Beatrice Offshore Wind Farm

Pre-Application Consultation Report

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April 2012

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1 INTRODUCTION

1. In February 2009 the partnership of SSE Renewables (75%) and Repsol Nuevas Energias UK [1)] (25%) was awarded exclusivity by The Crown Estate to develop the Beatrice Offshore Wind Farm in Scottish territorial waters, off the Caithness coastline. This joint venture partnership is known as 'Beatrice Offshore Windfarm Limited' (BOWL). The Beatrice Offshore Wind Farm Project (hereafter referred to as the Project) site is centred and located approximately 25 km south south-east of Wick, Caithness as shown in Figure 1. The wind farm site boundary is, at its closest point, 13.5 km from the coastline. The site is approximately 19 km in length and 9 km in width. The offshore export transmission cable will run from the wind farm site to the landfall at Portgordon, Moray.

2. The following consent applications are being sought for the Beatrice Offshore Wind Farm:

   - One Section 36 application under the Electricity Act 1989;
   - One Section 36A application under the Electricity Act 1989; and
   - Two Marine Licence applications under the Marine (Scotland) Act 2010.

3. The overall purpose of this Pre-Application Consultation (PAC) report is to provide an overview of the pre-application consultation activities and to outline the way in which comments and concerns raised by the community have been addressed and where the Project has been modified in response to these concerns.

4. A separate planning application will be submitted by BOWL to Moray Council under Section 35(B) of the Town and Country Planning (Scotland) Act 1997 for the onshore transmission works. This application will be subject to a separate, ongoing, consultation process. This Pre-Application Consultation Report relates solely to the wind farm and offshore transmission works elements of the Project.

2 LEGISLATIVE FRAMEWORK

5. Under Section 36 of the Electricity Act 1989 (hereafter referred to as Section 36) consent is required for the construction, extension or operation of a generating station with a generating capacity above 1MW located in UK territorial waters (offshore). The proposed development of the offshore wind turbines and substations will be covered by consent under Section 36 of the Electricity Act 1989. Determination of Section 36 consent falls under the remit of Marine Scotland - Licensing Operations Team (MS-LOT).

6. For development within the Scottish Territorial Waters (0-12 nautical miles) consent will be issued by MS-LOT under the Marine (Scotland) Act 2010. A Marine Licence is required for any licensable activity which includes depositing in the sea or on or under the seabed a vehicle, vessel, aircraft or marine structure. The Marine Licensing regime came into force in April 2011 and is hence applicable to the Beatrice Offshore Wind Farm and associated infrastructure.

(1) Formerly SeaEnergy Renewables Limited

7. There is no requirement for the submission of a Pre Application Consultation (PAC) Report under this consenting regime however this has been prepared by BOWL as best practice and to provide a central point of reference for the consultation activities undertaken during the application process.

3 CONSULTATION AND COMMUNITY ENGAGEMENT ACTIVITIES

8. BOWL is committed to consultation, including engaging with the local community, and considers it an important part of the consenting process. As a part of the consent application BOWL has undertaken an Environmental Impact Assessment (EIA) of the proposed development the findings of which are presented in an Environmental Statement (ES) which forms part of the application. As part of the EIA process BOWL has consulted with all relevant statutory and non-statutory parties for further information and guidance on the methods and findings of the assessment. Information regarding the consultees is provided in Section 5 of the ES (Consultation).

3.1 SCOPING

9. A scoping exercise was undertaken at the outset of the Project in order to introduce the Project to statutory and non-statutory consultees and to gain feedback on the proposed methods to be used in the EIA.

10. A Scoping Report for the Beatrice Offshore Wind Farm Project was submitted to MS-LOT in March 2010 to request a formal Scoping Opinion. A Scoping report for the transmission works elements of the Project was submitted to MS-LOT in May 2011. A full list of the consultees, both statutory and non-statutory to whom these were distributed is provided in Appendix 1.

11. Scoping responses were received from Marine Scotland and consultees. Further discussions with consultees were undertaken throughout the development of the consent applications in order to keep consultees informed and to obtain their feedback throughout the EIA process. Specific issues discussed with consultees are detailed within the ES which accompanies the application.

12. Copies of the Scoping reports were made available on the BOWL website for the public to view.

3.2 PUBLIC EXHIBITIONS

13. Several public exhibitions have been held throughout the consent application preparation process to ensure the public remain informed of the Project and the progress of the application. This has been the primary means of consultation with the public.

14. Additionally, the exhibitions provided a forum for the public to voice their opinions, ask questions or raise any concerns with the Project team. Where possible, the views of the public were taken in to consideration in the assessment and design process.

15. The following members of the BOWL team were present at the exhibitions:

- BOWL Consenting and Development Team representatives;
- BOWL Engineering Team representatives;
- Consultant EIA Coordinator;
- BOWL Communications Manager; and
- BOWL Commercial representative.

16. This allowed the local community to engage in face to face discussions with BOWL and the independent environmental Consultants responsible for coordinating the EIA.

17. The first round of public exhibitions were held in August and September 2010 for the wind farm and in July 2011 for the transmission works. These exhibitions provided a background to the Project including the location, key components and the planned approach to the EIA. Members of the public were given the opportunity to comment on the initial proposals and the design options. Table 1 and Table 2 below provide details of the locations, venues, dates and timings of these exhibitions as well as the number of attendees. The timings were arranged to allow interested parties to attend the exhibitions outside working hours.

18. Copies of the boards displayed at the exhibitions are contained in Appendix 2 - Appendix 4. The boards presented information on BOWL, policy and legislation, environmental assessments, timelines and the construction process. A4 tri-fold leaflets were produced for each of the sets of the exhibitions, this allowed members of the public to pass information on the Project to family and friends who were not able to attend the exhibitions in person. The leaflets summarised the display boards and provided contact details for correspondence with the Project team and were updated for each set of exhibitions. Copies of these leaflets are provided in Appendix 5 - Appendix 7.

Table 1: Public Exhibitions for Wind Farm August / September 2010

Location	Venue	Date	Time	Attendees
Wick	Mackay's Hotel	31st August 2010	12.00 – 20.00	approx. 280 across all exhibitions
Helmsdale	Community Centre	1st September 2010	12.00 – 20.00	
Brora	Royal Marine Hotel	2nd September 2010	12.00 – 20.00	
Tain	Royal Hotel	3rd September 2010	12.00 – 20.00	
Inverness	Eastgate Shopping Centre	7th September 2010	09.00 – 18.00	
Fraserburgh	Leisure Centre	15th September 2010	12.00 – 20.00	
Elgin	St Giles Shopping Centre	16th September 2010	09.00 – 17.30	

Table 2: Public Exhibitions for Transmission Works July 2011

Location	Venue	Date	Time	Attendees
Buckie	Town House	5th July 2011	15.00 – 19.00	approx. 38 across both exhibitions
Keith[2]	Longmore Hall	6th July 2011	15.00 – 19.00	

2 The July 2011 exhibitions also covered the onshore transmission works, therefore an exhibition was held in Keith, the closest settlement to the proposed convertor station / substation location

19. It should be noted that some of the 2010 wind farm exhibitions were undertaken in conjunction with the neighbouring Moray Offshore Round 3 Zone Project, being developed by Moray Offshore Renewables Ltd (MORL). This joint strategy was adopted to make it easier for the public to attend the exhibitions for both Projects. This strategy was not adopted for the transmission works exhibitions as export cable routes and landfall differ significantly for the two Projects.

20. A second round of public exhibitions were held in November 2011 covering both the wind farm and the offshore transmission works. The purpose of these exhibitions was to present the findings of the EIA and to provide further information on the evolving Project design, including the design parameters that would form the consent application. The exhibitions displayed photomontages of the predicted views of the Project and detailed information about the EIA work and likely Project timetable.

21. Table 3 below provides information on the locations, venues, dates and timings of these exhibitions as well as the number of attendees. As for the previous round of exhibitions, where possible, the timings were arranged to allow interested parties to attend the exhibitions outside working hours.

Table 3: Public Exhibitions for Wind Farm and Offshore Transmission Works November 2011

Location	Venue	Date	Time	Attendees
Wick	Mackay's Hotel	8th November 2011	13.00 – 19.00	approx. 121 across all exhibitions
Helmsdale	Community Centre	9th November 2011	13.00 – 18.00	
Buckie	Town House	10th November 2011	13.00 – 19.00	
Inverness	Eastgate Shopping Centre	11th November 2011	09.00 – 17.00	

22. A number of other communication methods were used to publicise the public exhibitions and capture opinion on the Project. These are detailed in the following sections.

3.3 NEWSPAPER ADVERTISEMENTS

23. The public exhibitions were advertised in the local and regional press. Table 4, Table 5 and Table 6 below detail the advertising schedules for the three sets of public exhibitions. A copy of the advertisements in contained in Appendix 8 - Appendix 10.

Table 4: Press Advertising Schedule August / September 2010

Publication	Date
Press and Journal	28th August, 3rd September, 10th September 2010
Caithness Courier	25th August 2010
John O'Groats Journal	25th August 2010
Inverness Courier	3rd September 2010
Banffshire Journal	7th September 2010
Peterhead Buchan Observer	7th September 2010
Fraserburgh Herald	9th September 2010
Northern Scot	10th September 2010

Table 5: Press Advertising Schedule June / July 2011

Publication	Date
Banffshire Journal	28th June 2011
Banffshire Herald	1st July 2011
Northern Scot	1st July 2011
Press and Journal	2nd July 2011

Table 6: Press Advertising Schedule November 2011

Publication	Date
Banffshire Journal	1st November 2011
Caithness Courier	4th November 2011
John O'Groats Journal	4th November 2011
Banffshire Herald	4th November 2011
Banffshire Advertiser	4th November 2011
Northern Times	4th November 2011
Northern Scot	4th November 2011
Press and Journal	5th November 2011

3.4 POSTERS

24. Posters were prepared to advertise the exhibitions to those who may not be reached by newspaper advertisements. Copies of the posters are contained in Appendix 11 - Appendix 13.

25. Posters were also displayed in local shops and community centres prior top the exhibitions to inform local communities of the forthcoming events.

26. Posters were also displayed in the venues directing members of the public to the exhibitions and to advertise the exhibitions to those using the facilities of the exhibition venues.

3.5 LETTERS

27. Prior to each of the sets of exhibitions, letters of invitation to the exhibitions were sent to all councillors in The Highland Council and Moray Council Area; constituency MPs, MSPs and other key political figures and Community Councils along the Moray and Caithness coastlines and those in close proximity to the onshore transmission works.

3.6 WEBSITE

28. A dedicated page was established on BOWL's website to provide information and updates on the progress of the application (www.sse.com/beatrice). This includes a "Contact Us" page to allow members of the public to get in touch with the Project team regarding any queries or requests for additional information.

29. Details of the public exhibition dates, times, locations and venues were provided on the website.

30. Copies of all key documents, press releases exhibition display boards and leaflets are published for download on the website.

3.7 EBULLETIN

31. Prior to the November 2011 exhibition, an eBulletin was emailed out to all councillors in The Highland Council and Moray Council Area; constituency MPs, MSPs and other key political figures; Community Councils along the Moray and Caithness coastlines and key stakeholders. This eBulletin was in the form of an electronic newsletter which gave updates on Project progress, predicted timeline and also provided information on the upcoming exhibitions. A copy is contained in Appendix 14. BOWL will circulate future eBulletins at key Project milestones such as submission and determination.

4 CONSULTATION FEEDBACK AND OUTCOMES

4.1 FEEDBACK

32. This section summarises feedback from the three sets of public exhibitions held, the primary concerns raised and the steps taken by the applicant to address these through the EIA process.

33. Feedback from the Scoping exercise is captured both within the individual topic sections of the ES and collectively within Section 5 of the ES (Consultation).

34. The primary method for capturing feedback and concerns was through questionnaires which all attendees were encouraged to complete and either deposit in a collection box at the exhibition or forward by post to BOWL after the event. Copies of these questionnaires are contained in Appendix 15 – Appendix 17.

4.1.1 QUESTIONNAIRE FEEDBACK AUGUST / SEPTEMBER 2010 EXHIBITIONS

35. In total 91 completed questionnaires were returned, broken down by location as follows:

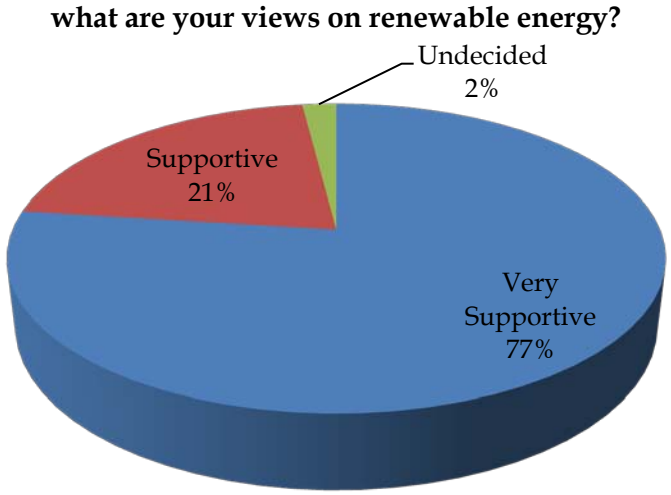
- Wick – 11
- Helmsdale – 8
- Brora – 4
- Tain – 4
- Inverness – 17
- Fraserburgh – 16
- Elgin – 31

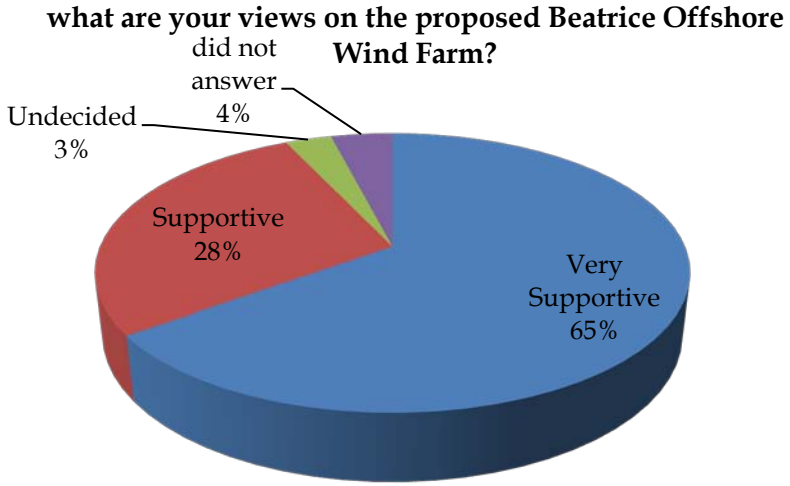
36. The following responses were received to the question "how did you find out about this exhibition?" NB. Respondents could check more than one option:

- Local newspaper – 25
- Posters – 15
- Word of mouth – 18
- Website – 2
- Other – 37

37. The vast majority of respondents (86%) found the exhibition to be 'very helpful' in terms of providing information on the Project, whilst the remaining 14% found the exhibition to be 'a little helpful'. No respondents found the exhibition 'not helpful'.

38. The charts below shows responses to the questions "what are your views on renewable energy?" and "what are your views on the proposed Beatrice Offshore Wind Farm?".





39. As well as multiple choice questions, the questionnaire also gave the opportunity for open comment on the Project and information presented. The majority of comments were with regard to visual impact, socio-economics, impact on marine life and opportunities for the supply chain. Commentary on how these concerns have been addressed is contained in Section 4.2 below.

4.1.2 QUESTIONNAIRE FEEDBACK JULY 2011 EXHIBITIONS

40. In total 15 completed questionnaires were returned, broken down by location as follows:

- Buckie – 11
- Keith – 4

41. The following responses were received to the question "how did you find out about this exhibition?" NB. Respondents could check more than one option:

- Local newspaper – 7
- Posters – 0
- Word of mouth – 4
- Website – 1
- Other – 5

42. The majority of respondents (73%) found the exhibition to be 'very helpful' in terms of providing information on the Project, whilst the remaining 27% found the exhibition to be 'a little helpful'. No respondents found the exhibition 'not helpful'.

