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Energy

DeepWind Industry Presentation

May 2021

# Project Salamander Introduction





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## Project Contacts



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# Agenda

- Introduction to Salamander
- Introduction to the Technology
- Our Supply Chain Engagement



# Project Introduction

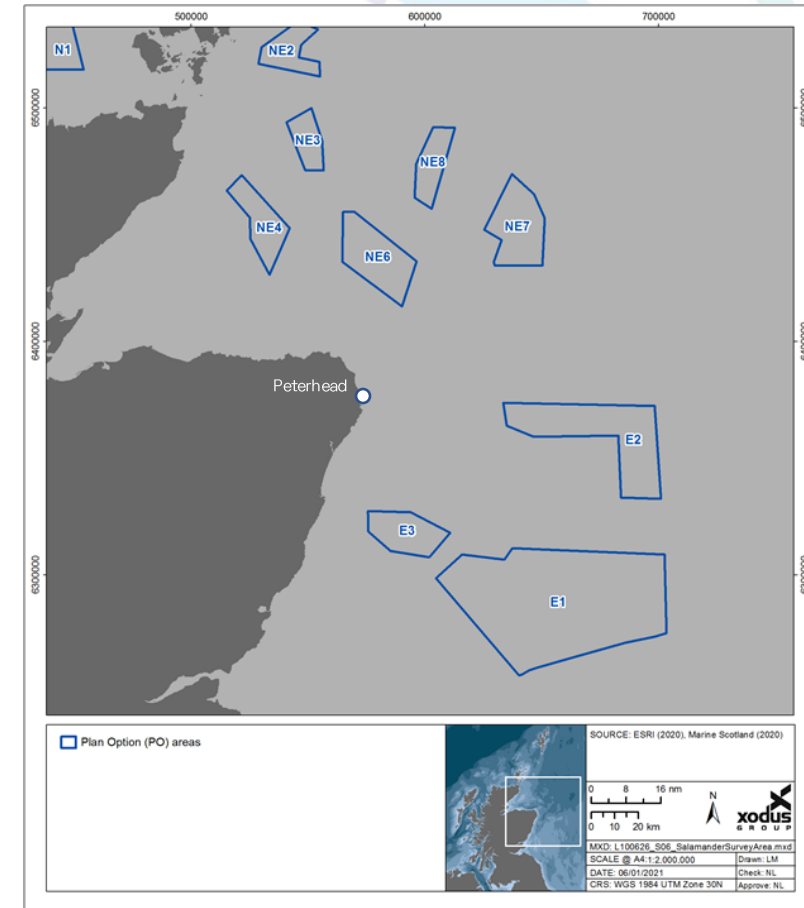


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# Project Salamander

## THE OVERVIEW

- + A 200MW pre-commercial '*stepping-stone*' offshore floating wind project in Scottish waters
- + Site 35km to the East of Peterhead
  - + Leasing outside of the ScotWind process
- + Developed by Simply Blue Energy Ltd. in partnership with Subsea 7 (and Xodus Group)
- + Project objectives focused on helping to achieve targets set by UK and Scottish Government
- + Novel floating foundation technology targeted at local content for Scotland and wider UK
- + Exploring all our potential routes to market
  - + CfD and Grid Connection
  - + Connection to large scale private customer
  - + Hydrogen production



# Project Salamander

## THE VISION

- + We want the project to be a catalyst for the Scottish and wider UK supply chain to enable future floating offshore wind local content
- + Currently a substantial gap in the UK floating wind pipeline between pilot schemes and upcoming commercial scale projects
- + A stepping stone project focuses on the reduction of new technology risks, achieve cost reductions and push the local supply chain forward
- + ‘Stepping-stone’ projects are essential to quantify the risk for investment and grow the UK supply chain to produce the necessary cost reductions
  - + Previous projects have not yielded the supply chain benefits to the UK



# Project Salamander & Government objectives

## UK & Scottish Government policies

### Net zero targets

- UK: net zero by 2050
- Scotland: net zero by 2045

### Floating wind development

- UK: 1 GW by 2030

### Offshore wind development

- UK: 40 GW by 2030
- Scotland: 11 GW by 2030

### Supply Chain local content desire

- ScotWind 25% of local supply chain development statement
- 60 % of local supply chain content by 2030
- Scotland: **“Scottish supply chain must be fully prepared, with the capability and capacity required to deliver floating offshore wind at commercial scale”\***

