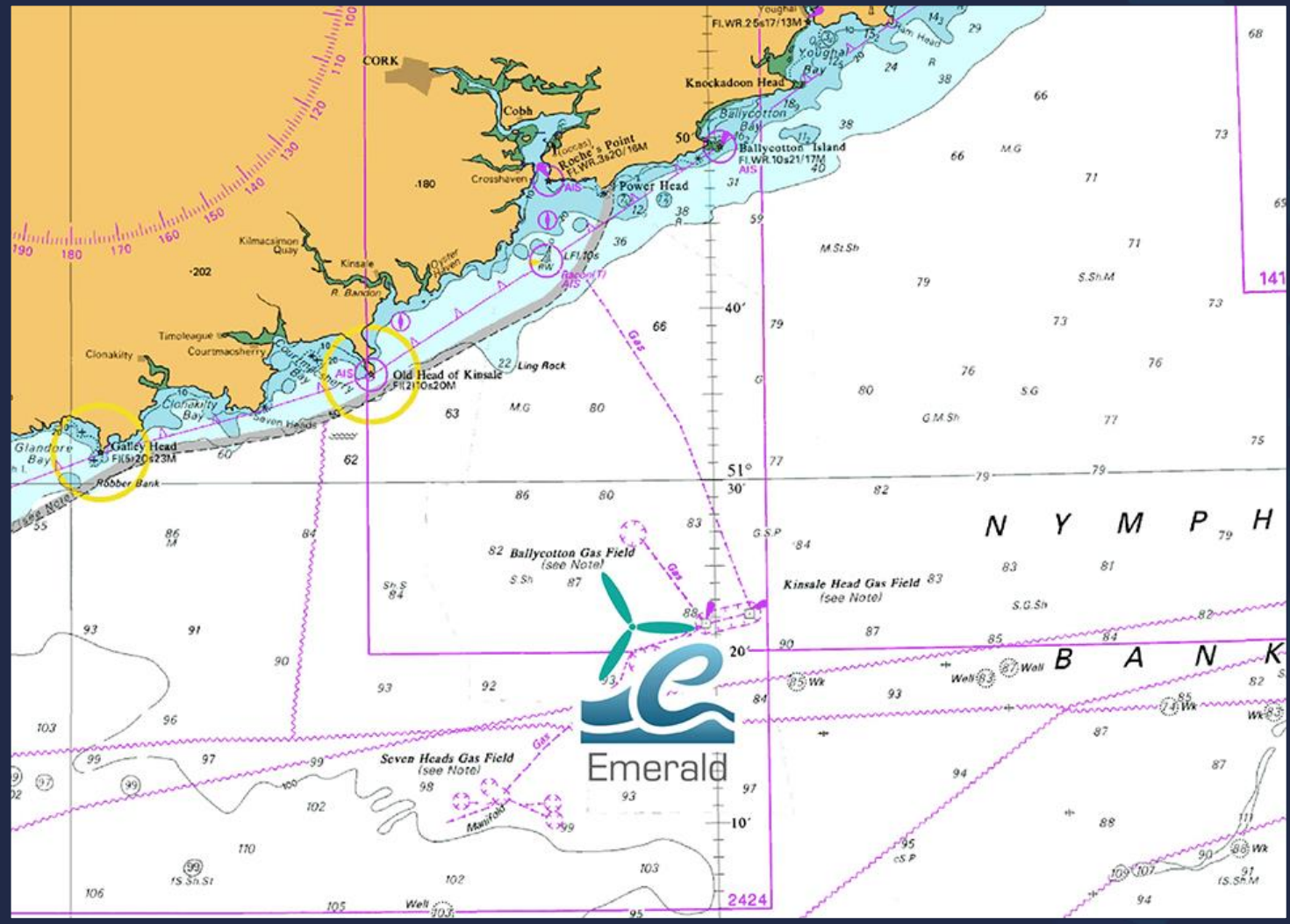
Emerald FLOW Project

- Energy transition
- 1GW = ~67 * 15MW turbines
- Strategic partnership
- 2 steps (300MW, 700MW)
- Min distance to shore 35km from Old Head of Kinsale
- Stakeholder engagement