43. In response to the question "what are your views on renewable energy?", 53% were 'very supportive' and 47% were 'supportive'. Views on the Project were also positive with 40% 'very supportive' and 47% 'supportive' of the Beatrice Offshore Wind Farm NB. 2 respondents did not answer.

44. As well as multiple choice questions, the questionnaire also gave the opportunity for open comment on the Project and information presented. The majority of comments were with regard to impacts on commercial fisheries, socio-economics, impact on marine life, physical processes at the landfall and opportunities for the supply chain. Commentary on how these concerns have been addressed is contained in Section 4.2 below.

4.1.3 QUESTIONNAIRE FEEDBACK NOVEMBER 2011 EXHIBITIONS

45. In total 46 completed questionnaires were returned, broken down by location as follows:

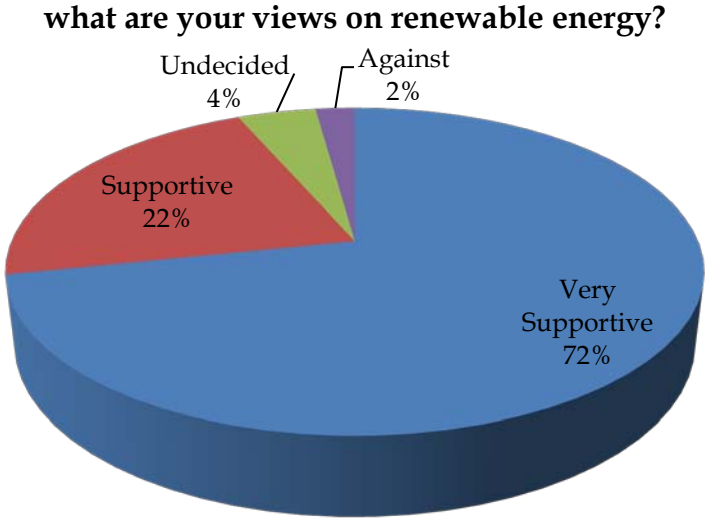
- Wick – 15
- Helmsdale – 9
- Buckie – 12
- Inverness – 10

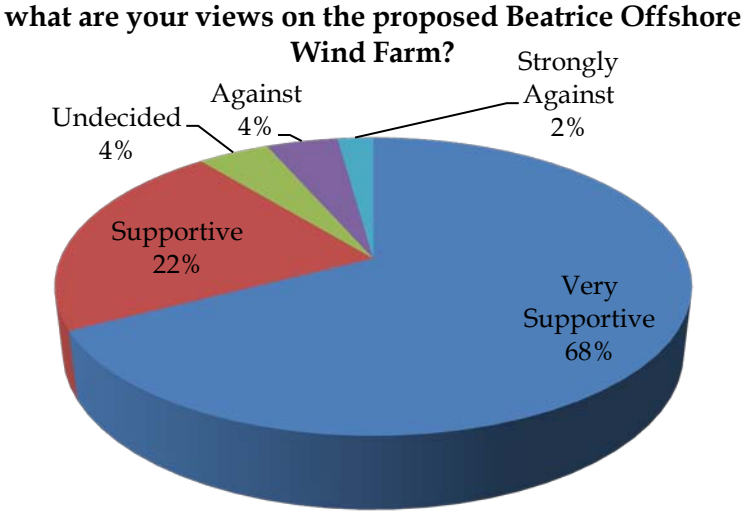
46. The following responses were received to the question "how did you find out about this exhibition?" NB. Respondents could check more than one option:

- Local newspaper – 24
- Posters – 5
- Word of mouth – 4
- Website – 1
- Other – 14

47. The vast majority of respondents (87%) found the exhibition to be 'very helpful' in terms of providing information on the Project, whilst the remaining 13% found the exhibition to be 'a little helpful'. No respondents found the exhibition 'not helpful'.

48. The charts below shows responses to the questions "what are your views on renewable energy?" and "what are your views on the proposed Beatrice Offshore Wind Farm?".





49. As well as multiple choice questions, the questionnaire also gave the opportunity for open comment on the Project and information presented. The majority of comments were with regard to impacts on commercial fisheries, visual impact, socio-economics, impact on marine life and opportunities for the supply chain. Commentary on how these concerns have been addressed is contained in Section 4.2 below.

4.2 OUTCOMES

50. This section outlines the primary concerns raised by the residents during the public exhibition and the steps undertaken by BOWL to address the issues raised during the EIA process. As noted above, concerns raised from the Scoping exercise are

captured in the individual topic sections of the ES and within Section 5 of the ES (Consultation).

4.2.1 VISUAL IMPACT

51. The visual impact of the Project was a key issue of interest at the exhibitions. A full Seascape, Landscape and Visual Impact Assessment (SLVIA) has been undertaken as part of the EIA, this is detailed in Section 14 of the ES (Wind Farm Seascape, Landscape and Visual Environment). It should be noted that seascape, landscape and visual impacts of the offshore transmission works were scoped out of the EIA.

52. Viewpoints for assessment were chosen through consultation with Scottish Natural Heritage, The Highland Council and Moray Council and were also informed by public exhibition feedback. A number of viewpoints were also chosen to assess the cumulative effect of the wind farm with the neighbouring Moray Offshore Round 3 Zone Project.

53. For the first round of exhibitions, zone of theoretical visibility maps (ZTVs) were shown to give the public an idea of the extent of the visibility of the wind farm. For the second round of exhibitions, a set of four photomontages were displayed as exhibition boards, from viewpoints at Wick, Sarclet, Scaraben and Navidale. A folder was also made available for viewing which contained photomontages from all other assessment viewpoints, these included night-time photomontages showing the potential visibility of the wind farm lighting scheme.

4.2.2 SOCIO-ECONOMICS

54. Many exhibition attendees were interested in any socio-economic benefits the Project would have. Project team members in attendance at exhibitions explained the key socio-economic benefits which could be associated with the Project. Full socio-economic impact assessments were undertaken as part of the EIA, these are detailed in Section 20 of the ES (Wind Farm Socio-economics, Recreation and Tourism) and Section 29 of the ES (Offshore Transmission Works Socio-economics, Recreation and Tourism).

4.2.3 IMPACT ON MARINE LIFE

55. Concerns were raised by a number of attendees regarding the impact the Project would have on marine life. At all three sets of exhibitions, information was available on exhibition boards on the assessment of impacts on marine life i.e. marine mammals, ornithology, benthic ecology and fish and shellfish ecology. Environmental specialists were also in attendance at exhibitions to respond to any more detailed queries attendees had.

56. Full impact assessments have been undertaken for marine life as part of the EIA, these are detailed in the following ES sections.

- Section 12: Wind Farm Marine Mammals;
- Section 24: Offshore Transmission Works Marine Mammals;
- Section 13: Wind Farm Ornithology;
- Section 25: Offshore Transmission Works Ornithology;
- Section 10: Wind Farm Benthic Ecology;

- Section 22: Offshore Transmission Works Benthic Ecology;
- Section 11: Wind Farm Fish and Shellfish Ecology; and
- Section 23: Offshore Transmission Works Fish and Shellfish Ecology.

4.2.4 SUPPLY CHAIN OPPORTUNITIES

57. Many members of the public attended the exhibitions specifically due to interest in supply chain opportunities. At the first round of exhibitions it was not possible to give any detailed information on supply chain opportunities for the Project. Attendees were advised to check to the BOWL website and attend future exhibitions as further information would be provided as and when available. In addition, BOWL attended a number of supply chain events in conjunction with the Crown Estate and Highlands and Islands Enterprise.

58. BOWL entered in to an Alliance Agreement with Burntisland Fabrications, Siemens Transmission and Distribution, Siemens Wind, Subsea 7 and Atkins. Leaflets were provided for any attendees interested in supply chain opportunities.

4.2.5 COMMERCIAL FISHERIES

59. The impact on commercial fisheries was raised as a concern by a number of exhibition attendees, especially those who attended exhibitions on the Moray coast. At all three sets of exhibitions, information was available on exhibition boards on the assessment of impacts on commercial fisheries.

60. BOWL has actively engaged with the fishing industry through their Fisheries Liaison Officers and Fishing Industry Representatives. In addition, BOWL has also held a number of open meetings for the fishing industry throughout the EIA process.

61. Commercial fisheries impact assessments have been undertaken as part of the EIA, these are detailed in Section 16 of the ES (Wind Farm Commercial Fisheries) and Section 27 of the ES (Offshore Transmission Works Commercial Fisheries).

4.2.6 PHYSICAL PROCESSES AT LANDFALL

62. Feedback from the transmission works exhibitions in July 2011 showed that some attendees were concerned about the impact on erosion at the export cable landfall point. At the time of this exhibition, little information was available regarding the potential effect on physical processes of the export cable landfall. The assessment is now complete and is detailed in Section 21 of the ES (Offshore Transmission Works Physical Processes and Geomorphology).

5 SUMMARY

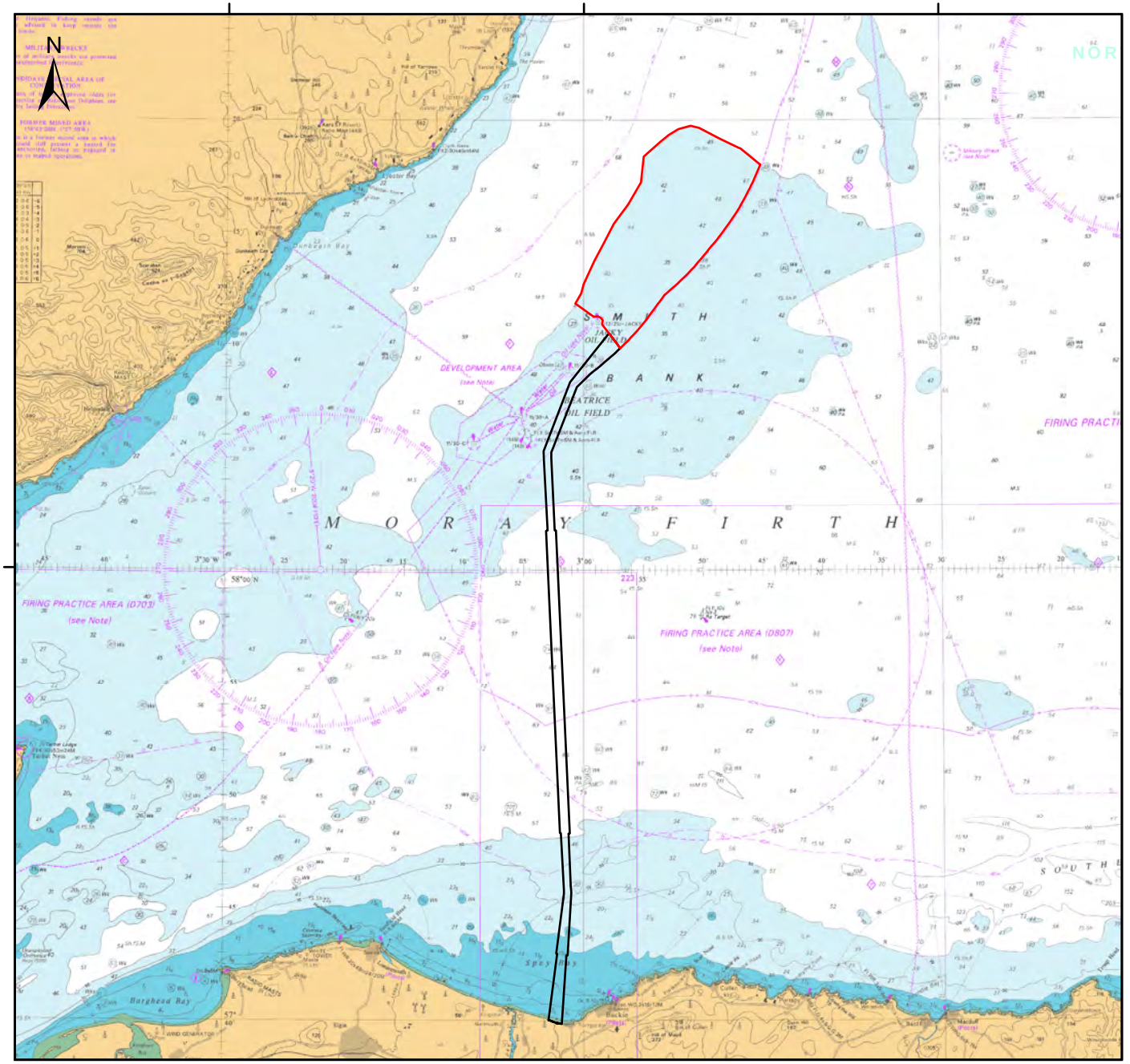
63. This document provides an overview of the consultation process undertaken by BOWL whilst preparing the consent application for the Project. BOWL has endeavoured to consult members of the public and key stakeholders since the outset of the Project to ensure that they are informed about the Project and have an opportunity to participate in the EIA process.

64. BOWL has made extensive efforts using a variety of consultation methods to inform the public of exhibitions. The exhibitions provided an opportunity for the public to engage with BOWL and the EIA team, and allowed them to raise specific concerns.

65. BOWL will continue to update the public with press releases, eBulletins and via the BOWL website throughout the consent determination processes.

66. Consultation will also be ongoing for the onshore transmission works including a round of public exhibitions prior to submission of the planning application.

FIGURE 1: Site Location Plan



Legend

- Beatrice Offshore Wind Farm Site
- Beatrice Offshore Transmission Works Corridor

0 3 6 12 km 0 1.5 3 6 Nm

UK Offshore Development

Figure 1

Beatrice Offshore Wind Farm PAC Report
Project Boundary

Drawn:	MM	Checked:	RS	Approved:	RS
Date:	23/02/2012	Scale:	1:500,000 @ A4		
Drawing Number:	BEA-MAP-EWF-BOWL-213			Revision:	02
Datum:	WGS84	Projection:	UTM30N		

Beatrice Offshore Windfarm Ltd

File ref: E:\GIS_Scottish\Projects\Beatrice\mxd\Planning Application Figures\BEA_MAP_EWF_BOWL_213_OWF_PAC_Report_Project_Boundary_v02.mxd

APPENDIX 1: Distribution List for Scoping Reports

Consultee	Topic	Wind Farm	Transmission Works
Scottish Government Energy Division	All	√	√
The Crown Estate	All	√	√
Marine Scotland	All	√	√
Highland Council	All	√	√
Moray Council	All	√	√
Aberdeenshire Council	All	√	
Scottish Environment Protection Agency	All	√	√
Moray Firth Partnership (and SAC Group)	All	√	√
Transport Scotland	Onshore Elements		√
Network Rail	Onshore Elements		√
Local Community Councils	Onshore Elements		√
Scottish Hydro Electric Transmission Ltd (SHETL)	Design and Technology	√	√
Department of Energy and Climate Change (Aberdeen)	Design and Technology	√	√
Scottish Natural Heritage	Ecology, Landscape and Seascape	√	√
Joint Nature Conservation Committee	Ecology and Nature Conservation	√	√
Scottish Wildlife Trust	Ecology and Nature Conservation	√	√
Scottish Environment LINK	Ecology and Nature Conservation	√	√
RSPB	Ornithology	√	√
Sea Mammal Research Unit	Marine Mammals	√	√
Whale and Dolphin Conservation Society Scotland	Marine Mammals	√	√
The University of Aberdeen – Lighthouse Field Station	Marine Mammals	√	√
Association of District Salmon Fisheries Board	Fisheries and Aquaculture	√	√
Atlantic Salmon Trust	Fisheries and Aquaculture	√	√
Scottish Enterprise	Socio-economics	√	√
Highland and Island Enterprise	Socio-economics	√	√
Visit Scotland	Socio-economics	√	√
Caithness and North Sutherland Regeneration Partnership	Socio-economics	√	√
Historic Scotland	Cultural Heritage and Archaeology	√	√
Scottish Fishermen's Federation	Shipping and Navigation, Commercial Fisheries	√	√
Moray Firth Inshore Fisheries Group	Shipping and Navigation, Commercial Fisheries	√	√
Maritime and Coastguard Agency	Shipping and Navigation	√	√
Royal National Lifeboat Institution	Shipping and Navigation	√	√
Cromarty Firth Port Authority	Shipping and Navigation	√	√
Northern Lighthouse Board	Shipping and Navigation	√	√

Consultee	Topic	Wind Farm	Transmission Works
Royal Yachting Association (Scotland)	Shipping and Navigation, Socio-economics	√	√
Chamber of Shipping	Shipping and Navigation	√	√
Marine Safety Forum	Offshore Oil and Gas	√	√
Talisman Energy (UK) Ltd	Offshore Oil and Gas	√	√
Ithaca Energy	Offshore Oil and Gas	√	√
Caithness Petroleum	Offshore Oil and Gas	√	√
PA Resources	Offshore Oil and Gas	√	√
NATS	Radar and Aviation	√	√
Highlands and Islands Airports (Wick and Inverness)	Radar and Aviation	√	√
Civil Aviation Authority	Radar and Aviation	√	√
Defence Estates (MOD)	Radar and Aviation, Military Operations	√	√

APPENDIX 2: Exhibition Boards August / September 2010

Beatrice Offshore Wind Farm

Who are we?