\* Scottish Government Offshore wind policy statement

## How SALAMANDER fits



20% of the UK  
floating wind target  
by 2030



Foundation pre-selected  
with very high potential for  
Scottish Content



Precommercial opportunity  
for supply chain to  
gear up



Decarbonisation  
through alternative  
routes to market

# Our Supply Chain Approach

## THE FUNDAMENTALS OF SALAMANDER

- + The purpose of a 'stepping-stone' project is to act as a platform and catalyst for technology and supply chain development before fully commercial projects
- + To achieve the full potential for local content within ScotWind projects, the supply chain must gear up now
  - + The supply chain needs the pipeline to make these commitments
  - + There must therefore be projects in the water pre-2030
- + We are fully committed to our supply chain goals and are putting things in place now to help us succeed
  - + Pre-selection of technology well suited to Scottish supply chain [more to follow]
  - + Extensive and early engagement with the supply chain [why we are here today]
  - + Early collaboration in the design process [opportunity for supply chain to help us optimise]



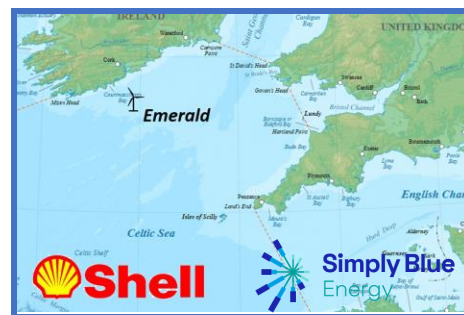
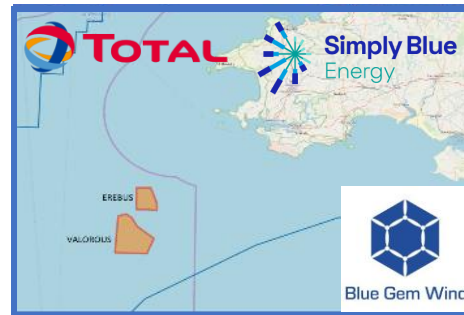


# Salamander Partnership



## A BLUE ECONOMY PROJECT DEVELOPER

- + A leading early stage developer of transformative and sustainable floating wind, wave energy and aquaculture projects in Ireland and the UK
- + Architects of the stepping stone concept for floating wind
- + Blue Gem Wind JV between SBE and Total developing two stepping stone projects in the Celtic Sea:
  - + Erebus (96MW)
  - + Valorous (300MW)
- + Emerald project portfolio in Ireland developed as a JV between Simply Blue Energy and Shell
  - + Phase 1 (300MW)
  - + Total final capacity (1GW)



## subsea 7

### LEADING EPCI CONTRACTOR IN OFFSHORE WIND

- + Subsea 7 is a global leader in the delivery of offshore projects and services for the evolving energy industry
- + Extensive track record in Scotland including Beatrice and Seagreen bottom fixed offshore wind projects



### EXPERTS WITH ENERGY

- + Leading project development activities
- + Xodus Group is one of the world's leading offshore energy consultancies providing technical, environmental and engineering support to a wide range of clients within the oil and gas, offshore wind. Including being involved with Beatrice Offshore Wind Farm, Moray East and West and Hywind Scotland

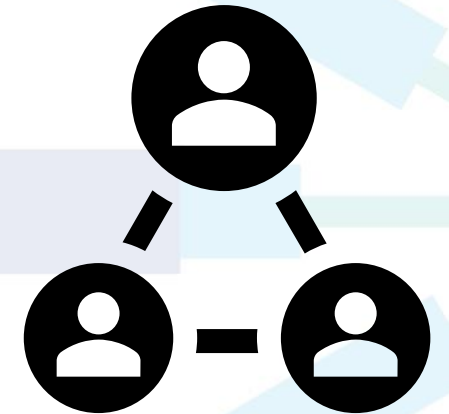
# Leasing Route & Routes to market

## HOW WILL WE SECURE OUR LEASE

- + The project is leasing outside of the current ScotWind leasing process
- + As per the Scottish Governments Sectoral Marine Plan for Offshore Wind Energy Innovation decarbonisation projects are limited to:
  - + 100MW for innovative projects
  - + Larger than 100MW related to decarbonisation of the oil and gas sector
- + We are currently planning for a Marine Scotland and Crown Estate Scotland leasing process later this year
  - + Subject to details to be announced by MS and CES

