



# Challenges and Opportunities: Financing Wave and Tidal Energy

4<sup>th</sup> Ocean Energy Industry Forum

Barry O'Flynn

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# Ernst & Young: A leader in strategic and financial advice to the marine energy sector

This announcement appears as a matter of record only.

## Tidal Generation

Advising on the disposal of Tidal Generation Ltd to Alstom

Ernst & Young acted as financial advisors to Tidal Generation Ltd



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This announcement appears as a matter of record only.

## EMEC

### European Marine Energy Centre

Business planning services to Highlands and Islands Enterprise in relation to the creation of the EMEC centre on Orkneys

Ernst & Young acted as financial advisor.



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This announcement appears as a matter of record only.

## Wavegen

### Equity finance for Wave power technology provider

Advised Wavegen on a capital raising from Merrill Lynch

Ernst & Young acted as financial advisor to Wavegen.



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This announcement appears as a matter of record only.

## European utility

### Marine energy investment

Advice in relation to an investment in a marine energy company together with market intelligence report on the marine sector

Ernst & Young provided commercial advisory services.




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This announcement appears as a matter of record only. April 2010

## Wave Hub

Market assessment and commercial review of the UK wave energy market on behalf of South West Regional Development Agency

Ernst & Young provided commercial advisory services.



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## Review of financial support for UK wave and tidal developers

Detailed consultation and analysis to determine the level of financial support required by renewable energy marine developers in the UK to deliver investor returns

Ernst & Young appointed advisor to Department of Energy and Climate Change



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## Hydragrid

### Offshore transmission infrastructure

Strategic advice on the establishment of a sub sea cable infrastructure company

Ernst & Young provided commercial advisory services.



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## DTI-RO Banding

### Review of UK renewable obligation support mechanism

Detailed market consultation and analysis to assess costs and potential of renewables in the UK, through surveys of major renewables industry stakeholders

Ernst & Young provided commercial advisory services.