Beatrice Offshore Windfarm Limited (BOWL) is the joint venture partnership formed between SSE Renewables (75%) and SeaEnergy Renewables (25%).

In February 2009 we were awarded an exclusivity agreement by The Crown Estate to develop the Beatrice Offshore Wind Farm in Scottish Territorial Waters.

SSE Renewables is responsible for the development and construction of Scottish and Southern Energy's (SSE) renewable energy projects across the UK, Ireland and Continental Europe. SSE is the UK's leading generator of renewable energy with over 2,300 Megawatts (MW) of renewable electricity generation capacity.

SeaEnergy Renewables Limited (SERL) is made up of members of the team which conceived, developed and delivered the world's first deep water wind farm development - the Beatrice demonstrator project (10MW) - which is owned by Talisman Energy and SSE and located in the Outer Moray Firth.

What are we proposing?

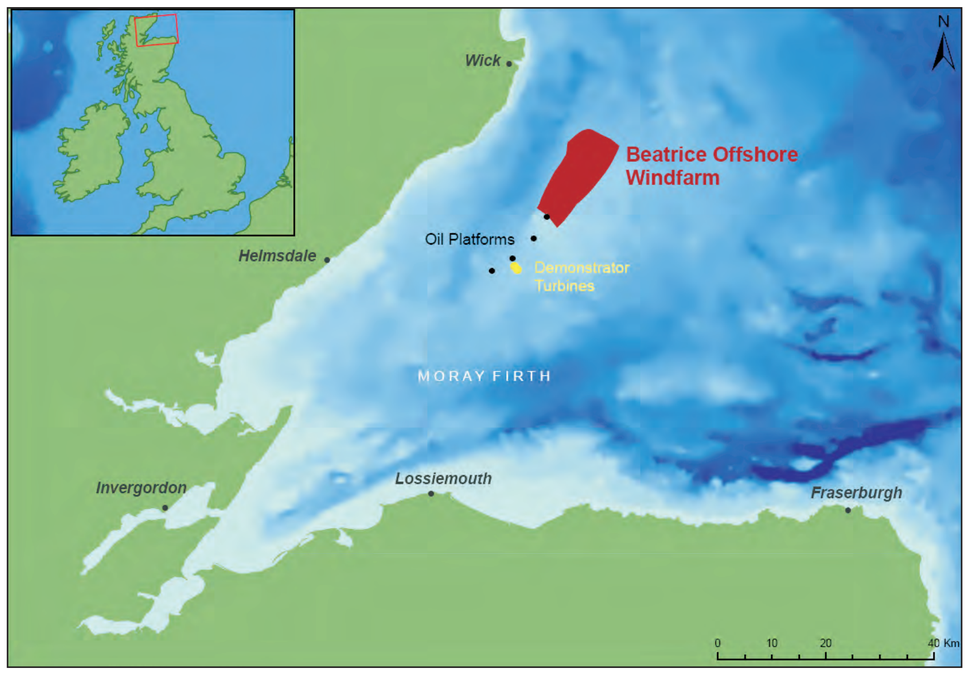
Where is it?

The Beatrice Offshore Wind Farm site is located as follows.

- On the north-western most point of the Smith Bank in the Outer Moray Firth.
- Approximately 13.5km from the Caithness coastline.
- This site is approximately 19km long and 9km wide.

There are a number of features located nearby.

- The existing Beatrice demonstrator turbines 11km to the south west.
- The existing Jacky oil platform is located just outside the site to the south west.
- The proposed Moray Firth Round 3 offshore wind farm zone is located directly to the east.



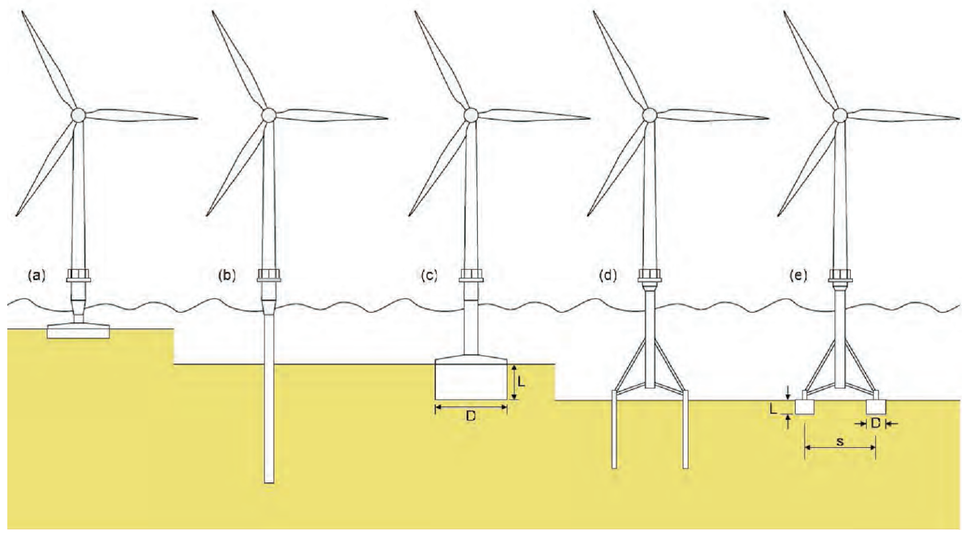
Site location and surrounding features

What is it?

If we use the same turbines as the existing 5MW demonstrator turbines the Beatrice site could accommodate approximately 184, giving a generating capacity of 920MW. Key statistics of these turbines include the following.

- A hub height of approximately 88m above sea level.
- A blade tip height of approximately 150m.

At this early stage of the project we are still developing the best method for fixing the turbines to the seabed. They may be similar to the Beatrice demonstrator turbines which had piled jacket foundations with an open lattice substructure, but we are also considering other options that have been used elsewhere such as monopiles and gravity based structures.



Foundation options for fixing turbines to the seabed

(a)Gravity Base (b)Monopile (c)Suction Bucket (d)Piled Jacket (e)Suction Jacket

We will decide on the final design (e.g. turbine numbers, turbine type, turbine foundations, generating capacity, layout of the wind farm, etc) by early 2011 after taking into account technical, physical, environmental and economic considerations.

What are the key components?

The wind farm will comprise the following.

- Turbines (tower, nacelle, rotors and hub).
- Turbine sub-structure and foundations.
- Electricity cables at the site.
- Offshore electricity substations.
- Cable connection to a mainland substation.
- Maintenance and operational facilities on the mainland.

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Beatrice Offshore Wind Farm

Why are we doing this?

Renewable Energy Policy

UK renewable energy policy centres around two key factors.

- Reduction of CO_2 emissions to tackle climate change.
- Security of energy supply.

There are a number of government targets set to try and achieve this.

- UK Government target of generating 15% of energy from renewable sources by 2015 and 20% by 2020.
- The Scottish Government's Climate Change Act commits Scotland to cut carbon emissions by 42% from 1990 levels by 2020 and by at least 80% by 2050.

The move to a low carbon economy and an increased reliance on renewable energy will also make a significant contribution to the security of fuel supplies by reducing dependency on oil and gas.

Offshore Wind Development

There are a number of Scottish Government and UK Government policies and statements which promote the development of offshore wind in the Moray Firth. In the 2006 Scottish Government report 'Matching Renewable Electricity Generation and Demand' the Outer Moray Firth has been identified as a region able to accommodate offshore wind development.

What is the timetable?

Key activities that we have undertaken so far, and our anticipated timetables going forward, are shown below.

Activity	Timescale
Exclusivity agreement received fromThe Crown Estate	February 2009
Environmental Scoping Report submitted to Marine Scotland	March 2010
Agree on approach and scope of Environmental Impact Assessment with the Government and consultees	Summer 2010
Undertake baseline surveys and Environmental Impact Assessment	Ongoing until Autumn 2011
Public exhibitions	Summer 2010
Submit completed application and Environmental Statement for Statutory Consent and Licenses	Autumn/Winter 2011
Consent potentially granted	Anticipated Autumn/Winter 2012
Construction commencing	Anticipated 2014/ 2015
Fully operational	Anticipated 2017/ 2018

Who are we consulting?

We are committed to consulting with all interested parties. We have already consulted with many statutory and non-statutory groups and organisations. The public is another key consultee.

We are keen to listen to the views of all these groups and individuals and welcome any feedback. Keeping stakeholders informed of our plans as they develop, and receiving comments as part of this consultation process, is another key aim. We plan to hold a further series of public exhibitions next year around the time we submit our application(s) for consent, which we expect to do in Autumn/Winter 2011.

If you have any comments, queries or views about our proposals please feel free to communicate these with us here today or get in touch with us via our website www.sse-beatrice.com. Digital copies of the Environmental Scoping Report are also available to download on our website.

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What are we doing?

Consenting

There are certain consents that must be obtained for any offshore wind generating site in Scottish waters. These are set out below.

It should be noted that, since Beatrice Offshore Windfarm Limited's (BOWL) application(s) are not anticipated to be submitted until 2011, it is likely that the applications will pass through a new consenting framework. The new consenting framework is currently in preparation.

Legislation	Topic
Electricity Act 1989 – Section 36	For offshore wind power generating stations within UK territorial waters adjacent to Scotland as defined in The Scottish Adjacent Waters Boundaries Order 1999.
Food and Environment Protection Act 1985 – Section 5	For depositing substances or articles in the sea or tidal waters below Mean High Water Springs (MHWS) around Scotland including the temporary placement of construction materials and/or disposal of dredged material etc.
Coastal Protection Act 1949 – Section 34	Restriction of works detrimental to navigation under or over the seashore lying below the level of MHWS.

Environmental Impact Assessment (EIA)

To support the application an EIA is required under the European Commission EIA Directive. The Directive is applied to Scottish offshore wind developments through the Electricity Works (Environmental Impact Assessment) Scotland Regulations 2000 and the Marine Works (Environmental Impact Assessment) Regulations 2007.

BOWL will employ a variety of specialist consultants to help refine the final site layout and to assess the final proposals from an environmental perspective. The topic areas that will be considered in the EIA are listed below. Some of these may warrant more detailed assessment and modelling than others.

Physical Environment	
Coastal Processes	Seabed Geology
Air Quality	Noise and Vibration
Traffic and Transport	
Biological Environment	
Seabed Marine Life	Plankton
Fish Ecology	Marine Mammals
Ornithology	
Human Environment	
Landscape, Seascape and Visual	Archaeology and Cultural Heritage
Aviation and Military Operations	Shipping and Navigation
Commercial Fisheries	Salmon and Sea Trout
Oil and Gas Operations	Pipelines and Cables / Seabed Infrastructure
Socio – Economics	

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The Environmental Impact Assessment (EIA) covers many tasks and activities, some of which have already commenced. Seabird surveys and seabed investigations have already been undertaken for example, but the main assessment will not be undertaken until the wind farm design is more developed. Some example of what specialists will be assessing are provided on this board. The Environmental Scoping Report for the project, which was submitted to Marine Scotland in March 2010, goes into more detail on all of the topics being assessed.

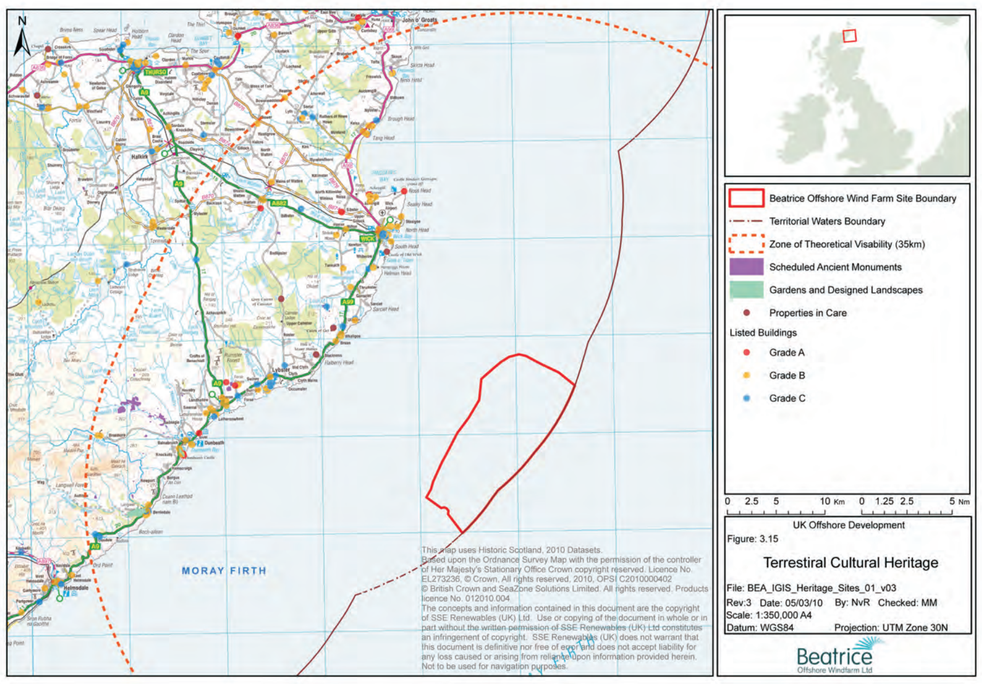
Landscape, Seascape and Visual

There is potential that there will be landscape and visual impacts during construction and operation of the wind farm. It will be important to assess the impacts and this will be undertaken through the EIA process. To do this we will undertake a full Landscape, Seascape and Visual Impact Assessment as part of the EIA. For this we will follow all available good practice guidance.

We will prepare a Zone of Theoretical Visibility map which will be computer generated. This will illustrate areas from where the turbines may be visible and will also inform the assessment.

Computer generated visualisations will be prepared to assist in the assessment. The assessment will consider the following.

- Visual impact of construction and operation of the wind farm on sensitive receptors and landscape/seascape character.
- Cumulative impact of the wind farm when combined with impact from other infrastructure including other wind farms.
- Impact on sites designated for landscape interest including National Scenic Areas and historic sites and buildings.