## ALTERNATIVE ROUTES TO MARKET

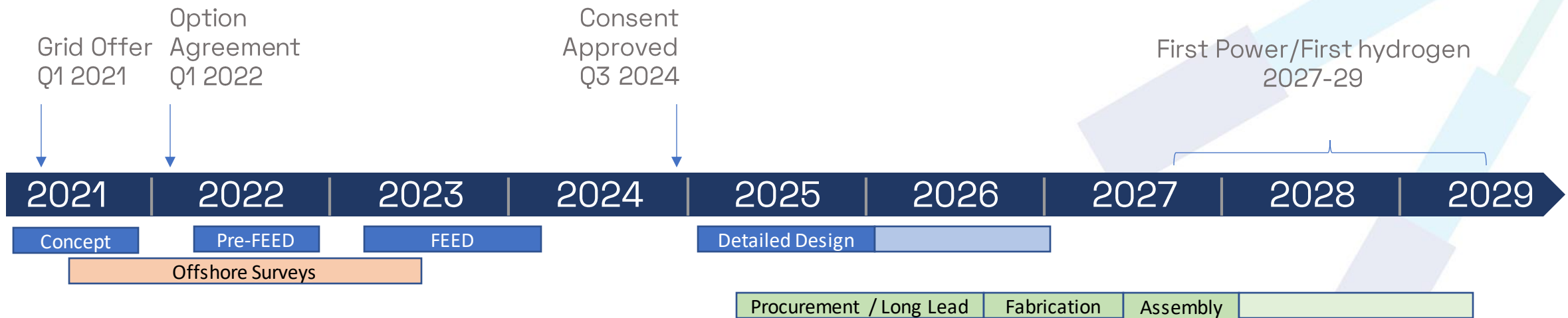
- Project currently investigating different routes to market
- Production of hydrogen (offshore/onshore) could potentially be interesting given the location of the site and the proximity to St Fergus Gas terminal
- Project currently investigating different hydrogen production options as well as liaising with potential off takers



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# Project Timeline

- + We are currently expecting to be able to secure an option agreement in Q1 2022
- + Project planning will then progress to consenting with approval in Q3 2024
- + One of the project routes to market includes connection to the national grid
  - + If we choose to take this route to market our grid offer has connection in 2029
- + The project is actively progressing with alternative routes to market
  - + Should a grid connection not be necessary the project will look to accelerate timelines, with installation anytime after 2027 possible