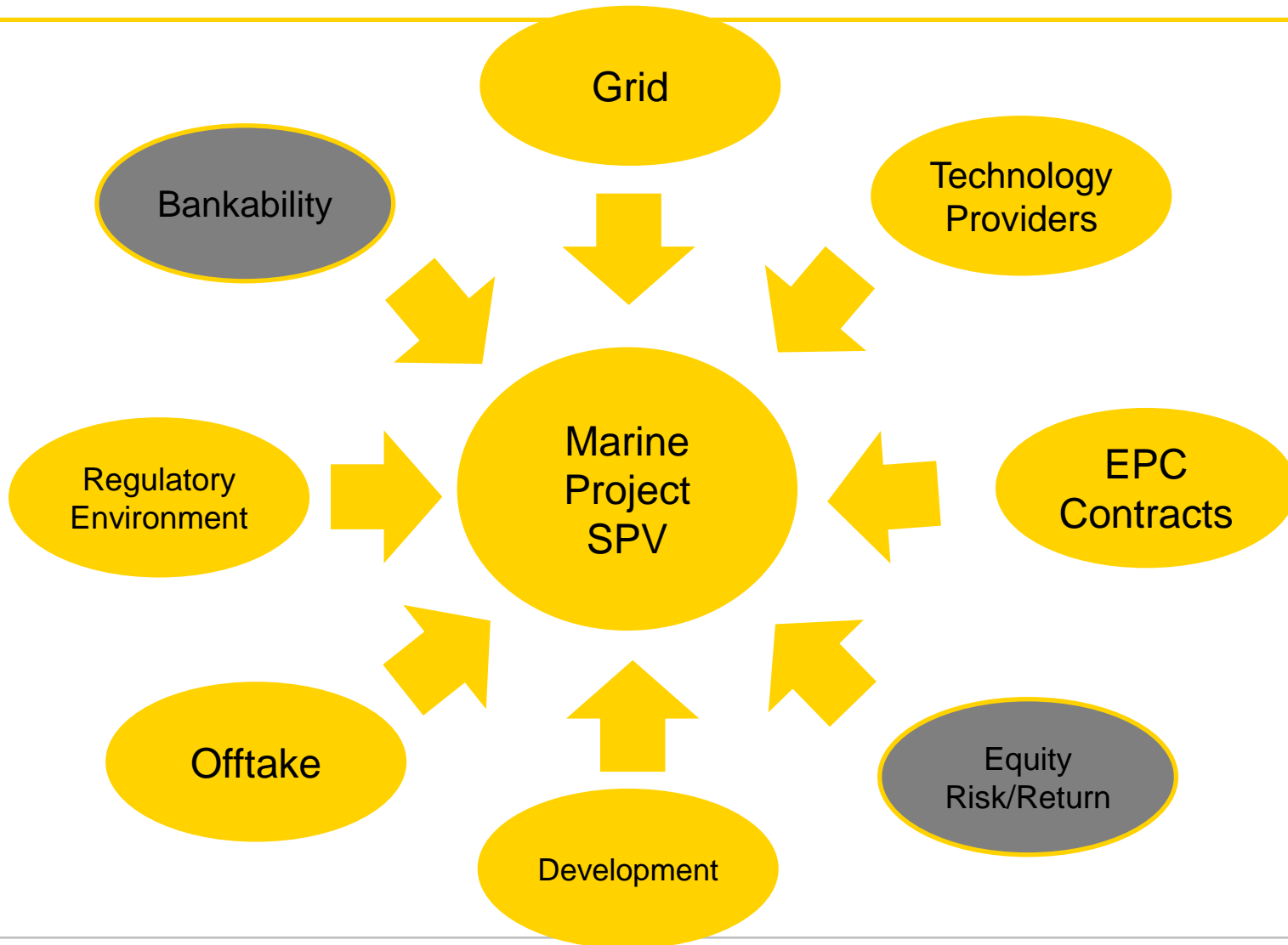
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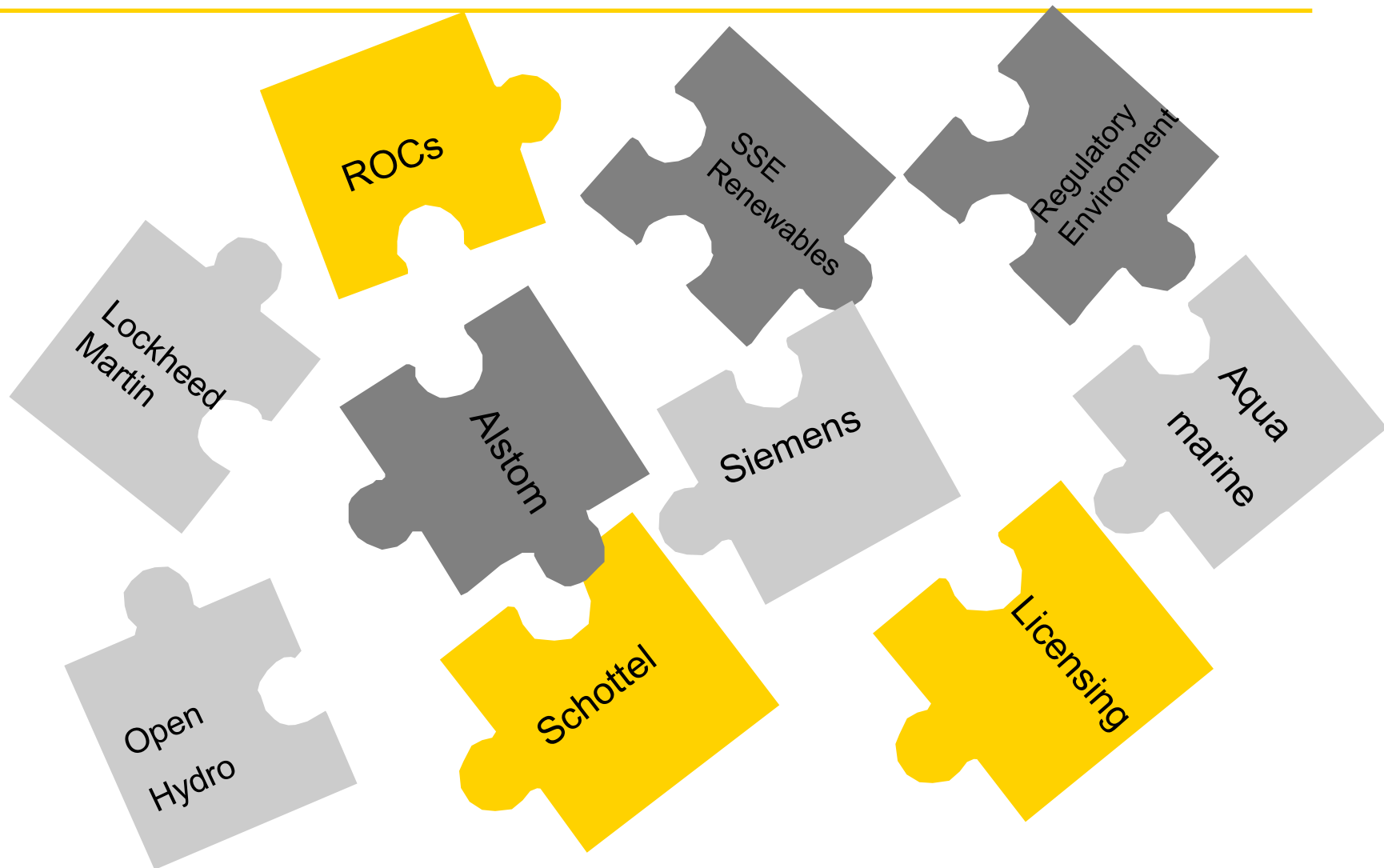
## Ernst & Young was the biggest winner at the 2012 Infrastructure Journal Awards, with a total of three awards:

- Financial Adviser of the Year - Renewables
- Financial Adviser of the Year - Power
- Adviser of the Year - Social Infrastructure

# What does success look like?

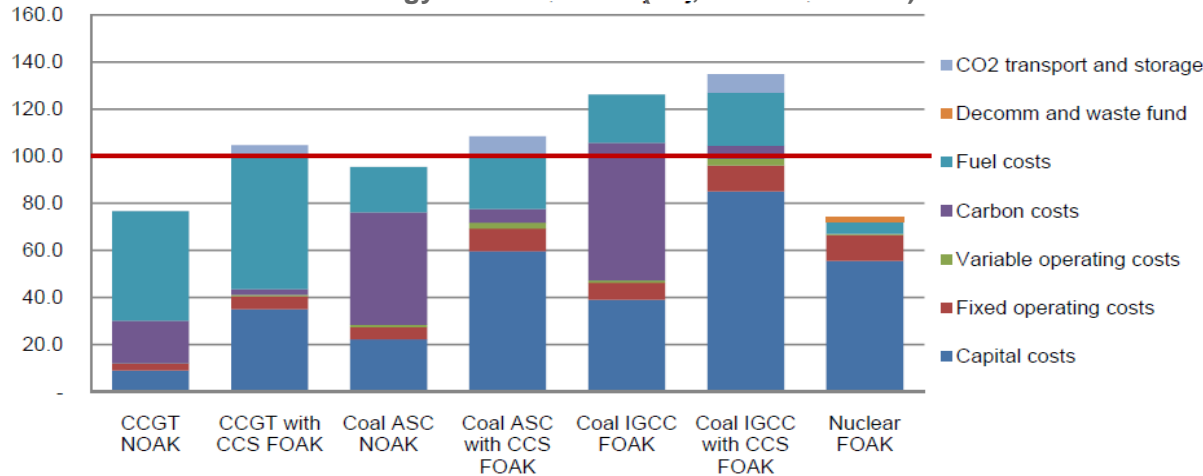


# The value chain is slowly coming together



# The fundamentals are key

Conventional Energy LCOE £/MWh (UK, PB Power 2011)



- Carbon plays a significant role in putting a cost on conventional energy, particularly coal