Cultural heritage features within 35km of site

Marine Mammals

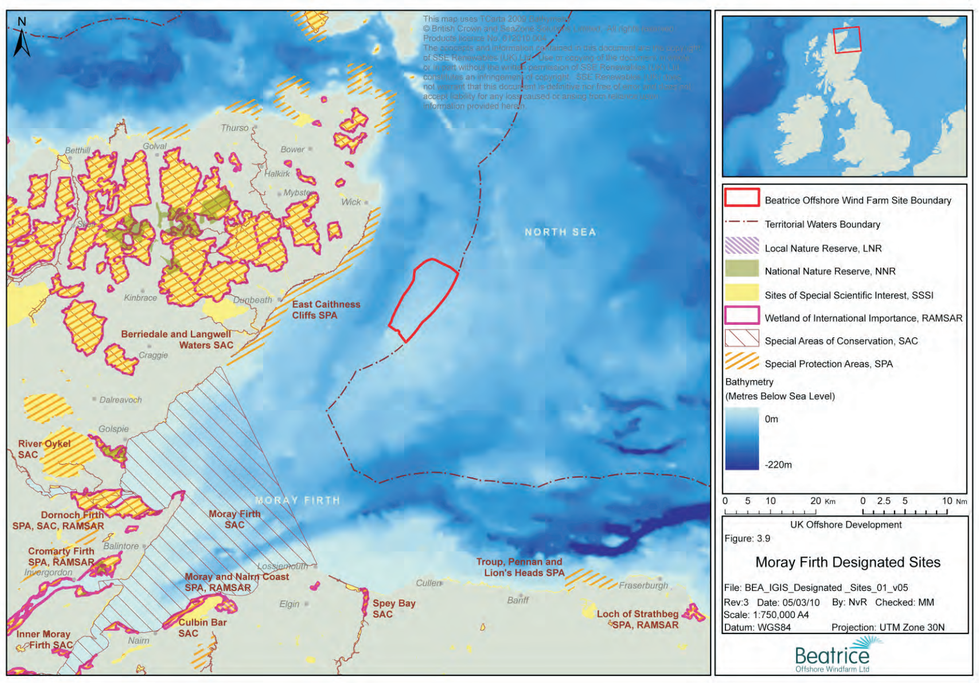
Potential impacts on marine mammals are a key consideration for the Beatrice Offshore Wind Farm project. Species forming the focus of the impact assessment include bottlenose dolphin and grey seal.

We will gather the following data for use in the impact assessment.

- Species present, seasonality and annual differences.
- The density of animals at the proposed site.
- The likelihood of exchange between local Special Areas of Conservation (SACs) and the proposed wind farm site.
- The likelihood of exchange between the proposed wind farm site and other relevant development sites (cumulative effects).

The following impacts will be assessed.

- The likely impacts on animals using the proposed wind farm site and on the conservation status of local Special Area of Conservation.
- Potential impacts from construction or operation (and from other activities occurring concurrently in the area).



Designated sites within the area

Commercial Fisheries

An impact assessment of the proposed wind farm upon Moray Firth commercial fishing operations will be undertaken by a specialist fisheries consultant.

We know that there are a number of different types of commercial fishing (dredging, trawling, potting) undertaken in the area. We have already commenced the consultation process with the industry.

The existing fisheries baseline will be estimated using catch data alongside Vessel Monitoring Systems and data from a number of sources.

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Construction and Operation Overview

Construction

The construction timetable is likely to run for approximately three years. Access to the offshore construction area will be required all year round, and during the main construction phases we expect that 24 hour working will be required.

There are a number of construction techniques that could be employed to install the wind farm components and these will be appraised during the course of the design development and EIA process. As an example, one technique could include assembling key components onshore and transporting these assembled parts to site for installation.

Various construction phases will be required and a typical programme would involve the following elements.

- Seabed preparation work if required.
- Substations and subsea cables installed.
- Construction vessels moved into position to begin foundation works.
- Key turbine components assembled onshore and transported to site.
- Turbines erected.
- Testing and commissioning undertaken.

During construction there will be a number of specialist vessels undertaking construction operations. These are likely to include a large construction vessel which may also be assisted by a number of specialist support vessels.

Onshore turbine assembly

Turbine transport from shore to wind farm site

Operation

The Beatrice Offshore Wind Farm would be available for operation 24 hours a day, 365 days a year. An ongoing programme of operation and maintenance activities would be developed and rolled out to support its operation. We anticipate that this operation and maintenance programme will result in the creation of a local service base.

Substructure transport to wind farm site

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APPENDIX 3: Exhibition Boards July 2011

Beatrice Transmission Works

The Transmission Works

National Grid Connection Point

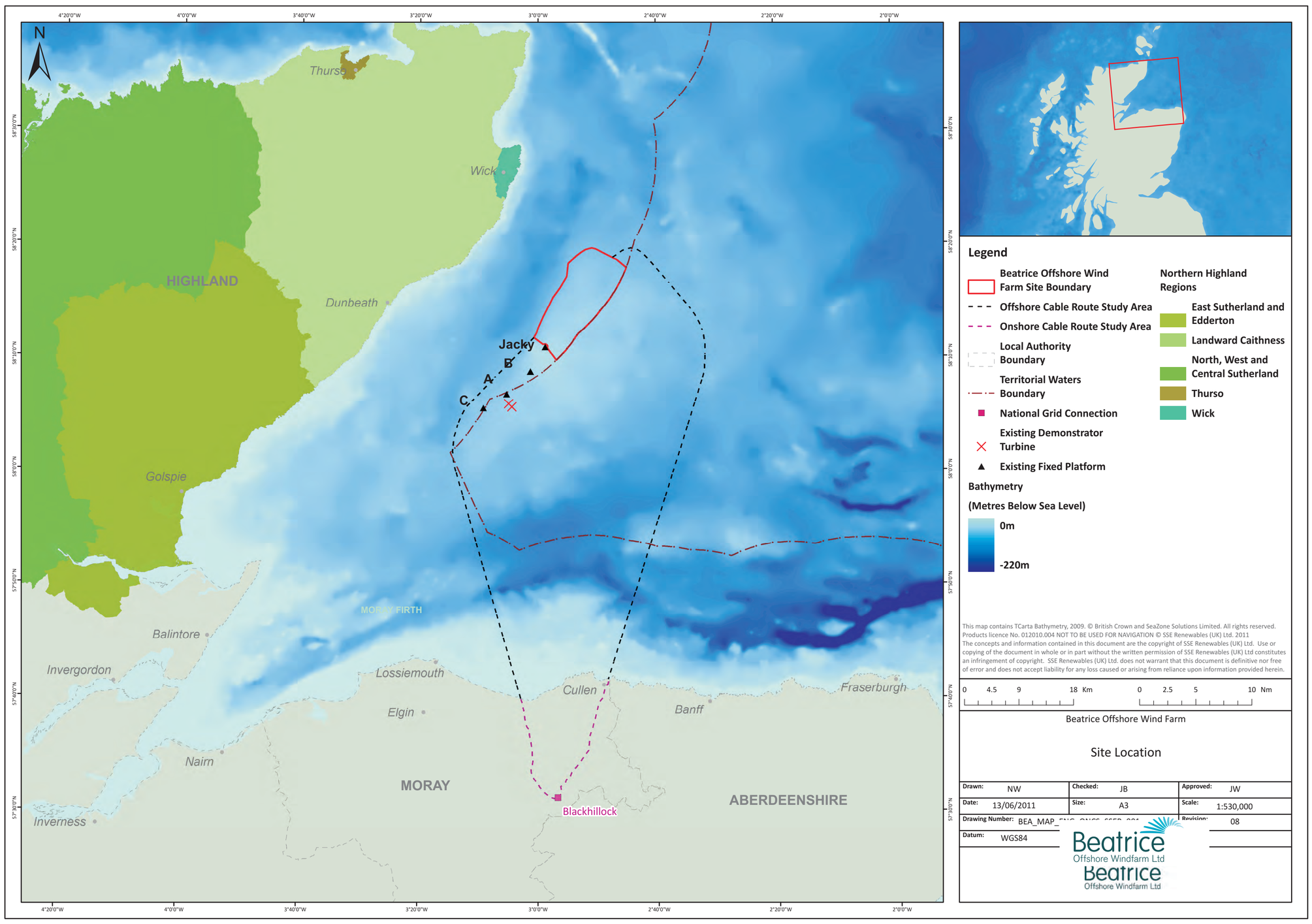
- A cable will be used to connect the electricity generated by the wind farm to the existing electricity grid.
- A site selection study was undertaken to find the best route for the cable from the wind farm to the electricity grid. This looked at engineering feasibility and environmental impact.
- A grid connection offer was made by the National Grid for the substation at Blackhillock, near Keith based on available capacity and connectivity into the wider electricity grid.
- The proposed study area for the offshore and onshore cable route from the wind farm site to Blackhillock is shown below.
- More detailed assessments are now underway to select a preferred cable route within the study area.
- Submission of completed application and environmental statement for statutory consent is anticipated in Winter 2011.

What are the key transmission works components?

To enable the grid connection the project requires the following.

- Offshore: approximately 75 km of subsea cable to the landfall point.
- Onshore: approximately 24 km of underground cable to Blackhillock.
- A dedicated substation nearby the existing substation at Blackhillock.
- The construction programme is set out below.

Activity	Timescale
Offshore cable installation	Anticipated 2014
Onshore cable installation	Anticipated 2014
Substation construction	Anticipated 2014



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Beatrice Offshore Wind Farm

Why are we doing this?

Renewable Energy Policy

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What is the timetable?

Key activities that we have undertaken so far, and our anticipated timetables going forward, are shown below.

Activity	Timescale
Exclusivity agreement received from the Crown Estate	February 2009
Agree on approach and scope of Environmental Impact Assessment with the Government and consultees	Summer 2010
Undertake baseline surveys and Environmental Impact Assessment	Ongoing until autumn 2011
Wind farm public exhibitions	Summer 2010/Autumn 2011
Submit completed application and Environmental Statement for Statutory Consent and Licenses	Winter 2011
Consent potentially granted	Anticipated Autumn/Winter 2012
Construction commencing	Anticipated 2014/ 2015
Fully operational	Anticipated 2017/ 2018

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Beatrice Offshore Wind Farm

Who are we?

Beatrice Offshore Windfarm Limited (BOWL) is the joint venture partnership formed between SSE Renewables (75%) and SeaEnergy Renewables (25%).

In February 2009 we were awarded exclusivity by The Crown Estate (which owns the seabed) to develop the Beatrice Offshore Wind Farm in Scottish Territorial Waters.

SSE Renewables is responsible for the development and construction of Scottish and Southern Energy's (SSE) renewable energy projects across the UK, Ireland and Continental Europe. SSE is the UK's leading generator of renewable energy with over 2,300 Megawatts (MW) of renewable electricity generation capacity.

SeaEnergy Renewables Limited (SERL) is made up of members of the team which conceived, developed and delivered the world's first deep water wind farm development - the Beatrice demonstrator project (10 MW) - which is owned by Talisman Energy and SSE and located in the Outer Moray Firth.

The wind farm proposals

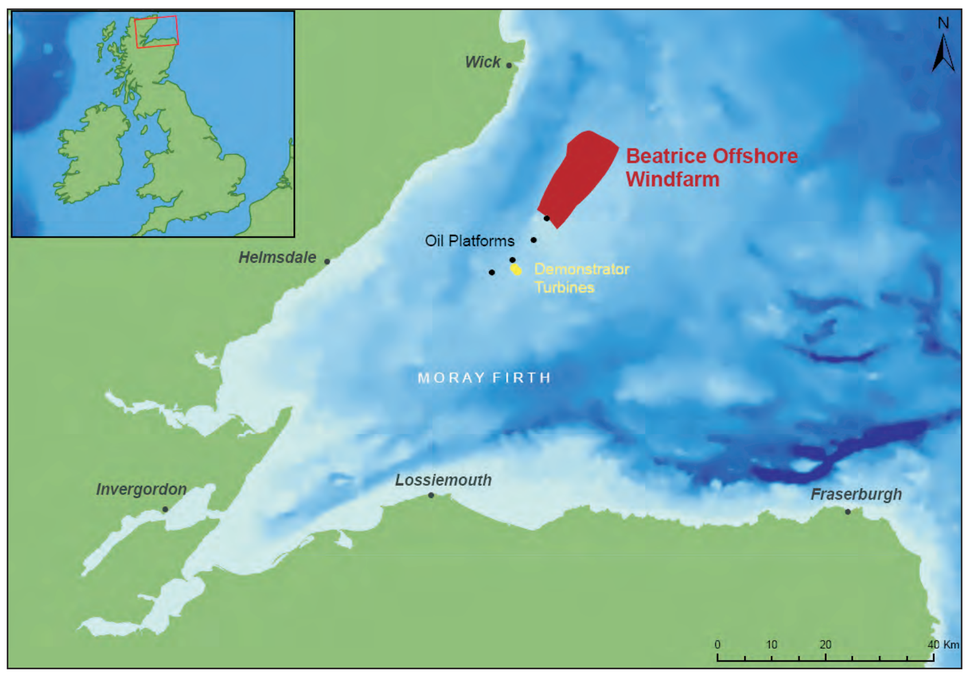
Where is it?

The Beatrice Offshore Wind Farm site is located as follows.

- On the north western most point of the Smith Bank in the Outer Moray Firth.
- Approximately 13.5 km from the Caithness coastline.
- This site is approximately 19 km long and 9 km wide.

There are a number of features located nearby.

- The existing Beatrice demonstrator turbines 11 km to the south west.
- The existing Jacky oil platform is located just outside the site to the south west.
- The proposed Moray Firth Round 3 offshore wind farm zone is located directly to the east.



Site location and surrounding features

What are the key wind farm components?

The wind farm will comprise the following.

- Up to 277 turbines (tower, nacelle, rotors and hub).
- Turbine substructures and foundations.
- Up to 3 offshore electricity substations.
- Electricity cables at the site connecting turbines to the substations.
- Up to 3 meteorological masts.
- Cable connection to the mainland and onwards to Blackhillock.
- Maintenance and operational facilities on the mainland.

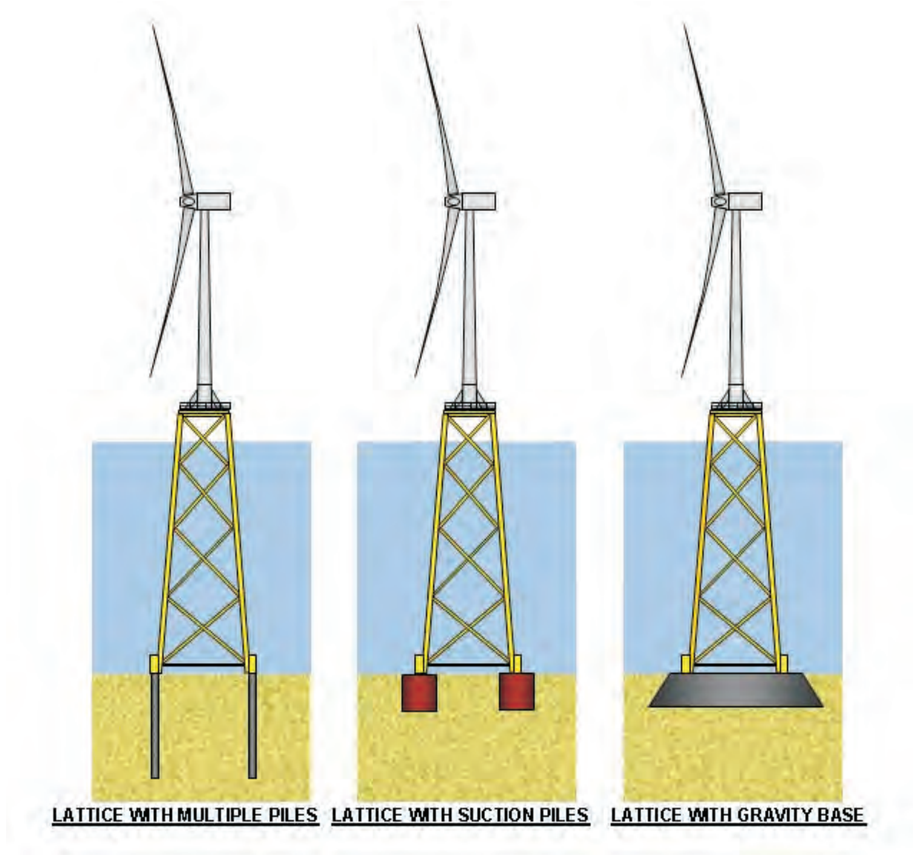
Design Details?

A number of scenarios are being assessed. The wind farm will have a generating capacity of c. 1000MW and in order to reach this capacity a number of turbines are being considered, ranging from 277 turbines of 3.6MW capacity to 142 turbines of 7MW capacity.