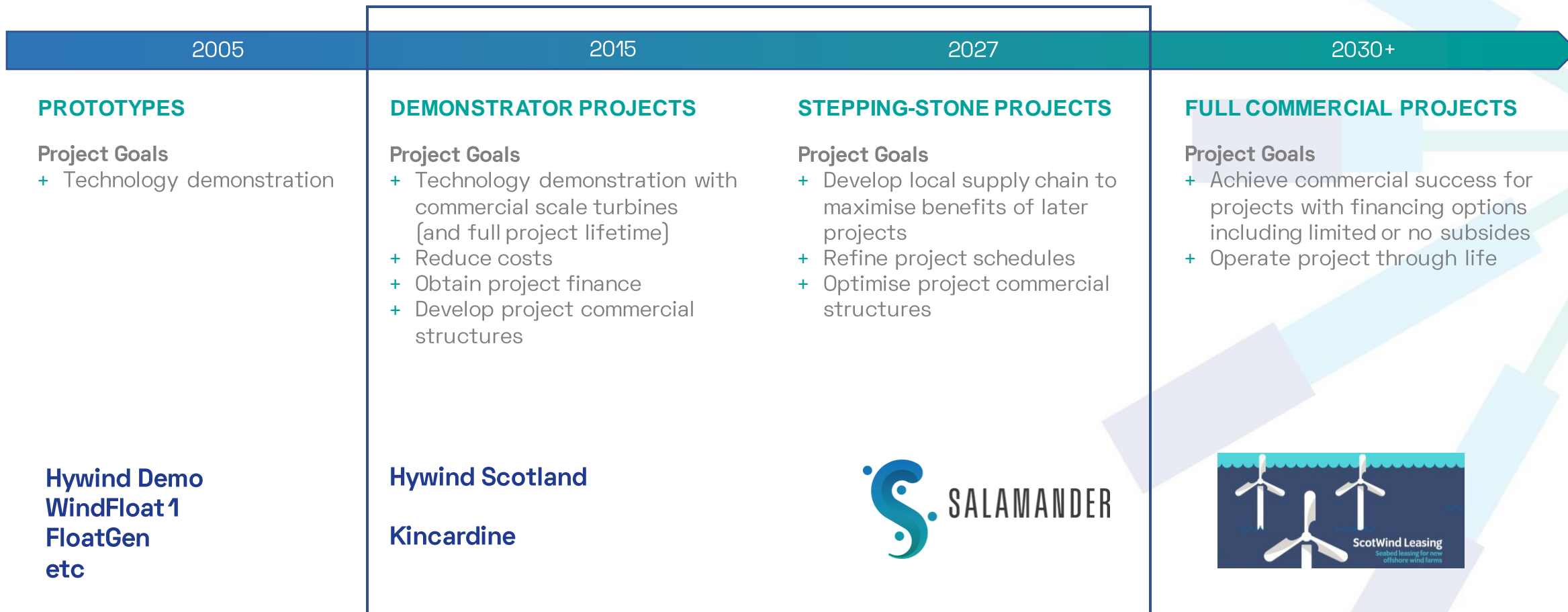


**Technology**



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# Technology Development



# Emerging Foundation Concepts

- + Newer / more novel floating foundation concepts are mostly targeted at industrialisation of fabrication / assembly

## KEY DESIGN THEMES

- + Manufacturability / Factory type fabrication
  - + Installation practicalities
- + Easier fabrication and assembly will reduce cost
- + Modularity in fabrication and assembly makes these concepts more suited to high local content within Scotland
- + These newer concepts are likely to be the cornerstones of future commercial deployment of floating wind

PROS



CONS

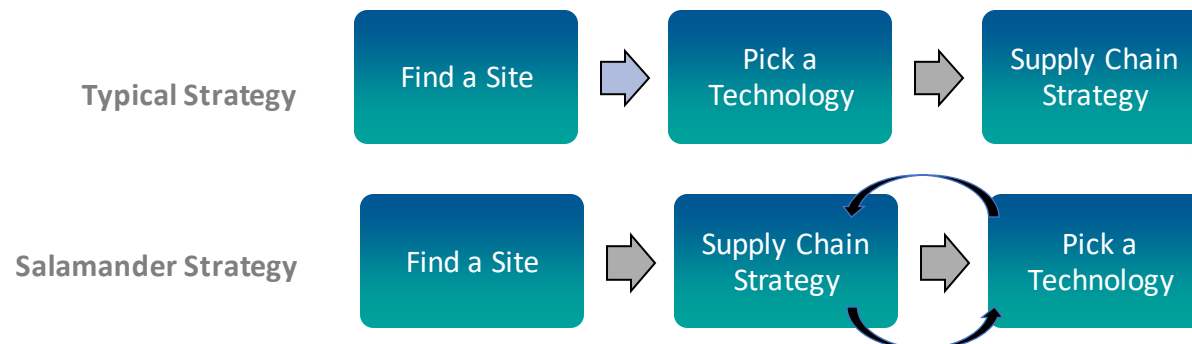
**MASS MANUFACTURE**  
**MAXIMISE LOCAL CONTENT**  
**LONG TERM COMMERCIAL VIABILITY**  
**EASE OF INSTALLATION**  
**REDUCTION IN PROJECT COST**