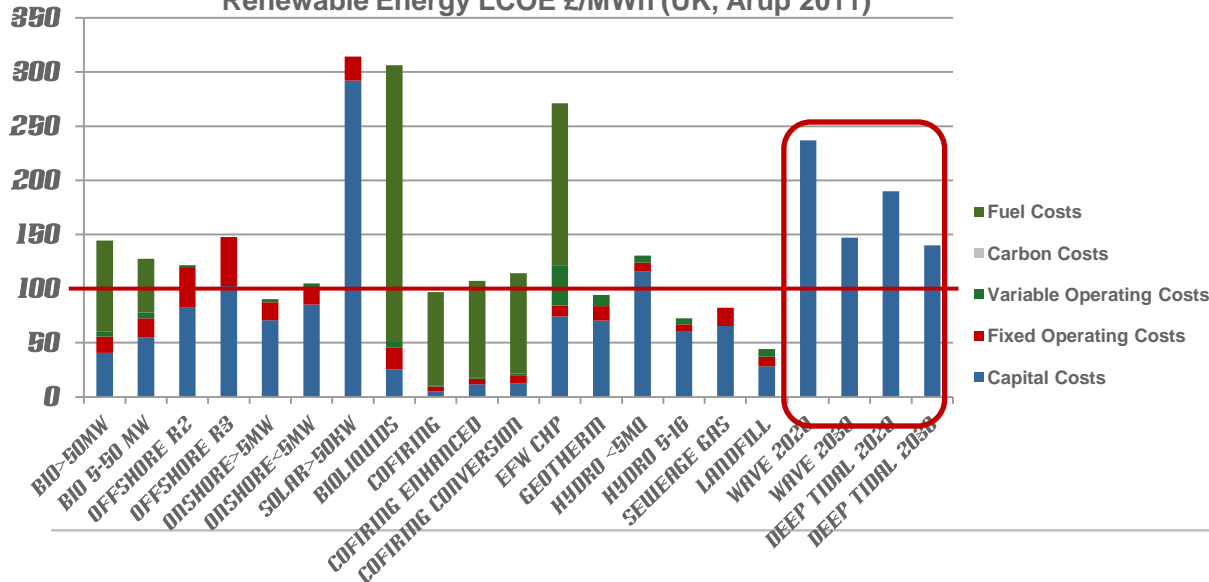
- Renewable energy costs are becoming increasingly competitive, particularly onshore wind, geothermal and biomass

- All play a role but the scale opportunity varies widely

- Offshore wind will pay a notable role in Europe, given the scale and potential

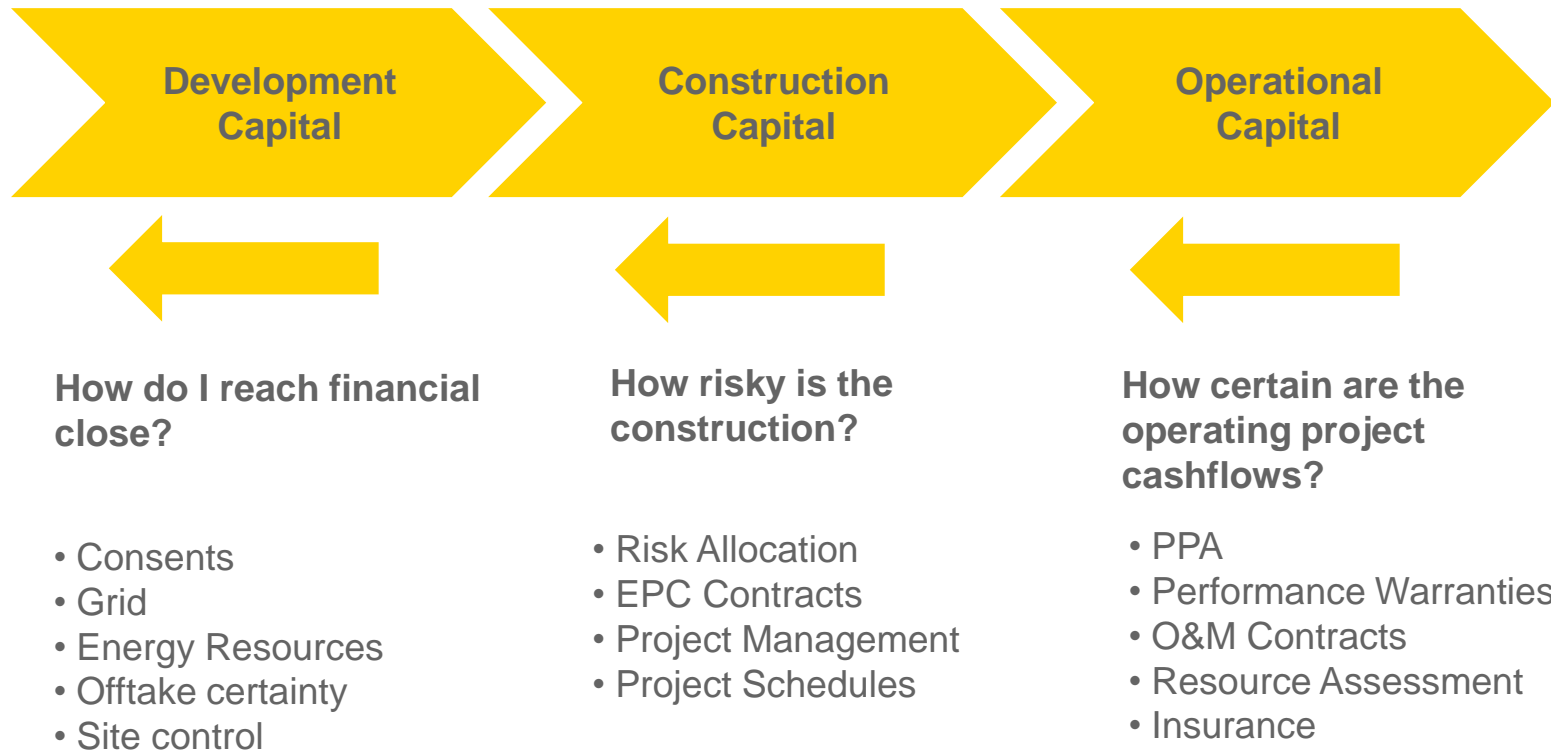
- Wave and tidal costs expected to drop rapidly

