Project Organisation

- BOWL is a 50:25:25 Joint venture between SSE Renewables Limited (SSE), Repsol SA (Repsol) and Copenhagen Infrastructure Partners (CIP).
- The project is set up as an unincorporated joint venture, with 2 special purpose vehicles (SPVs) and an operating company (OpCo), BOWL. The project is governed by a Shareholder Agreement.
Beatrice Windfarm Overview

### Beatrice Offshore Wind Farm

- **Site Area**: ~131.5 km²
- **Distance from Shore**: 13.5 km from Caithness at closest point
- **Water Depth**: 35m - 65m
- **Grid Connection**: Blackhillock (Near Keith) - 2018

### Key Facts

<table>
<thead>
<tr>
<th>Key Facts</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>STW Leasing Round Award</strong></td>
<td>February 2009 – STW</td>
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<tr>
<td><strong>Joint Venture Structure</strong></td>
<td>SSE – 50%, Repsol – 25% CIP - 25%</td>
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<td><strong>Site Area</strong></td>
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<td><strong>Offshore Planning Application submitted</strong></td>
<td>April 2012 up to 277 turbines depending on size</td>
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<td><strong>Onshore Planning Application submitted</strong></td>
<td>October 2012 – Application for Planning Permission in Principle</td>
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<td><strong>Delivery Model</strong></td>
<td>3 EPCI Contracts</td>
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</table>
Concept Statement

The selected concept is a 588MW wind farm comprising 84 SWT 7.0 MW turbines on pre-piled jacket substructures. The power will be collected on two Offshore transmission modules, via 33kV array cables and associated equipment.

Power will be transformed to 220kV on the OTM’s and will be exported to the onshore substation using 2 circuits. At the onshore substation, the power is stepped up to 400kV and connected to the transmission network.

The wind farm will be controlled and operated from a base at Wick, with access to the wind farm primarily by Crew Transfer Vessel.
Project Programme Summary

Project Plan Summary Slide

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Consents / Licences / Geotechnical Campaigns

Consents
• Generation Licence – August 2012
• Section 36 – March 2014
• Marine Licence – Generation Assets – August 2014
• Marine Licence – Offshore Transmission Works – August 2014
• Onshore Planning Permission in Principle – October 2012
• Onshore Detailed Planning Permission – Q3/Q4 2015

Geotechnical Campaigns
• 2013 Offshore Campaign - 34 Boreholes - Completed
• Nearshore Campaign - 7 Boreholes - Completed
• 2015 Offshore Campaign - 58 Boreholes - Ongoing
• 2015 Outer Wick Harbour – Boreholes – Completed
Offshore Cable Route / Wick Operations Base

- Agreement for Lease in place with The Crown Estate (TCE) for the export cable route.
  - AfL converted to a Lease at FID.

- Memorandum of Understanding signed with Wick Harbour Authority for the quayside land and harbour area required for the Operations & Maintenance Base for the wind farm

- O&M Base Design & Build Tender Issued.
- Build Contract Award expected at FID.
Main Contractors – Three EPCI Contracts

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<th>Installation</th>
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<td><strong>Foundations</strong></td>
<td>Seaway Heavy</td>
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<td>Lifting</td>
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<td><strong>Array cables</strong></td>
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<td><strong>Electrical System offshore (OTM)</strong></td>
<td>Siemens</td>
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<td>Distribution Ltd</td>
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<td><strong>Electrical system onshore</strong></td>
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<td><strong>Export cable</strong></td>
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Seaway Heavy Lift – Installation Package

Execution is split into the following areas:

• Foundation Design (Completed by Atkins during FEED)
• Fabrication of Steel Jackets & Piles
• Jacket & Pile Transport & Installation (SHL Barges)
• Array Cable Design & Procurement (TBC)
• Array Cable Installation (Third Party)
• Marine Construction Support
• Vessels - Stanislav Yudin
Seaway Heavy Lift – Installation Package

Execution runs from Q2 2016 until Q4 2019

• Jacket and Piles Fabrication – 2016 & 2017
  - Up to 336 Piles and 84 Steel Jackets
• Jacket & Piles Installation - 2017 & 2018

• Array Cables Installation – 2018
  - 33kV 13 Strings of 6 No WTG and 1 String of 5 No WTG
  - 165 km of Cables, 180 - Pull In’s, Depth of trench to be 1.0m
Siemens Wind - Turbine Package

Scope Summary
• Supply of up to 84 x Siemens 7MW Wind Turbines
• North Eastern Logistics Base to be confirmed (for WTG Storage)
• Logistics base to be managed by BOWL and SWP

Service Phase
• Potential Supply of Service technicians to maintain WTG
• Supply of spare parts / labour / repair services as required throughout lifetime of the wind farm dependent on BOWL / Siemens Service agreement.
Services Required – Site Construction Phase

- Logistics / transport Suppliers
- Safety &EHS Equipment
- Spare Parts
- Consumables
- Crew transfer Vessels (CTV)
- Helicopter service operation
- Port Services
- Accommodation for staff
- Construction support Services – i.e. Site Cabins / Generators / fuel Suppliers etc
Services Required – Service Operations Phase

- Logistics / transport Suppliers
- Safety &EHS Equipment
- Crew transfer Vessels (CTV)
- Helicopter service operation
- Port Services / Airport Services
- Accommodation for staff
- Spare Parts
- Consumables
- Service Tools
Siemens Energy Management (STDL)

- Design, Supply and Install onshore Export Cable ~ 20km
  - Onshore Geophysics & Geotechnical Assessment
  - Develop HDD Solution for the export cable

- Design, Supply and Install onshore Substation at Blackhillock

- Design, Supply, Lay and Trench 2 Offshore Export Cables ~60km

- Design and Supply of the Offshore Transmission Module
- Package support activities will include - grid consultancy, consent discharge, ground model, stakeholder engagement, liaison with other maritime users etc.
Next Steps

2015 – Progress and conclude Front End Engineering Design
   Concept Refinement & Secure Project Financing in the debt finance market
   Agree Execution contracts
   Build awareness and encourage use of O4B portal with Main contractors to maximise local content

2016 – January - Final investment Decision
   Onshore Construction Commencement thereafter – site excavation and Pre engineering
   Commence construction of O&M Base at Wick

2017 – Offshore Construction Commencement

2018 – First Generation

2019 – Full Generation
Questions

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