**TRACK RECORD**

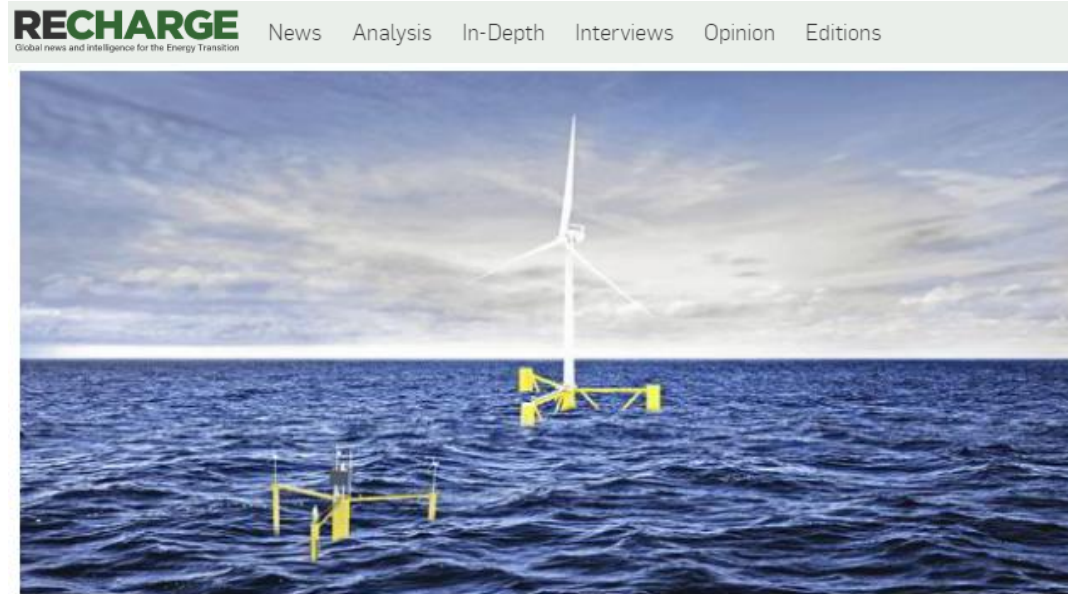


# Foundation technology in Salamander Project

- + The purpose of a pre-liminary selection and communicating this to the market is so that we can more readily engage with suppliers
- + Technology selection process turned on its head
- + Initial high-level review of the Scottish and UK supply chain to determine capability to manufacture floating foundations
  - + Highlighted the need for a highly modular design
  - + Extensive experience of steel fabrication and assembly from shipbuilding, O&G and bottom-fixed renewables
- + Given project timelines and project characteristics a semi-submersible was identified as the most preferable technology for the project
- + Market review and qualification process undertaken with multiple concept designers
- + Preliminary choice of foundation designer mainly influenced by potential for long-term benefit to the Scottish supply chain

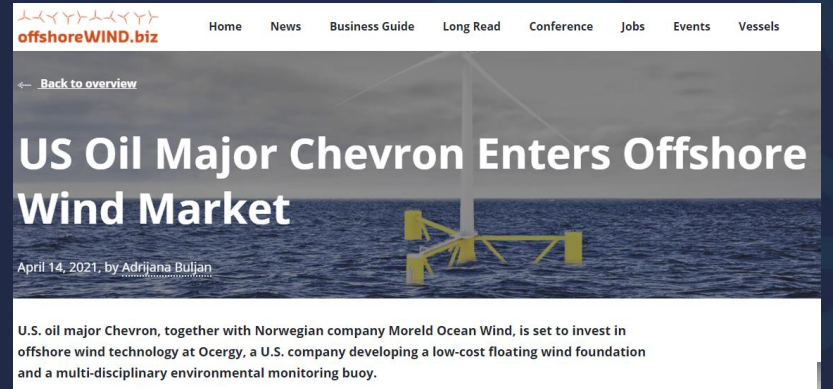


# Our preliminary selection



## Local hero: Chevron-backed floating wind platform 'could be made in Scotland'

Developer signs MoU with Ocergy over technology that is claimed to offer huge benefits to localisation effort







# Ocergy Inc.



*MORELD*

- + Concept publicly announced in April 2021
  - + Funded by Moreld Ocean Wind and Chevron Technology Ventures
  - + Prototype planned within the Mayflower project (US)
- + Designed by the ex. Principle Power WindFloat inventors
- + Industrialised steel semi-submersible concept
- + Major innovations to:
  - + Enable commercial deployment
    - + Low weight
  - + Increase local content
    - + Modular, easy to fabricate – access of facilities not capable of full construction
  - + Open up more port opportunities
    - + Low draft requirement

## OCG-Wind



**+30%**  
Lighter  
structure

**DOUBLES**  
Accessibility to  
Scottish ports

**COMMERCIAL**  
scale  
fabrication  
processes



# Our Supply Chain Engagement



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# Why is Salamander different to previous offshore wind projects?