The 3.6 MW turbine would have a tip height of approximately 140 m, the 6 MW 183 m and the 7 MW would have a 198 m tip height.

Foundations could be pin piles, suction piles or gravity base.

Substructures could be lattice, tripod or quadrapod.



Foundation options for fixing turbines to the seabed

Beatrice Offshore Windfarm Ltd

Beatrice Transmission Works

Construction and Operation Overview

Construction

The construction of the offshore and onshore cable and a dedicated substation nearby the existing substation at Blackhillock will take approximately two years.

Offshore cable route

Offshore cable laying will require a number of specialist vessels including a large construction vessel and a number of support vessels.

Offshore construction will be carried out 24 hours seven days a week and will take approximately two months.

There are a number of methods that could be used to install the offshore cable, depending on seabed type, these may include the following.

- Dredging a trench where the cable is laid first then backfilled with sediment.
- Ploughing the cable into the sediment where the cable is backfilled as it is laid.
- Jetting the sediment to allow the cable to be buried deeper e.g. to 2 m in soft sediments.

Onshore cable route

Onshore cable will be underground and installation will involve the following.

- Ground preparation work if required.
- Trenches dug with spoil stored for backfilling.
- Directional drilling as required for shore sections and crossing points such as roads, rivers and railways to avoid impacts to sensitive areas.
- Underground jointing pits approximately every 0.5-1 km.

Substation

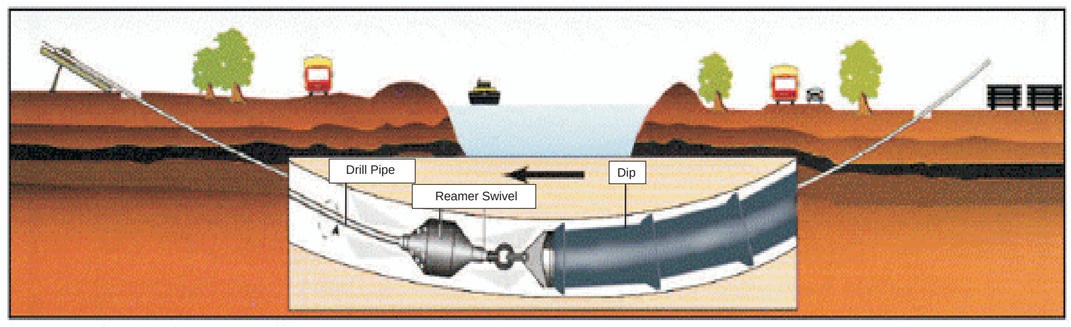
Construction of a dedicated substation is likely to take two years and will include the following.

- Foundations will be designed and created to accommodate the weight and scale of the electrical equipment.
- Some of the equipment may be housed in buildings whilst others will be uncovered.
- Landscaping will be required to reduce impacts on sensitive receptors.

Operation

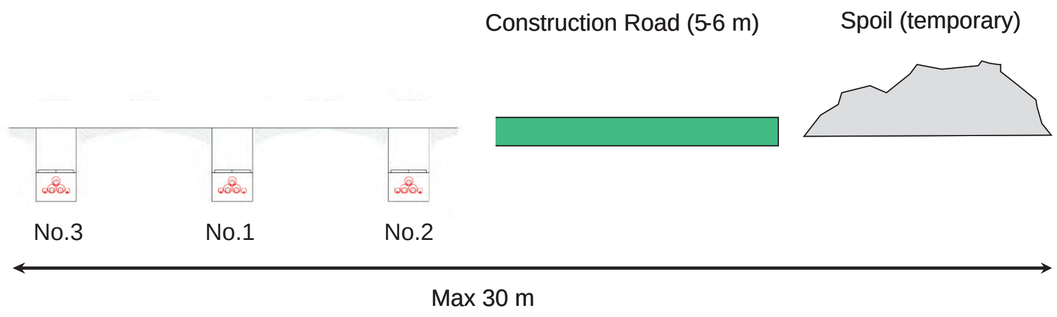
The Beatrice onshore substation would operate 24 hours a day, 365 days a year. It will not be manned other than for maintenance visits.

Typical Cable laying vessel with cable trencher



Pull Back

Cable installation onshore using directional drilling



Typical cross section along onshore cable route

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Beatrice Transmission Works

The Onshore Substation

A dedicated substation will be built nearby the existing substation at Blackhillock. Detailed design of the substation is yet to be undertaken. There are two main options for the transmission works to connect the wind farm.

- Either Alternating Current (AC) or Direct Current (DC) will be used depending on the final power output of the wind farm.

If AC

The onshore substation will be.

- Approximately 140 m (wide) by 150 m (long).

There is potential for additional land to be required for screening and landscaping around the substation of.

- Approximately 8000 m^2.

Example of an AC substation layout

If DC

The onshore substation will be.

- Approximately 200 m (wide) by 200 m (long) and 25 m (high).

There is potential for additional land to be required for screening and landscaping around the substation of.

- Approximately 16,800 m^2.

Example of a DC substation layout

Who are we consulting?

We are committed to consulting with all interested parties. We have already consulted with many statutory and non-statutory groups and organisations and the public is also a key consultee.

We are keen to listen to the views of all these groups and individuals and welcome any feedback. Keeping these groups and individuals informed of our plans as they develop is a key aim and we will hold many more meetings to ensure this happened. We plan a further series of public exhibitions in the Autumn of 2011 prior to submitting our application for consent, which we expect to do in Winter 2011.

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APPENDIX 4: Exhibition Boards November 2011

Beatrice Offshore Project

Who are we?

Beatrice Offshore Windfarm Limited (BOWL) is a joint venture partnership formed between SSE Renewables (75%) and Repsol Nuevas Energais UK (25%) (formerly SeaEnergy Renewables).

In February 2009 we were awarded exclusivity by The Crown Estate to develop the Beatrice Offshore Wind Farm in Scottish Territorial Waters.

SSE Renewables is responsible for the development of SSE's renewable energy projects across Europe. SSE is the leading generator of renewable energy in the UK, with over 2,450 Megawatt (MW) of renewable energy projects consented.

Repsol Nuevas Energias UK (Repsol) was formed following Repsol's purchase of 100% of SeaEnergy Renewables Limited in June 2011. It has development rights for a total of 1,190 MW in the United Kingdom, equivalent to a third of the offshore wind capacity currently installed worldwide

The Beatrice Offshore Wind Farm site is located in the Outer Moray Firth on the north-western point of the Smith Bank. The site is adjacent to the world's first deep water wind farm development – the two-turbine (10 MW) Beatrice Demonstrator Project. The Beatrice Demonstrator turbines are owned and were developed by SSE and Talisman. The turbines have been operational since 2007.

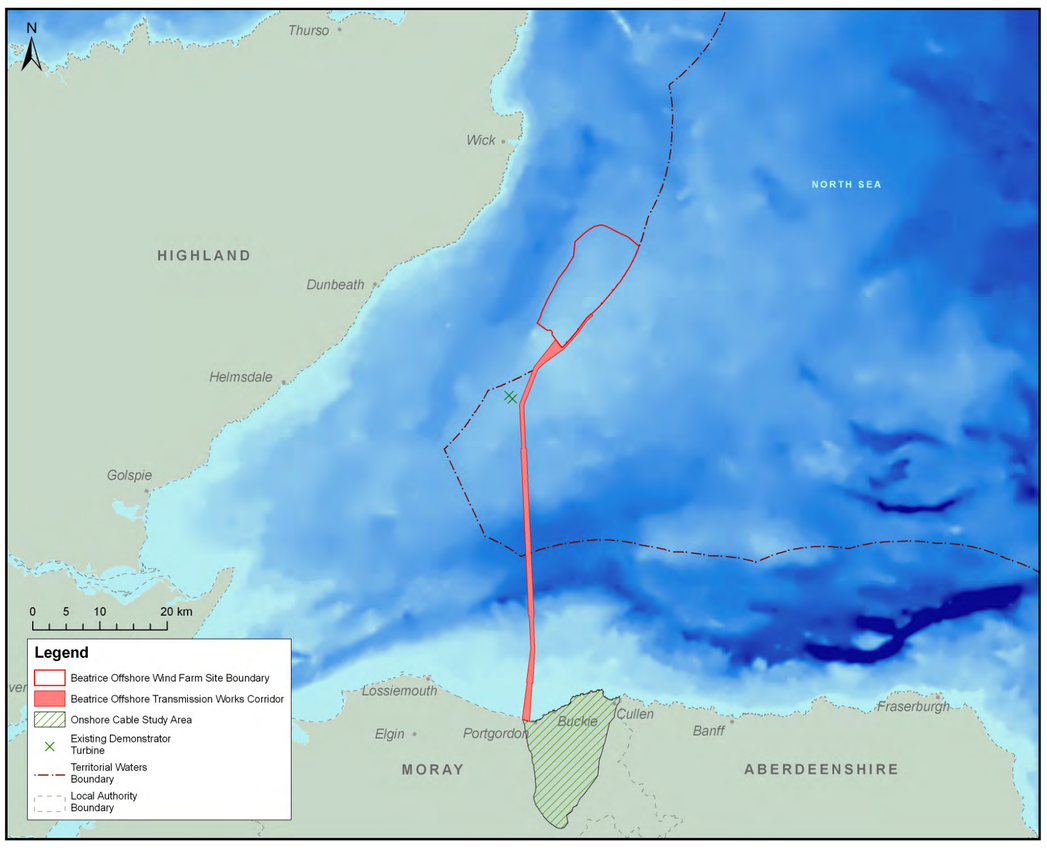
Building on the success of the Beatrice Demonstrator Project, we are proposing to develop an offshore wind farm which will generate up to 1,000 MW of renewable energy, enough to power over 796,000 homes.

Where is it?

This site is 13.5 km from the Caithness coastline and is 19 km long and 9 km wide. The existing Beatrice Demonstrator Turbines are located 11 km to the south west of the site, and Jacky oil platform is adjacent to the southern boundary. The proposed Moray Firth Round 3 offshore wind farm zone is located directly to the east.

The applications

BOWL is expecting to submit the required consent applications for the Offshore Project i.e. the Wind Farm and Offshore Transmission Works proposals, to Marine Scotland in January 2012. An application for the Onshore Project i.e. the onshore transmission works proposals, will be submitted to The Moray Council in Spring 2012.



What are we proposing to develop?

The proposed Wind Farm will have a maximum of 142 to 277 turbines, depending on turbine size. The offshore components of the Wind Farm will include the following.

- Turbines (tower, nacelle, blades and hub).
- Turbine substructures and foundations.
- Up to three offshore electricity substations.
- Electricity cables at the site connecting the turbines to the substations.
- Up to three meteorological masts.
- Wave measuring equipment.

In order that the electricity generated can reach the centres of demand the Wind Farm will need to be connected to the national electricity grid. We have a grid connection agreement with National Grid which allows us to connect into the existing electricity network at Blackhillock, near Keith, Moray.

The Transmission Works will include the following.

Offshore Transmission Works:
- Approximately 65 km of subsea cable.

Onshore Transmission Works:
- Approximately 20 km of onshore underground cable.
- A new substation nearby the existing substation at Blackhillock.

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Beatrice Offshore Project

Wind Farm design

A final site layout has not yet been developed. Therefore the consent will allow for flexibility to define the layout of the Wind Farm once detailed design has been undertaken. This is a recognised approach to offshore wind farm design. An Environmental Impact Assessment (EIA) has been carried out and will be submitted as part of the application. The EIA has considered a number of scenarios and indicative layouts to ensure every possible significant impact has been assessed.

The final layout will have a generating capacity of up to 1000 MW. In order to achieve this maximum capacity a number of turbine scenarios have been considered, including up to 277 turbines of 3.6 MW capacity, or up to 142 turbines of 7 MW capacity.

Wind turbine design

The 3.6 MW wind turbine could have a maximum tip height of 140.6 m, a rotor diameter of 107.2 m, and a hub height of 87 m.

The 7 MW wind turbine could have a maximum tip height of 198.4 m, a rotor diameter of 165 m, and a hub height of 115.9 m.

The turbines will have three blades attached to the hub, which in turn is attached to the nacelle. From time to time engineers will need access to the turbines and this will be by boat or by helicopter. The turbines will be able to be turned on and off from a control room onshore. An illustration of a typical offshore wind turbine is provided below.

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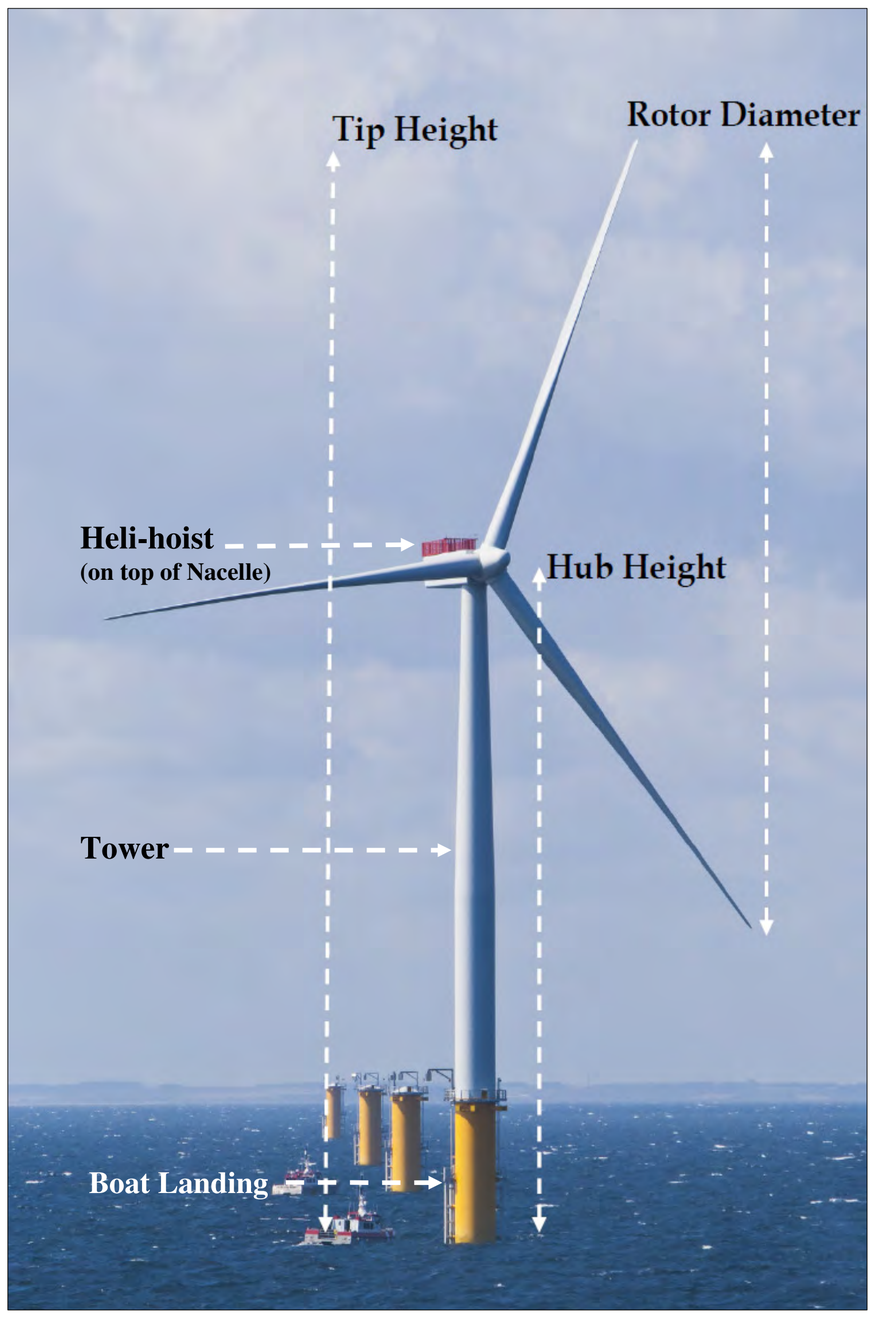