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Cork Harbour Supply Chain

- Three FLOW Celtic Sea projects poised to develop ~2.7GW
- Critical to 2030 5GW target
- Investment by supply chain
  - €10m Green Rebel Marine survey and training hub in Crosshaven
  - €5m Mainport Holdings
- Major investment plans (e.g. Cork Dockyard, see right)
- Massive job creation potential e.g. 80 jobs announced by GRM; 200 jobs Cork Dockyard

Image courtesy of Doyle Shipping Group

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Cork Dockyard = DSG Vision
Multimillion euro investment – offshore wind pre-assembly and deployment hub
Pre-assembly Hub >100 jobs
An O+M facility >100 jobs

Routes to Market

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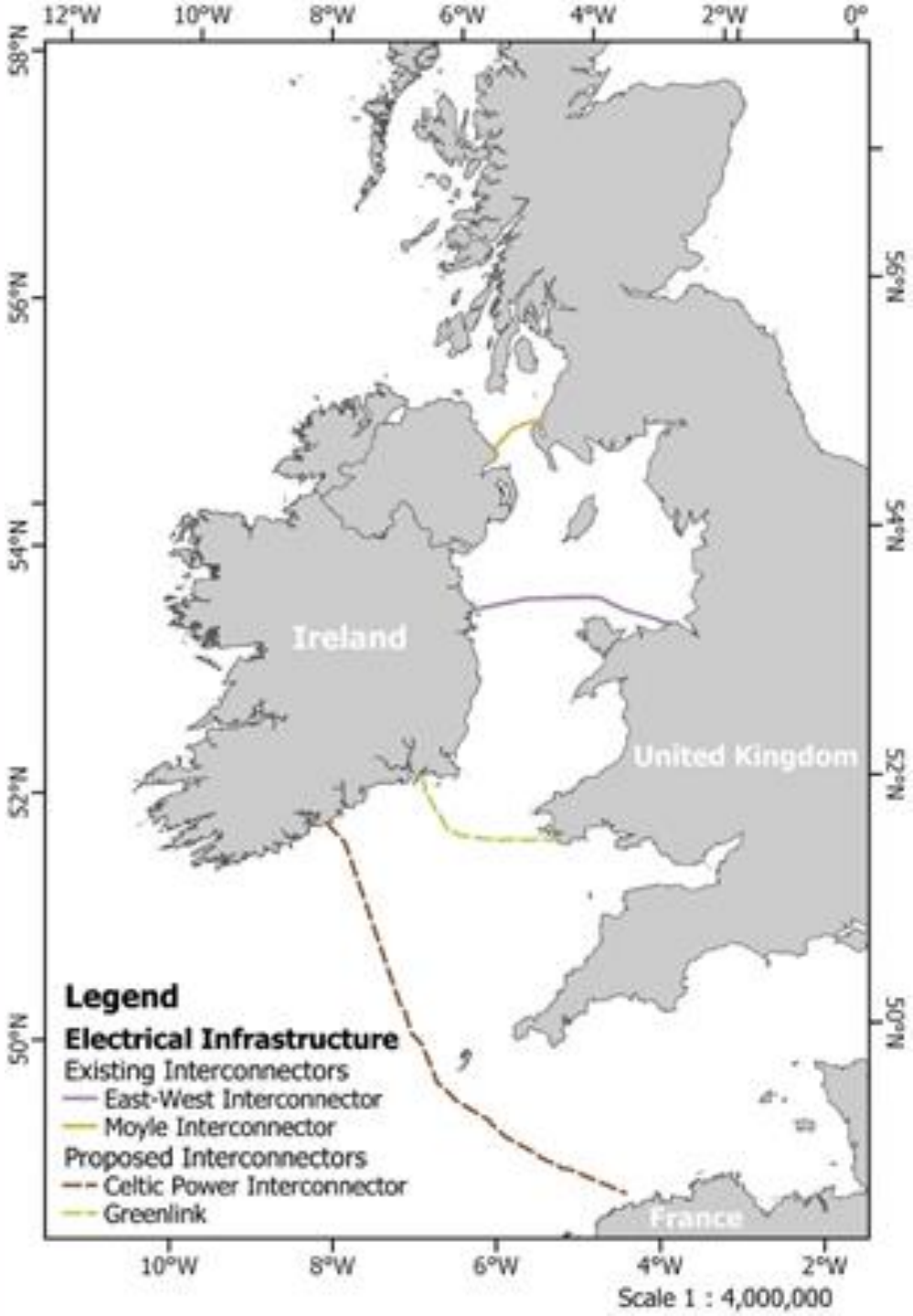
Routes to Market for Floating Wind (1)