## SALAMANDER PROJECT



- + Early supply chain engagement in order to:
  - + Understand capabilities very early on and ensure suitability
  - + Develop a collaboration relationship with real input into the design and process development
- + Preliminary selection of foundation technology early in project development process to help maximise Scottish content
  - + Purpose to communicate with supply chain with realistic project details
  - + Foundation selected with high potential for local content
  - + Priority for Salamander to have assembly and integration within Scotland

Potential for high local content

## PREVIOUS OFFSHORE WIND PROJECTS

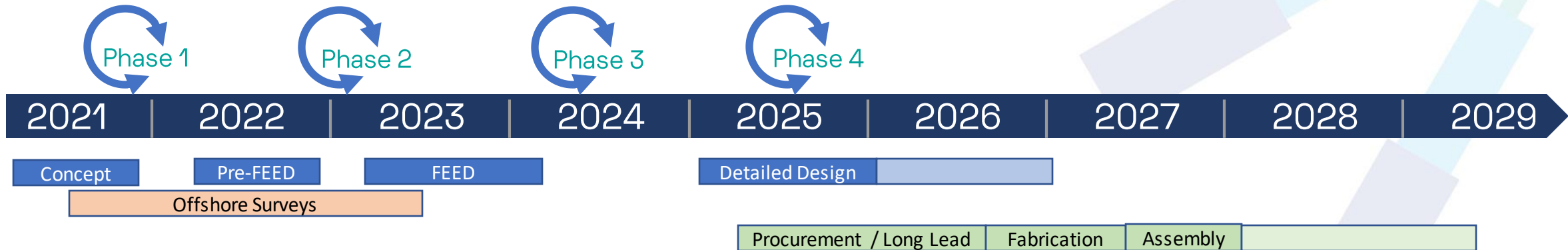
- + Most projects only engage with the supply chain when they are close to FID – at this time design is finalised and there is very little room for change to suit local supply chain
- + Often projects select a foundation without taking into account the capabilities of the supply chain

Low local content – most of the construction and assembly contracts carried out abroad

# Engagement with the Supply Chain

## THE PLAN

- + We want to utilise the benefits of the current supply chain clusters (including DeepWind)
- + We have planned phased approach to our engagement with the supply chain
- + At each phase along the project development the project definition becomes clearer (after concept design, Pre-FEED, FEED etc)
  - + This will allow us to share more information with the supply chain
  - + But equally means that some options have been already ruled out
- + In Phase 1 (Q2 2021) we plan to issue three separate RFIs to the UK supply chain to describe the projects likely requirements so that suppliers can engage more readily with the opportunity for them



# Request for Information (Assembly/Marshalling)

## MARSHALLING / ASSEMBLY

- + One of the primary features of the OCG-Wind foundation is the ability to assemble the units in a timely fashion
- + The project is aiming for assembly taking place in a Scottish port facility
- + The RFI document details:
  - + The assembly process
  - + The size and mass of the components
  - + Required equipment
  - + Timelines for completion
  - + Facility requirements (lay down areas, quayside draft etc)



Photo courtesy of Principle Power. Artist: DOCK90

Issued April 2021

# Request for Information (Fabrication)

## FOUNDATION FABRICATION

- + The modularity of the foundation concept and clever process design allows for the fabrication of the foundation to be split amongst several facilities
- + The project is aiming to maximise the fabrication scopes for Scotland and the UK
- + The RFI document details:
  - + The distributed fabrication process
  - + The component design details
  - + Fabrication requirements / standards
  - + Timelines for completion



Issuing May 2021

# Request for Information (Engineering Procurement)

## OTHER ENGINEERING PROCUREMENT

- + Outside of the big ticket items currently considered the engineering design will progress across a number of fronts in the coming year
- + There are various other engineering aspects and services that the project will need to procure
- + This will include:
  - + Design services
  - + Mooring / Anchor systems
  - + Cabling
  - + Onshore construction
  - + Offshore services
  - + Equipment
  - + And many more