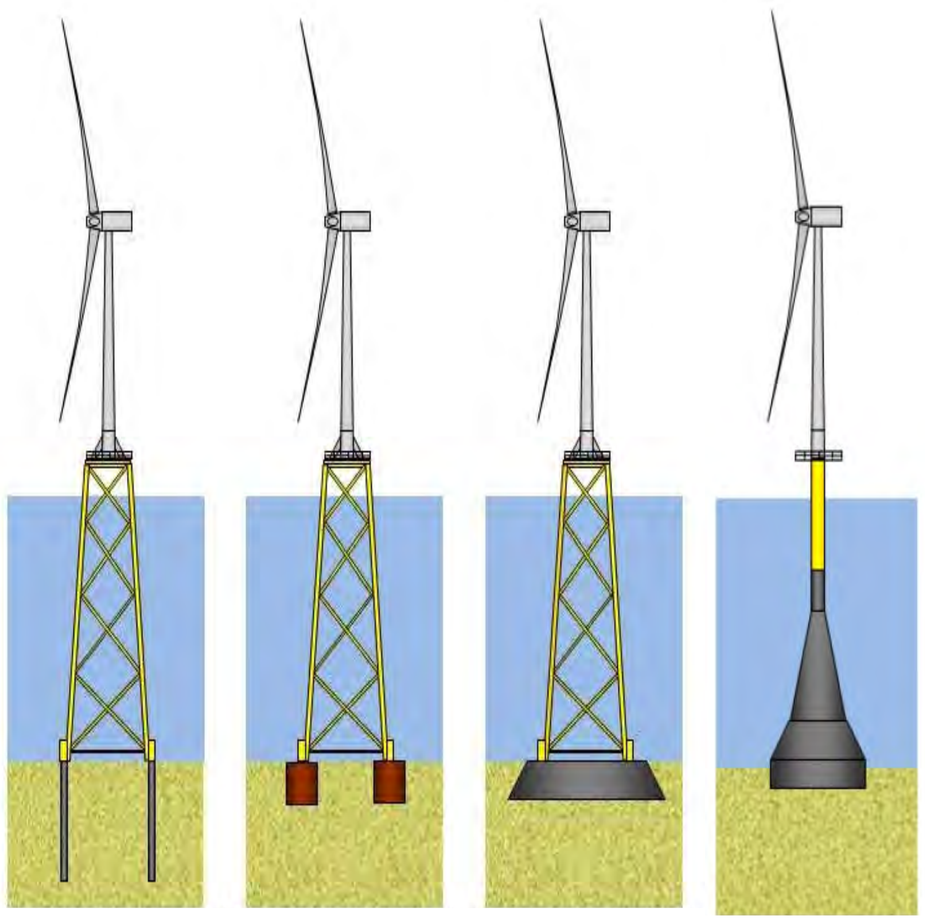
Foundations and substructures

The foundations are the engineered elements used to secure the substructure and wind turbine to the seabed. The substructure is the component which links the turbine tower to the foundation.

For the Beatrice Offshore Wind Farm, engineering appraisals have concluded that given the water depths, seabed characteristics and wind resource at the site there are a number of feasible designs for foundations. These are pin pile, suction pile, gravity base or conical gravity base.

Suitable substructure designs for the Beatrice Offshore Wind Farm are tubular jacket or monotower.

Examples of these components are illustrated below.



Tubular jacket with pin piles | Tubular jacket with suction piles | Tubular jacket with gravity base | Monotower with conical gravity base

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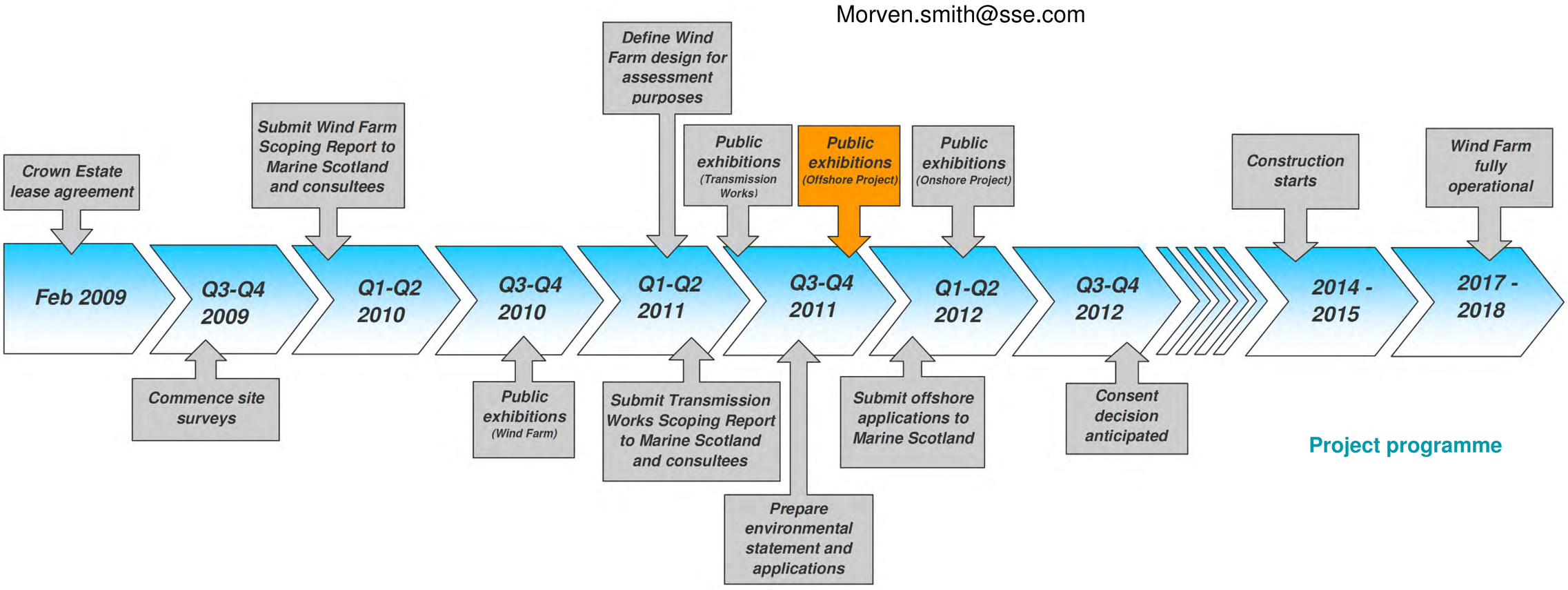
Beatrice Offshore Project

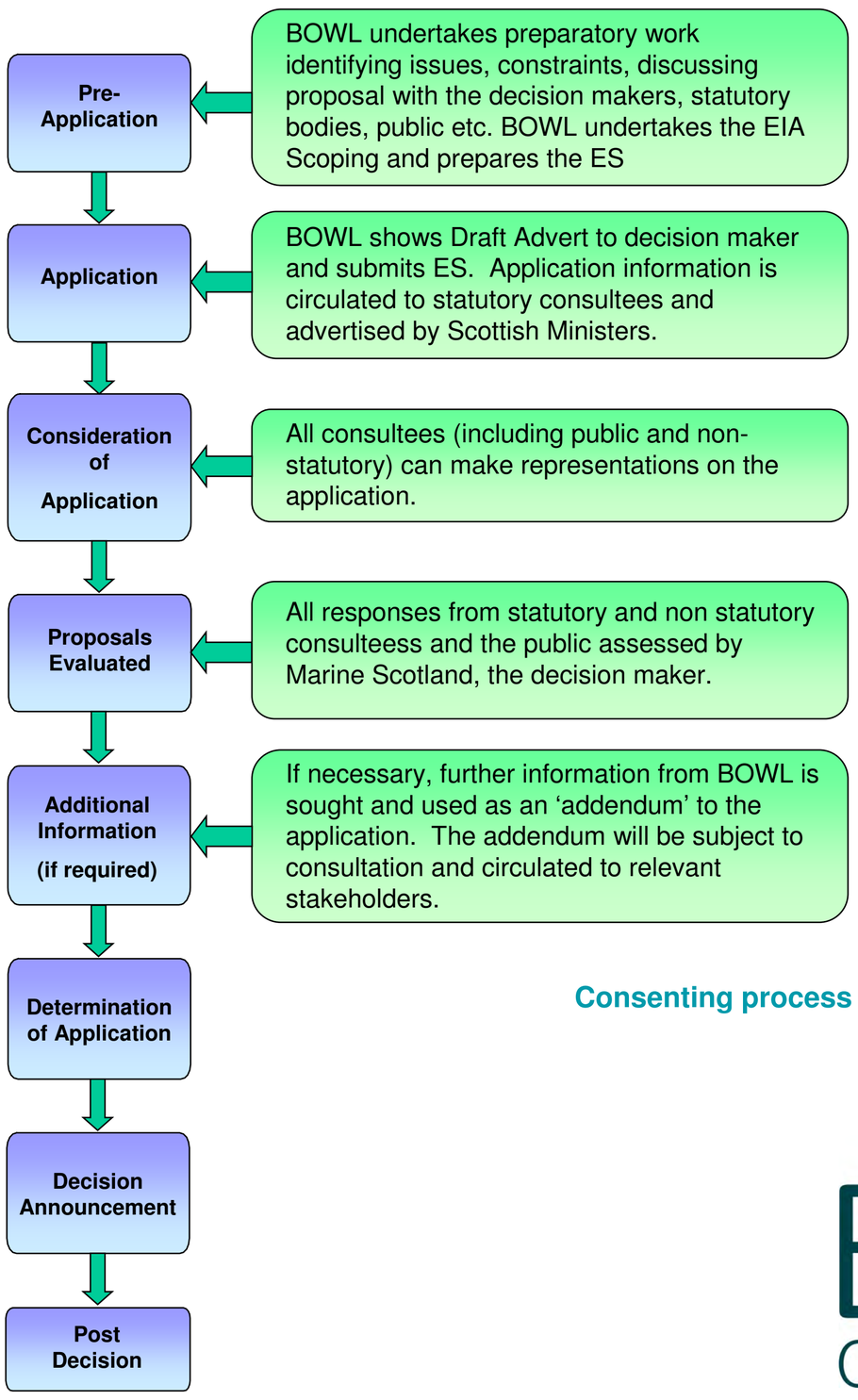
Project Programme

The project programme illustration below shows the main activities that BOWL has undertaken so far in the development of the project. It also indicates the expected timetable that will follow submission of the offshore applications. One activity that runs continuously throughout this programme is 'consultation'.

Consultation with decision makers, regulators, key consultees and other interested parties has, and will continue to be, undertaken throughout the entire project programme. Consultation is a key tool in helping define the project design and agreeing the scope of the surveys and assessments undertaken.



Project programme



Consenting process

Your views and comments

Whether formal or informal, your views and opinions about the proposals are welcomed and valued. If you have any comments, queries or views you would like to share with BOWL please feel free to contact us at the address below, or fill in a comment sheet available from BOWL staff here at the exhibition.

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BOWL Communications Manager
SSE
Inveralmond House
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Perth
PH1 3AQ

Morven.smith@sse.com

Beatrice Offshore Windfarm Ltd

Beatrice Offshore Project

Construction timeline

There will be a lot of activity in the sea during the construction phase. Construction could potentially start in 2014 and continue to 2018. Offshore construction is likely to be carried out 24 hours a day when weather and sea conditions permit.

The wind turbines will be designed to operate for a period of 25 years. After this time the Wind Farm could be decommissioned, or continue operating and be upgraded. If the project was to be decommissioned, towards the end of the project life a Decommissioning Plan will be prepared and submitted to Marine Scotland for approval.

The main construction activities are indicated in the timetable below and the sequence in which they are undertaken will likely follow through activity 1 to 5. It is possible that more than one set of construction activities will be taking place at any one time, for example, foundations could be installed at two separate locations within the Wind Farm at the same time by two separate vessels.

	2014				2015				2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction Activity																				
1. Installation of foundations			■	■	■	■	■	■	■	■	■	■								
2. Installation of substructures					■	■	■	■	■	■	■	■	■	■	■	■	■			
3. Installation of inter-array cables						■	■	■	■	■	■	■	■	■	■	■	■	■		
4. Installation of wind turbines									■	■	■	■	■	■	■	■	■	■	■	
5. Commissioning and testing									■	■	■	■	■	■	■	■	■	■	■	■
6. Marine Transmission Works						■	■	■	■											

Construction Methods

The vessels used during the construction phases will range from small crew vessels, transporting workmen on and offshore, to large specialist installation vessels. An illustration of the types of vessels used for the various construction phases are provided below. During the construction phases these vessels could be based at a port within the Moray Firth area, or it is possible they could sail with the components from another location within the UK or Europe. Whilst construction is taking place there will be safety zones created to make sure both construction vessels and other users of the sea can navigate safely.


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1 – A seabed investigation vessel.
2 – Typical vessel installing a foundation.
3 – Typical cable lay vessel with trencher being lowered to seabed.
4 – Transporting substructures on a barge.
5 – Fully assembled turbine ready for transport.
6 – Vessel carrying complete turbine to site.
7 – Typical installation vessel.

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Birds

Both the Moray Firth and East Caithness Cliffs Special Protection Areas (SPAs) are sites of European importance for certain sea birds and wildfowl. It is therefore required by law that BOWL assess whether the proposed Wind Farm would have an impact on these sites and the species important to them. The key bird species BOWL has assessed are as follows.

- Fulmar
- Kittiwake
- Great black-backed gull
- European storm-petrel
- Gannet arctic tern
- European shag
- Guillemot
- Great skua
- Arctic skua
- Herring gull
- Scooty shearwater
- Pink-footed goose
- Greylag goose
- Barnacle goose

Northern fulmar

Greylag goose

Guillemot

Kittiwake

In order to assess the impact of the Wind Farm and Offshore Transmission Works on these species, BOWL examined the distribution and abundance of these birds at the SPA and within the Moray Firth and the range of species present in these locations.

This assessment was undertaken by using existing data, sightings from boats, aerial surveys from aeroplanes and satellite tracking surveys.

The construction, operation and decommissioning of the Wind Farm and Offshore Transmission Works may disturb some bird species and potentially displace them from areas used for feeding, roosting, resting, moulting or passage. Some bird species may be vulnerable to collision with the turbines during operation of the Wind Farm. There may also be potential indirect effects, which could be positive or negative, through changes to habitat and foraging conditions during construction, operation and decommissioning.

Bird populations within the range of the application site will experience low levels of impact as a result of displacement or collision due to the presence of the turbines. Potential impacts on bird populations are not considered to be significant and will not affect the status of the SPAs.

Potential impacts on bird populations using the site were found to be of no significance. Displacement of these species is not considered to constitute a significant impact on the East Caithness Cliffs SPA population.

Seascape, Landscape and Visual

The Wind Farm site is located approximately 13.5 km from the coastline of Caithness, at its closest points.

A computer generated Zone of Theoretical Visibility (ZTV) has been produced. This identifies locations within a 40 km radius study area of the Wind Farm where it may be theoretically possible to see the turbines or offshore substations. The ZTV is based on topographical height data only and does not take account of structures or vegetation which may obscure views of the Wind Farm.

The ZTV indicates the offshore turbines could be visible from locations along the Caithness coast, however due to the distance this is likely to only be the case in clear weather conditions.

The areas where the Wind Farm may be visible lies within the Moray Firth, but also encompass an area of the Highlands landscape. This land is mainly made up of the Caithness and Sutherland coast and hinterland.

Computer generated images have been prepared to illustrate and assess the likely view of what the Wind Farm would look like from certain vantage points on the coastline. The ZTV and a selection of visualisations are presented at this exhibition.