Electricity production

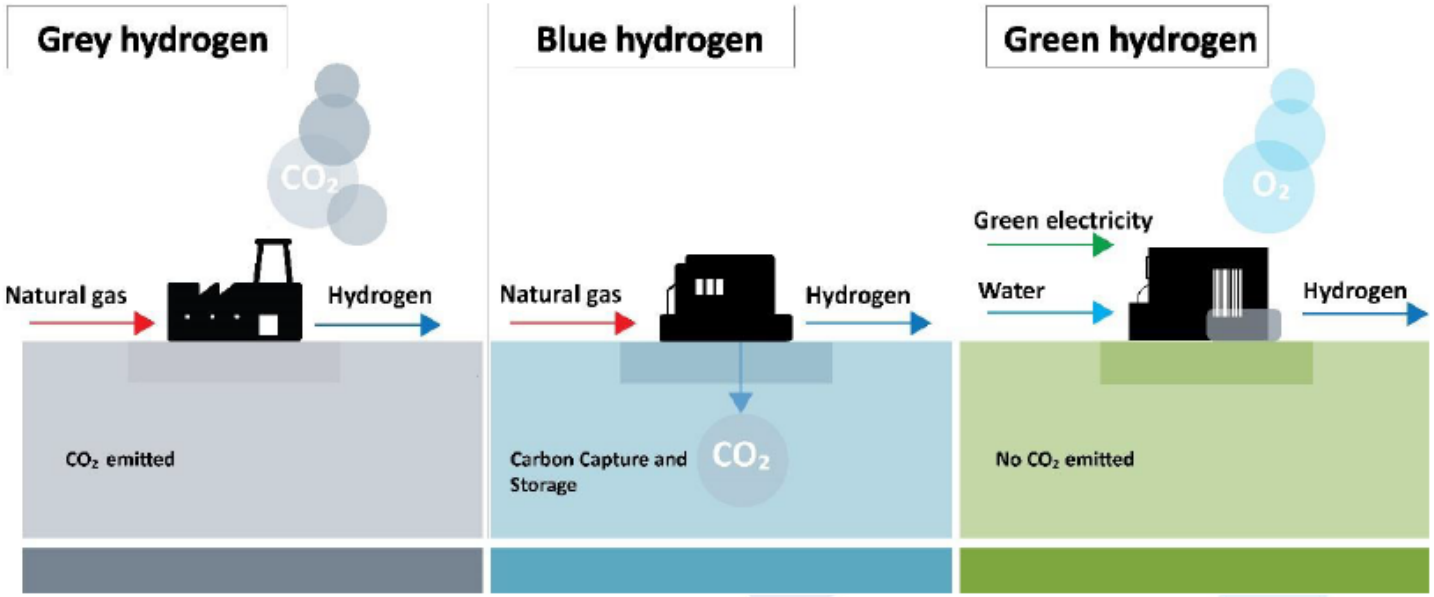
- Secure RESS auction and connection to national grid
- Corporate Power Purchase Agreements (e.g. data centres)
- Interconnectors for export of electricity
- Offshore grid (e.g. Supernode concept post 2030)



Routes to Market for Floating Wind (2)

Green hydrogen production

- Alternative fuel for
  - Transport
  - Heat
  - Heavy industry
  - Bulk green H2 for export
- The cost of producing hydrogen from renewable electricity could fall by 30% by 2030 (IEA, 2019)
- Carbon tax will have a critical role in the detailed economic case for Hydrogen replacing oil and gas



The expansion of the energy market for FLOW could be achieved, in the first instance, by converting electricity to hydrogen to gain access to the heat and transport markets in Ireland that are four times the size of the electricity market

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NortH2: Dutch Energy Valley

- Enormous ambition and political will to become a hydrogen hub in north-west Europe
- Offshore wind, port logistics hubs and industrial clusters
- Feasibility study 2020 scaling to 800,000 tonnes of green H2 annually by 2040 from 10GW of offshore wind
- National Hydrogen Strategy vision and supports