Issuing Summer 2021

To be issued by DeepWind to all FOW subgroup supply chain members

# How you can engage with us

## REGISTER AS A POTENTIAL SUPPLIER

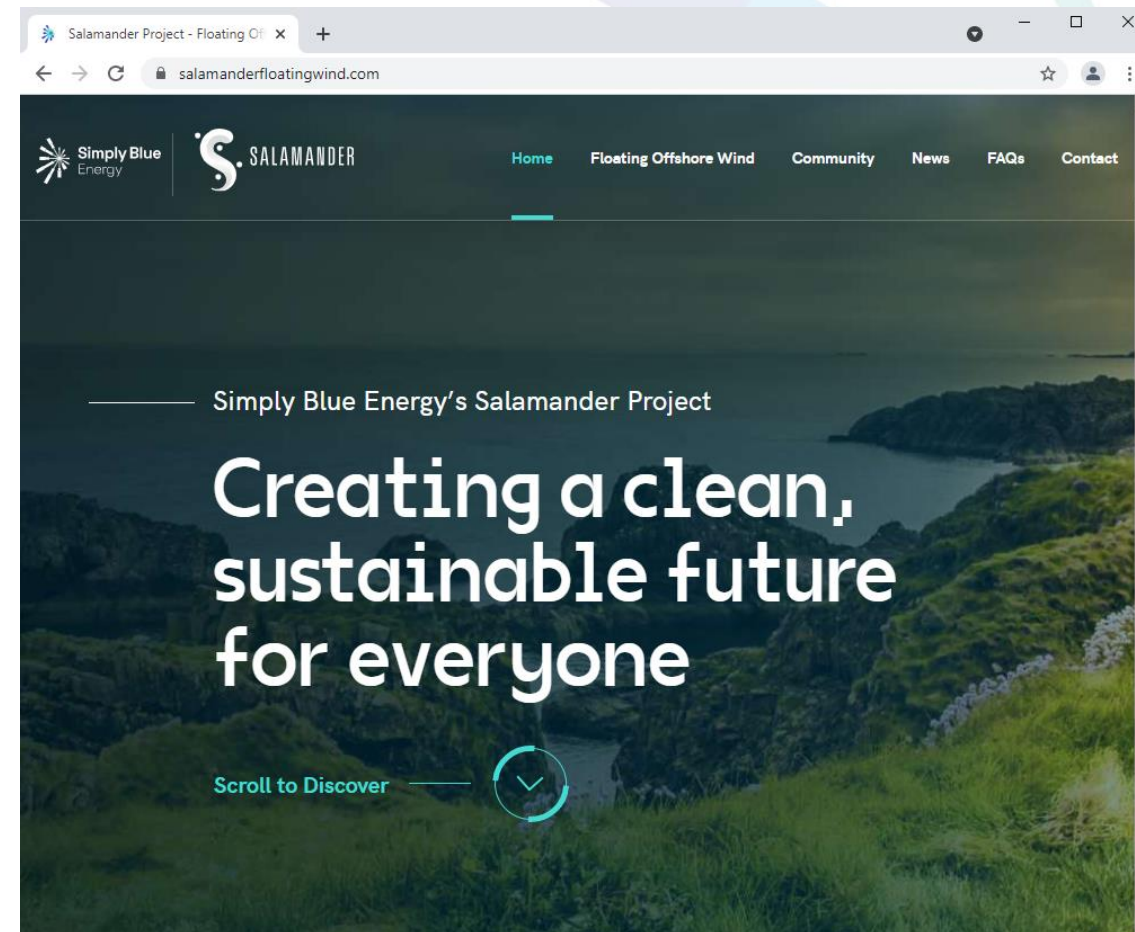
- + Our primary mean of registering potential suppliers is through the database on our website  
[www.salamanderfloatingwind.com/contact/become-a-supplier/](http://www.salamanderfloatingwind.com/contact/become-a-supplier/)
- + Please be as specific as possible about your capabilities and where it fits within the project

## THROUGH DEEPWIND

- + Look out for updates, RFIs and other engagement distributed by DeepWind

## DIRECTLY THROUGH EMAIL

- + [salamanderwind@simplyblueenergy.com](mailto:salamanderwind@simplyblueenergy.com)







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## Questions / Enquiries



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