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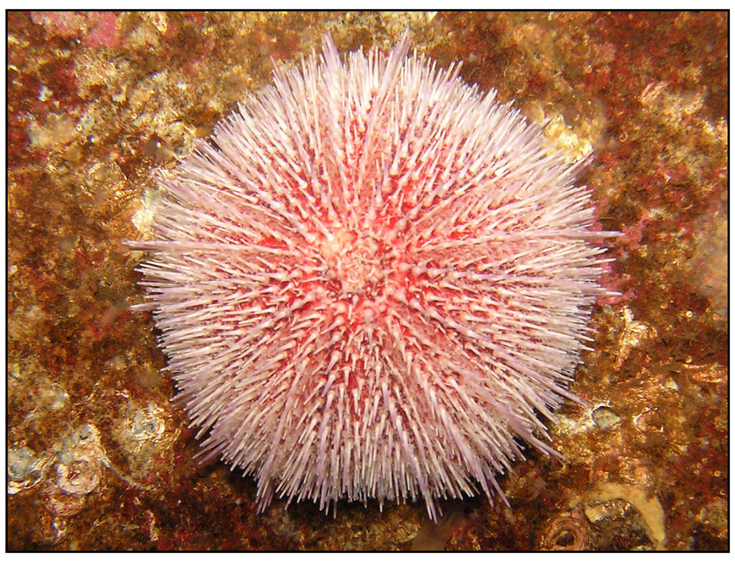
Benthic Ecology

Benthic ecology relates to the animals living on the seabed. BOWL has studied the benthic ecology at the Wind Farm site by undertaking a series of surveys as follows.

- Grab samples from the seabed were collected at locations in the area of the Wind Farm and along the offshore cable route.
- A specialist camera was dropped down to the sea bed at locations in the area near and within Wind Farm site and Offshore Transmission Works route to obtain video and stills images.
- Beam trawls were performed within the Wind Farm site to investigate smaller surface dwelling fish and organisms.
- Sidescan sonar survey of the whole Wind Farm site was undertaken to understand the physical characteristics of the seabed.



Urchin (*Echinus esculentus)*

The results of these surveys allowed BOWL to ascertain the following.

- No populations of nationally important, rare or otherwise unusual species were found during the surveys.
- Biological communities were dominated by a variety of worms and molluscs.
- On the coarser seabed, starfish, urchins, queen scallop, hermit crabs and spider crabs were found.

A habitat classification of the seabed (biotope classification) was carried out, taking into account all of the trawl, grab, camera and sediment (including sidescan sonar) information.

Direct impacts to benthic ecology occur through the direct loss of habitat associated with activities such as the placing of turbine bases on the sea bed. If the largest bases were used it is estimated that about 3% of the Wind Farm site's benthic habitat would be affected. Due to the introduction of new structures in the sea this could be seen as the creation of additional habitat.

Hermit crab (*Pagurus bernhardus)*

Fish

BOWL has assessed impacts to both commercial fishing and the fish and shellfish ecology.

Commercial Fish

The main commercial species found within the Wind Farm site, Offshore Transmission Works route and surrounding area include the species below.

- Scallops, haddock, herring, monkfish, langoustine, lobster, and squid.

Landing records suggest that over half of the species (by weight) caught within approximately 50 km of the Wind Farm site are scallops; a quarter of the catch is haddock; and the remainder are made up of herring, monkfish, langoustine, lobster and squid. The area of the Wind Farm constitutes a small proportion of the fishing grounds for these species in the Moray Firth.

The Wind Farm and cables will introduce new infrastructure to the fishing areas which could restrict certain types of fishing in these areas. Consultation with a wide range of fisheries interests has been ongoing throughout the EIA to minimise this issue and will continue throughout the development process.

Fish Ecology

The Wind Farm site and Offshore cable route is located within, or in proximity to the spawning and nursery grounds of a number of species including.

- Sandeels, cod, plaice, lemon sole, sprat, herring, whiting, langoustine and lobster.

BOWL has also considered that certain species of conservation importance may use or pass through the Wind Farm site and cable route, including those below.

- Salt / freshwater migratory species such as salmon, sea trout, sea lamprey, river lamprey, European eel, and shads.
- Certain species of sharks and rays.

Impacts on the fish ecology will vary between species. For example, some species are more prone to noise impacts than others. In order to minimise these impacts measures will be taken such as soft start engineering operations.

There will be some loss of seabed habitat such as from turbine bases. Sandeel have the potential to be affected by this loss of habitat, however, the assessment has found the impacts on sandeel will not be significant in the overall population.

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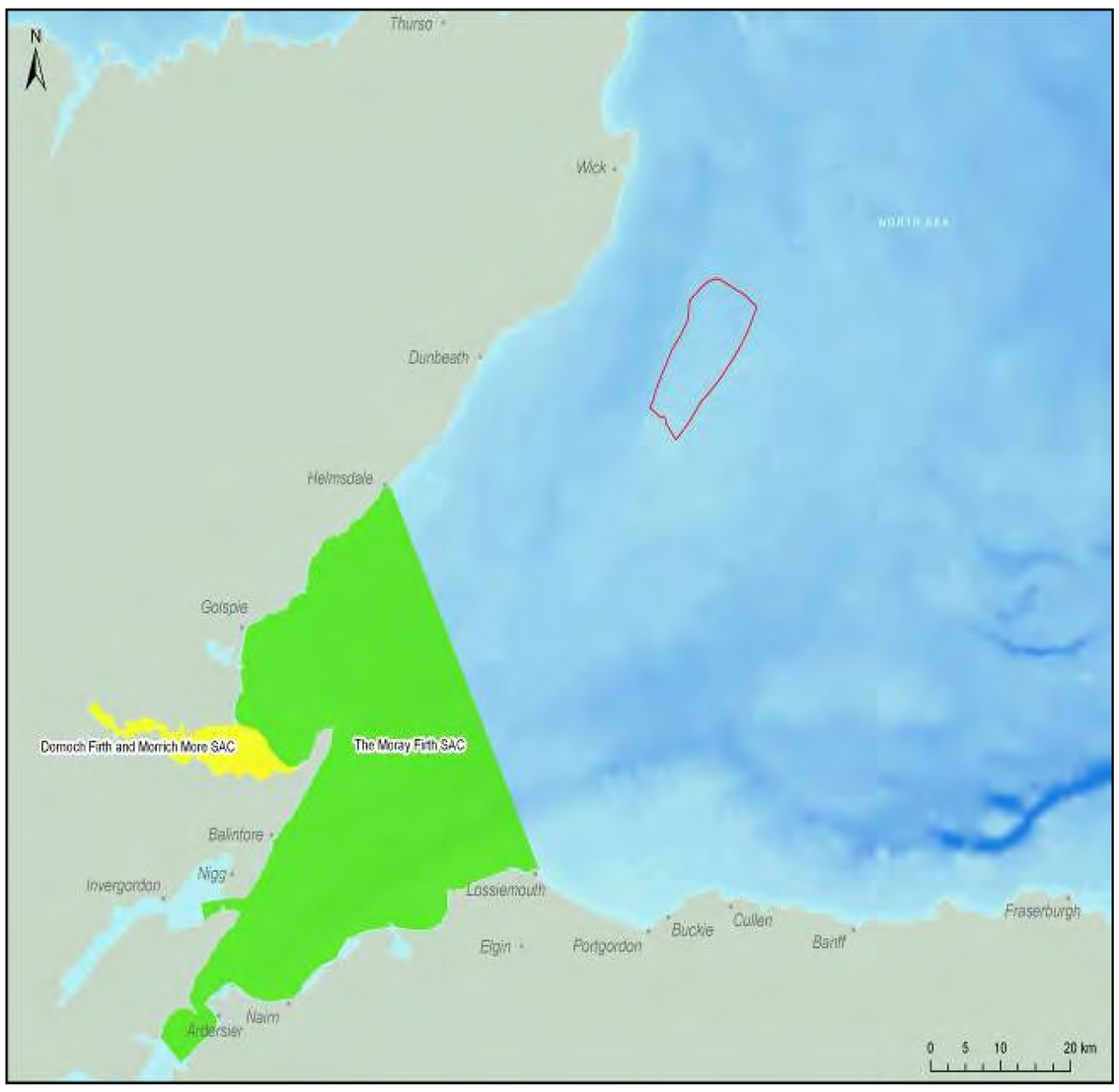
Marine mammals

The Moray Firth area is known for its presence of marine mammals. The main species known to visit the area of the Wind Farm include those below.

- Bottlenose dolphins.
- Harbour porpoise.
- Minke whale.
- Common dolphin.
- Risso's dolphin.
- White-beaked dolphin.
- Harbour (or common) seal.
- Grey seal.

The Moray Firth, and Dornoch Firth and Morrich More, are sites of European importance for certain marine mammals. The Moray Firth is designated as a Special Area of Conservation (SAC) for of bottlenose dolphins. The Dornoch Firth and Morrich More SAC is designated for the conservation of the harbour (common) seal.



The Moray Firth, and Dornoch Firth and Morrich SACs

In order to assess the impact of the Wind Farm on marine mammals, studies and surveys were undertaken to determine the distribution and abundance of these species in and around the Moray Firth and Wind Farm site and the Offshore Transmission Works route. Previous studies were reviewed and surveys were completed including sightings from boats, aerial surveys from aeroplanes and satellite tracking surveys.

Our surveys have shown that there are relatively few occurrences of bottlenose dolphin within close proximity to the proposed Wind Farm site and Offshore Transmission Works route, but that there is a relatively high movement of bottlenose dolphin within the Inner Moray Firth and along the Moray coastline. Harbour seals are likely to be more frequent visitors to the Wind Farm site and Offshore Transmission Works route as they move between the Dornoch Firth and feeding areas.

Marine mammals are sensitive to underwater noise and therefore construction techniques will be carefully assessed and adopted to reduce potential noise impacts. One measure is to have marine mammal observers on board construction vessels. The observer will indicate to the operatives when sensitive species are within a certain range of the vessel and measures will be put in place to stop/delay/control noisy activities. A further measure is to implement what is know as 'soft start' engineering operations. As an example this could be implemented when a foundation is getting piled, the hammer blows would be started off at a low force/noise to allow sensitive species to move away from the area if they are present. The blow force of the hammer is then increased gradually until it reaches its required operating levels.

Other potential indirect impacts relate to the distribution and local abundance of food (prey species) and how this may change as a result of constructing, operating and decommissioning the Wind Farm and cable route. This is addressed in assessment such as Natural Fish and Benthic Ecology.

Harbour (common) seal

Bottlenose dolphins

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Onshore Project

In order that the electricity generated can reach the centres of demand the Wind Farm will need to be connected to the national electricity grid. We have a grid connection agreement with National Grid which allows us to connect into the existing electricity network at Blackhillock, near Keith, Moray.

The onshore components of this connection include the following.

- Approximately 20 km of onshore underground cable.
- A new electricity substation nearby the existing substation at Blackhillock.

Onshore cable

The onshore underground cable is proposed to follow a route from the landfall point at Portgordon to the proposed electricity substation location at Blackhillock. The cables will be underground and construction and installation will involve the following.

- Ground preparation works, such as scrub clearance and ground levelling, if required.
- Digging trenches, storing of excavated materials to be used for backfilling following laying of the cable.
- Underground directional drilling for at some locations along the route.
- Delivery of cables to site by HGV for laying in the trenches.
- Underground jointing pits approximately every 0.5 -1 km.

Substation

The substation at Blackhillock, near Keith provides a connection to the wider electricity grid network. A new dedicated substation will be built by BOWL near the existing substation. The onshore cable will connect into the new BOWL substation which will in turn be connected to the existing Blackhillock substation, which will be upgraded.

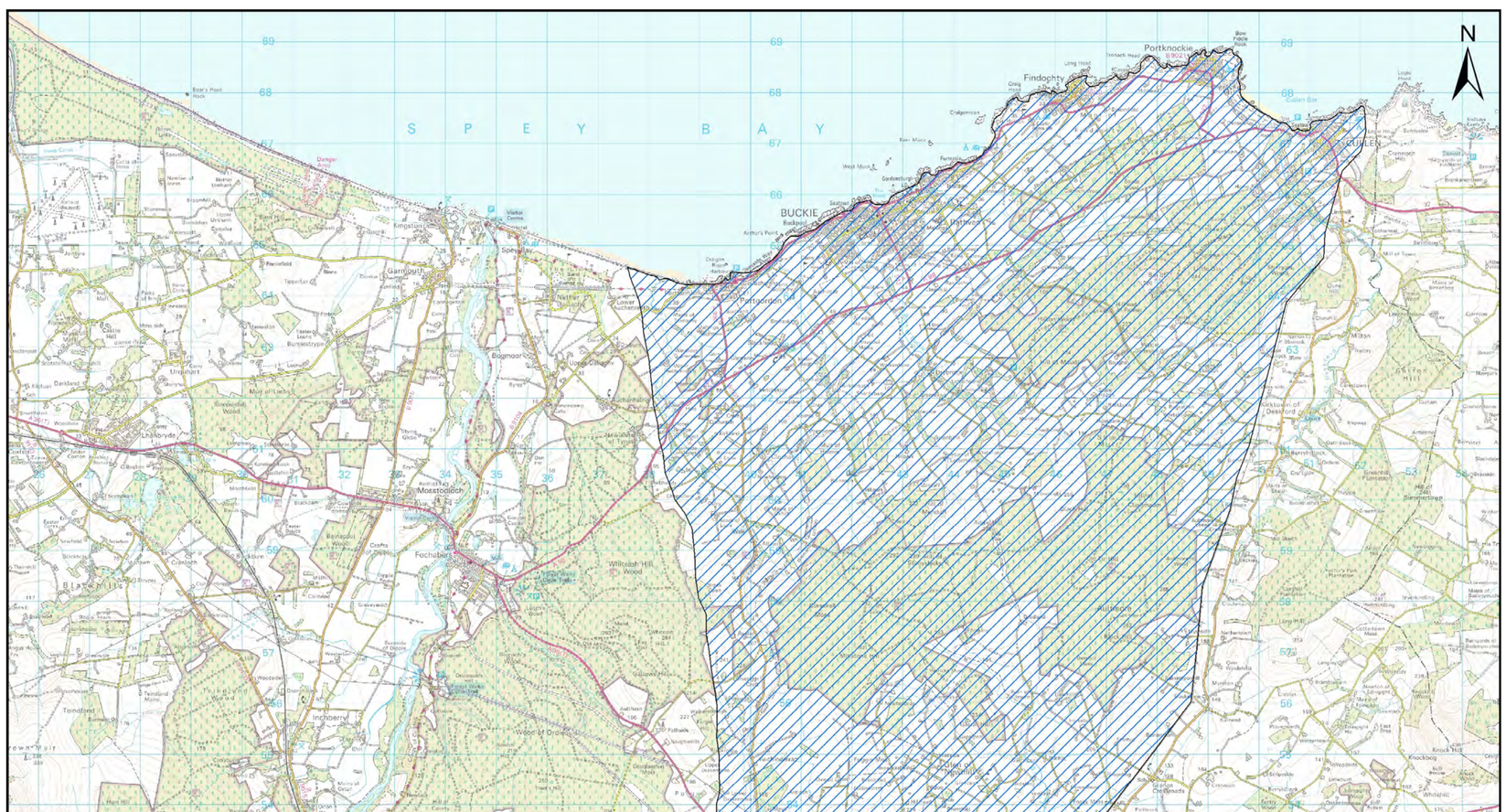
Construction of the substation will take approximately two years. Components of the substation will be transported to the site by road. A transport study will be undertaken to identify the routes and timing for such deliveries to reduce the impact on other road users and residents along the route.

The design and assessment of the substation is ongoing and further information will be presented at later exhibitions specific to the Onshore Project.

Next steps

The BOWL project team is currently carrying out an EIA for the Onshore Project, similar to that being carried out for the Offshore Project. BOWL is proposing to hold further consultation, including exhibitions, with the public and key stakeholders on the Onshore Project proposals in 2012.

It is proposed to submit the Onshore Project planning application to The Moray Council, along with the supporting Environmental Statement and other documentation in Spring 2012.