GRONINGEN SEAPORTS

gasunie crossing borders in energy

provincie groningen

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Hydrogen Valley Vision

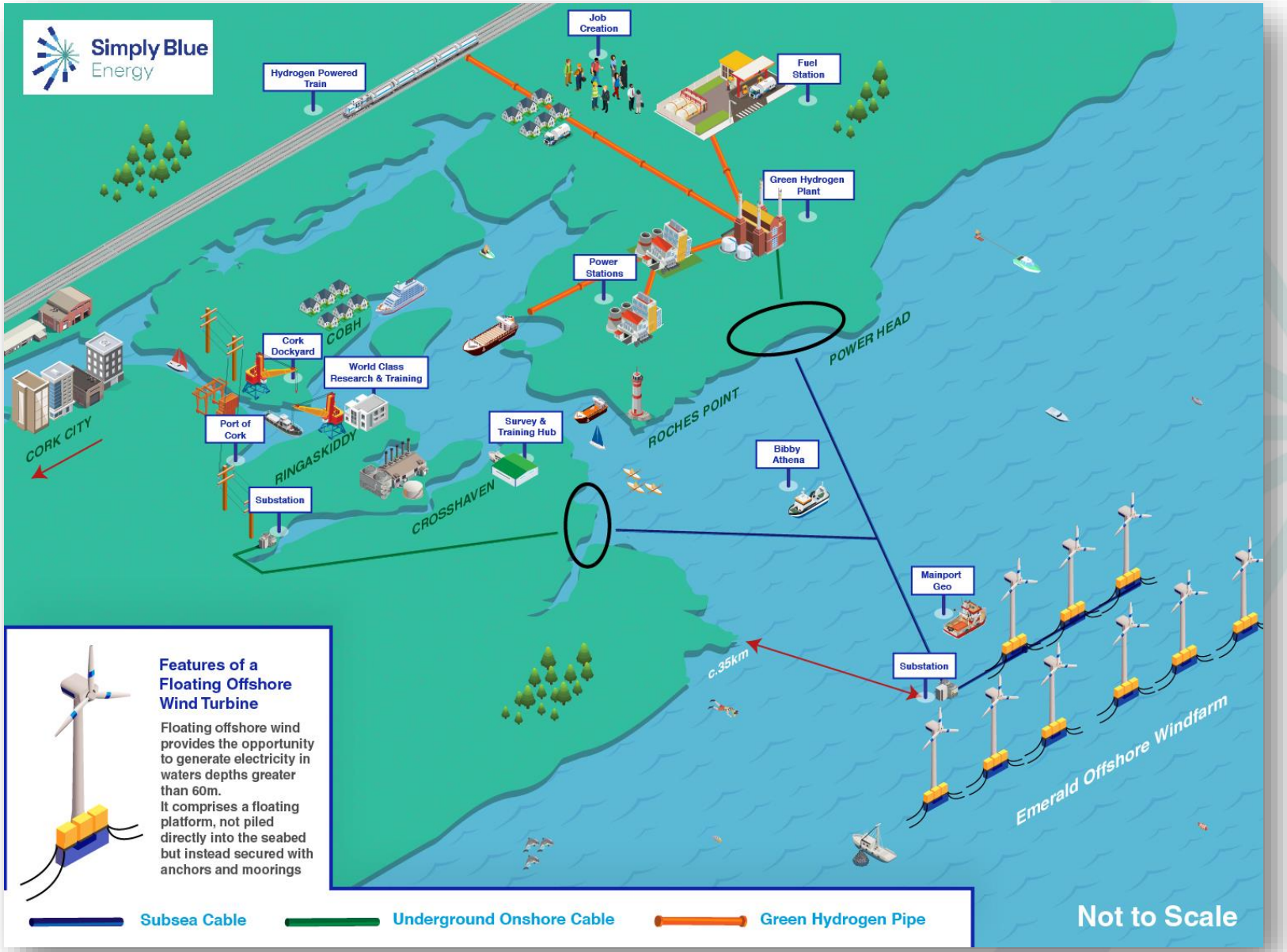
Min 9GW of offshore wind potential in the Irish part of the Celtic Sea (Eirwind, 2020)

Cork Harbour industry profile e.g. CCGT plants, oil refinery, chemical industry, maritime transport

Existing infrastructure e.g. gas network, port facilities

Collaboration is crucial to achieve a new vision for Energy Cork

- Government support and subsidies
- Industry innovation
- Civil society – Social Licence to Operate



Thank you

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