Renewable Energy LCOE £/MWh (UK, Arup 2011)



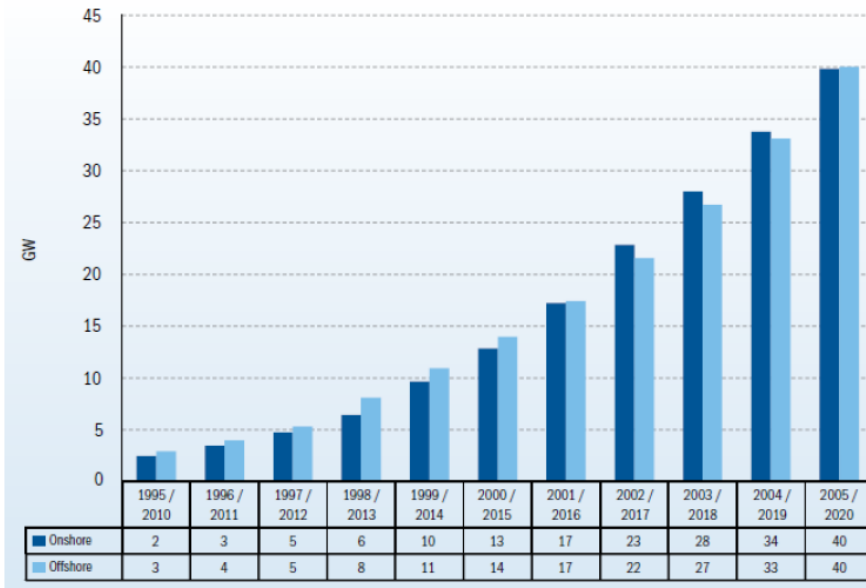
# Capital will always follow the opportunity

- Government Goal:** To have clean, secure and affordable electricity; economic development;
- Developer Goal:** To maximise returns by turning a project from greenfield to bankable and financially viable;
- Manufacturer Goal:** To produce an economically and technically viable device that others want;
- EPC Goal:** To maximise margins and minimise risk by installing and underwriting the right technology;
- Investor Goal:** To get the right returns for a given risk profile and over an appropriate time period;



# Deployment: initial stages

Historical onshore growth compared to EWEA offshore projection



*Ocean Energy: 2020 tipping point?*

- Offshore wind is following a similar trajectory to that of onshore wind 15 years previously
- Ocean energy is likely to pursue a similar path, about 7 years behind offshore wind
- Policy, capital and enterprise are the three pillars of growth.
- Rational expectations required by all
- The role of R&D and Government is critical (i.e. Denmark and Germany for wind and solar; Crown Estate; GIB)

# What is the message from the investment community?

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- The industry is still at a nascent stage but clusters of knowledge and capabilities are starting to form
- Governments play a key role to help get the industry off the ground, given the potential; offtake is key
- Large strategic investors are key but are wary of reputational and investment risk
- Perception and reality – this is a journey, not a quick win
- Capital needs are very significant with no clear exit for early investors
- Venture capital is moving away from pre-revenue businesses
- Investing in a proven technology provider with line of sight to deployment scale is a common theme
- Consolidation is likely to happen from either outside or within the sector; technology, infrastructure or service sharing;
- The UK is seen as the global leader in this sector







**Thank you**

**Barry O'Flynn**

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