Indicative onshore cable study area

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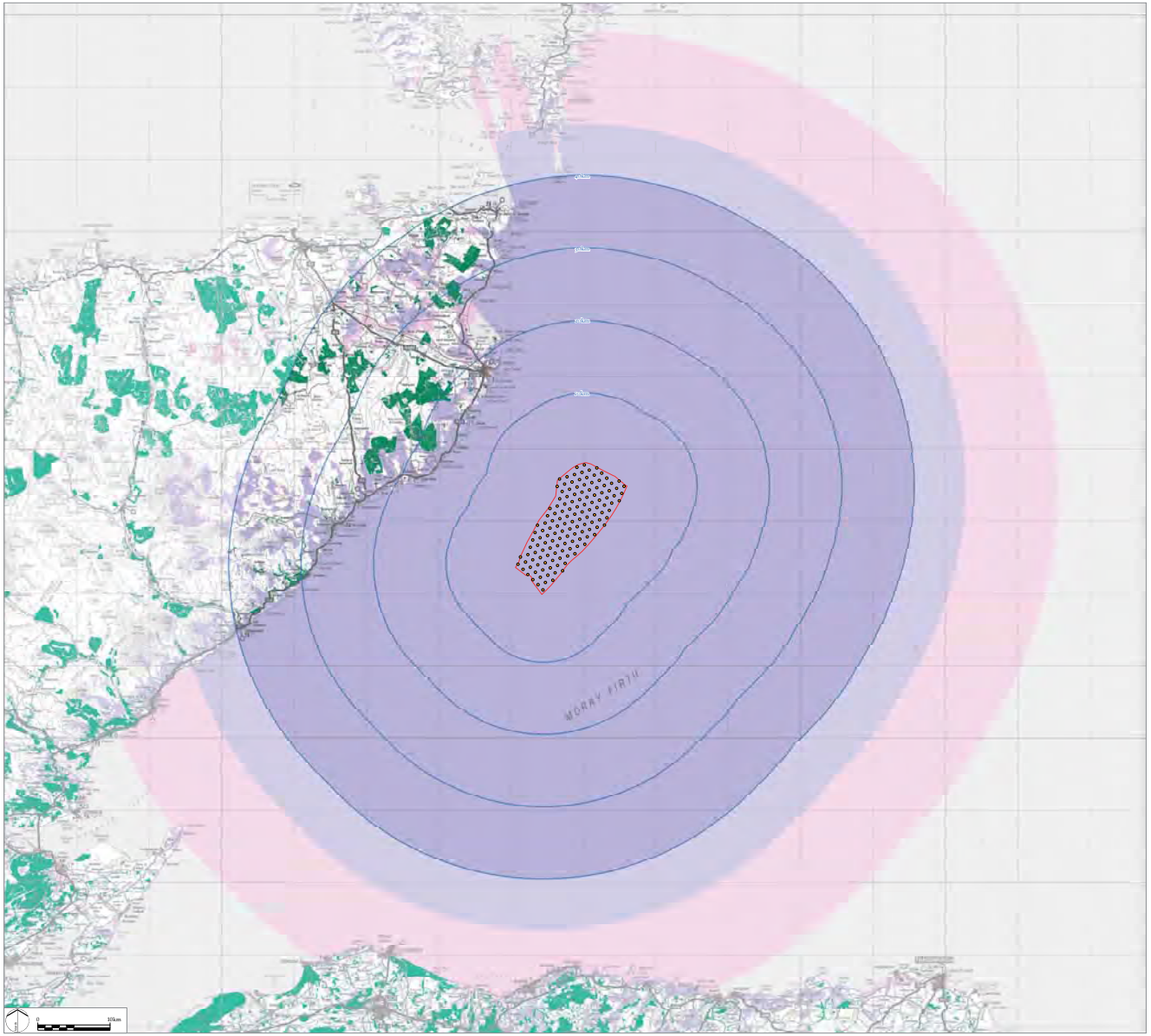

LEGEND

- Beatrice Offshore Wind Farm Site Boundary
- 10km, 20km, 30km & 40km radii around Site Boundary
- Proposed Wind Turbine
- Hub Visible (115.9m AOD)
- Blade Tip Visible (198.4m AOD)
- Urban Areas (modelled to 7.5m)
- Woodlands (modelled to 15m)

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements as shown, which have been included in the model with the heights indicated. The model does not take into account any localised features such as small copses, hedgerows, mature trees or buildings and therefore gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The ZTV includes an adjustment that allows for the Curvature and Light Refraction of the Earth and has a 49.6m2 resolution.

Zone of Theoretical Visibility

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Beatrice Offshore Wind Farm

Existing View

Photomontage View

This wireframe is based upon Ordnance Survey data with spot heights at 50m intervals and does not precisely model small scale changes in landform or sharp breaks in slope.
The wireframe model does not allow for the screening effects of vegetation or buildings. The model of turbine shown is similar to that proposed for the development.

Viewpoint 4: Wick Bay (North side)

Viewing Distance: 435mm

Viewpoint Information

Grid Reference:	336983, 951014
Elevation (AOD):	6.81m
Viewer Height:	1.6m
Angle (width):	90°, turbines occupy - 22°
Camera & Lens:	Digital SLR, 50mm
Photo date / time:	14/06/2011 13.30
Nearest turbine:	18.04km, T130
Blade Tip\Nacelle Height:	198.4m \ 115.9m

Location Plan - 1:50,000 scale

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Existing View

Photomontage View

This wireframe is based upon Ordnance Survey data with spot heights at 50m intervals and does not precisely model small scale changes in landform or sharp breaks in slope.
The wireframe model does not allow for the screening effects of vegetation or buildings. The model of turbine shown is similar to that proposed for the development.

Viewpoint 5: Sarclet (Sarclet Haven info board)

Viewing Distance: 435mm

Viewpoint Information

Grid Reference:	334989, 943322
Elevation (AOD):	39.63m
Viewer Height:	1.6m
Angle (width):	90°, turbines occupy - 54°
Camera & Lens:	Digital SLR, 50mm
Photo date / time:	12/06/2011 13.30
Nearest turbine:	13.93km, T130
Blade Tip\Nacelle Height:	198.4m \ 115.9m

Location Plan - 1:50,000 scale

Beatrice
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Beatrice Offshore Wind Farm

Existing View

Photomontage View

This wireframe is based upon Ordnance Survey data with spot heights at 50m intervals and does not precisely model small scale changes in landform or sharp breaks in slope.
The wireframe model does not allow for the screening effects of vegetation or buildings. The model of turbine shown is similar to that proposed for the development.

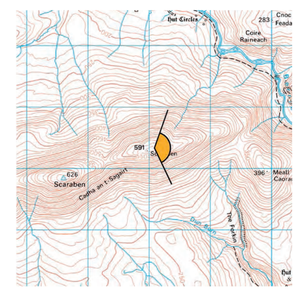
Viewpoint 11: Scaraben

Viewing Distance: 435mm

Viewpoint Information

Grid Reference:	308083, 927330
Elevation (AOD):	586.30m
Viewer Height:	1.6m
Angle (width):	90°, turbines occupy - 25°
Camera & Lens:	Digital SLR, 50mm
Photo date / time:	14/06/2011 11.15
Nearest turbine:	33.06km, T17
Blade Tip\Nacelle Height:	198.4m \ 115.9m

Location Plan - 1:50,000 scale



Beatrice
Offshore Windfarm Ltd

Beatrice Offshore Wind Farm

Existing View

Photomontage View

This wireframe is based upon Ordnance Survey data with spot heights at 50m intervals and does not precisely model small scale changes in landform or sharp breaks in slope.
The wireframe model does not allow for the screening effects of vegetation or buildings. The model of turbine shown is similar to that proposed for the development.

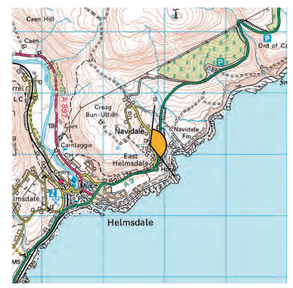
Viewpoint 12: Navidale

Viewing Distance: 435mm

Viewpoint Information

Grid Reference:	303765, 916150
Elevation (AOD):	82.11m
Viewer Height:	1.6m
Angle (width):	90°, turbines occupy - 20°
Camera & Lens:	Digital SLR, 50mm
Photo date / time:	14/06/2011 15.50
Nearest turbine:	38.05km, T17
Blade Tip\Nacelle Height:	198.4m \ 115.9m

Location Plan - 1:50,000 scale



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APPENDIX 5: Exhibition Leaflet August / September 2010

be appraised during the course of the design development and EIA process. Various construction phases will be required and a typical programme would involve the following elements.

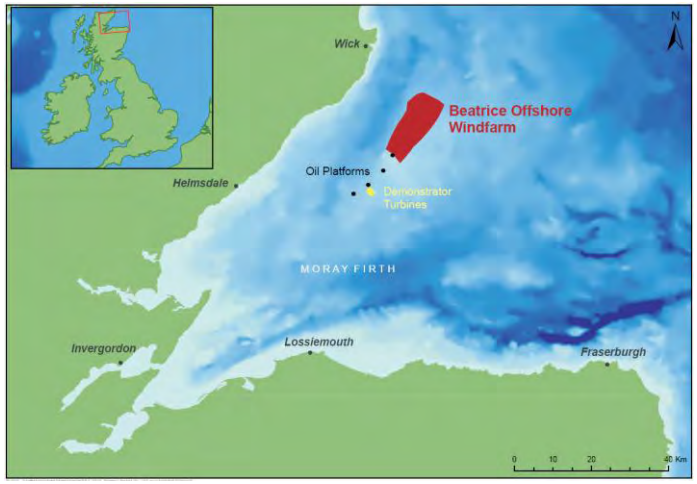
- Seabed preparation work if required.
- Substations and subsea cables installed.
- Construction vessels moved into position to begin foundation works.
- Key turbine components assembled onshore and transported to site and erected.
- Testing and commissioning undertaken.

During construction there will be a number of specialist vessels undertaking construction operations. These are likely to include a large construction vessel which may also be assisted by a number of specialist support vessels.

Typical construction vessel used to erect turbines

Operation of the Wind Farm

The wind farm would be available for operation 24 hours a day, 365 days a year. An ongoing programme of operation and maintenance activities would be developed and rolled out to support its operation. We anticipate that this operation and maintenance programme will result in the creation of a local service base.



Site Location and surrounding features

Get in touch

Whether formal or informal, your views and opinions about the proposed offshore wind farm, even at this early stage, are welcome and valued. If you have any comments, queries or views about the proposals please feel free to contact BOWL at the address below.

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Digital copies of the Environmental Scoping Report are available from the project website at: **www.sse-beatrice.com**

Beatrice Offshore Windfarm Ltd

INFORMATION LEAFLET

Beatrice Offshore Windfarm Limited (BOWL) is the joint venture partnership formed between SSE Renewables (75%) and SeaEnergy Renewables (25%). In February 2009 we were awarded an exclusivity agreement by The Crown Estate to develop the Beatrice Offshore Wind Farm in Scottish Territorial Waters.

SSE Renewables is responsible for the development of Scottish and Southern Energy's (SSE) renewable energy projects across Europe. It is the UK's leading generator of renewable energy with over 2,300 Megawatts (MW) of renewable electricity projects consented.

SeaEnergy Renewables Limited (SERL) developed and delivered the world's first deep water wind farm development - the Beatrice demonstrator project (10MW) owned by Talisman Energy and SSE and located in the Outer Moray Firth.

Where is it?

The Beatrice Offshore Wind Farm site is located as follows.

- On the north-western most point of the Smith Bank in the Outer Moray Firth.
- Approximately 13.5km from the Caithness coastline.
- This site is approximately 19km long and 9km wide.

There are a number of features located nearby.

- The existing Beatrice demonstrator turbines 11km to the south west.
- The existing Jacky oil platform is located just outside the site to the south west.
- The proposed Moray Firth Round 3 offshore wind farm zone is located directly to the east.

What is it we propose?

If we use the same turbines as the existing 5MW demonstrator turbines the Beatrice site could accommodate approximately 184, giving a generating capacity of 920MW. Key statistics of these turbines include the following.

- A hub height of approximately 88m above sea level.
- A blade tip height of approximately 150m.

What are the key components?

The wind farm will comprise the following.

- Turbines (tower, nacelle, rotors and hub).
- Turbine sub-structure and foundations.
- Electricity cables at the site.
- Offshore electricity substations.
- Cable connection to a mainland substation.
- Maintenance and operational facilities on the mainland.

Why are we doing this?

UK renewable energy policy centres around two key factors.

- Reduction of CO_2 emissions to tackle climate change.
- Security of energy supply.

There are a number of government targets set to try and achieve this.

- UK Government target of generating 15% of energy from renewable sources by 2015 and 20% by 2020.
- The Scottish Government's Climate Change Act commits Scotland to cut carbon emissions by 42% from 1990 levels by 2020 and by at least 80% by 2050.

The move to a low carbon economy and an increased reliance on renewable energy will also make a significant contribution to the security of fuel supplies by reducing dependency on oil and gas.

Offshore Wind Development

There are a number of Scottish Government and UK Government policies and statements which promote the development of offshore wind in the Moray Firth. In the 2006 Scottish Government report 'Matching Renewable Electricity Generation and Demand' the Outer Moray Firth was identified as a region able to accommodate offshore wind development.

What is the BOWL timetable?

Key activities that we have undertaken so far, and our anticipated timetables going forward, are shown below.

Activity	Timescale
Exclusivity agreement received from The Crown Estate	February 2009
Agree on approach and scope of Environmental Impact Assessment (EIA) with the Government and consultees.	Summer 2010
Environmental Scoping Report submitted to Marine Scotland	March 2010
Undertake baseline surveys and Environmental Impact Assessment	Ongoing until Autumn 2011
Public exhibitions	Summer 2010
Submit completed application and Environmental Statement for Statutory Consent and Licenses	Autumn / Winter 2011
Consent potentially granted	Anticipated Autumn/Winter 2012
Construction commencing	Anticipated 2014/2015
Fully operational	Anticipated 2017/2018

Who are we consulting?

We are committed to consulting with all interested parties. We have already consulted with many statutory and non-statutory groups and organisations. The public is another key consultee.

We are keen to listen to the views of all these groups and individuals and welcome any feedback. Keeping stakeholders informed of our plans as they develop, and receiving comments as part of this consultation process, is another key aim. We plan to hold a further series of public exhibitions next year around the time we submit our application(s) for consent, which we expect to do in Autumn/Winter 2011.

What are we doing?

There are certain consents that must be obtained for any offshore wind generating site in Scottish waters. It should be noted that, since the Beatrice Offshore Windfarm Limited's (BOWL) applications for development are not anticipated to be submitted until 2011, it is likely that the applications will pass through a new consenting framework. The new consenting framework is currently in preparation.

Environmental Impact Assessment (EIA)

To support the application an EIA is required under the European Commission EIA Directive. BOWL will employ a variety of specialist consultants to assess the final proposals from an environmental perspective. The topic areas that will be considered in the EIA are listed below. Some of these may warrant more detailed assessment and modelling than others.

Physical Environment	
Coastal Process	Seabed Geology
Air Quality	Noise and Vibration
Traffic and Transport	
Biological Environment	
Seabed Marine Life	Plankton
Fish Ecology	Marine Mammals
Ornithology	
Human Environment	
Landscape, Seascape and Visual	Archaeology and Cultural Heritage
Aviation and Military Operations	Shipping and Navigation
Commercial Fisheries	Salmon and Sea Trout
Oil and Gas Operations	Socio – Economics
Pipelines and Cables / Seabed Infrastructure	

Construction and Operation Overview

The construction timetable is likely to run for approximately three years. Access to the offshore construction area will be required all year round, and during the main construction phases we expect that 24 hour working will be required. There are a number of construction techniques that could be employed to install the wind farm components and these will

APPENDIX 6: Exhibition Leaflet July 2011

Substation

Construction of the substation for the wind farm is likely to take 2 years and will include:

- Foundations will be designed and created to accommodate the weight and scale of the electrical equipment.
- Some of the equipment may be housed whilst others will be uncovered.
- Landscaping will be required to reduce visual impact

Detailed design of the substation is yet to be undertaken. There are two main options for the technology used to connect the wind farm to the existing substation. We will use either Alternating Current (AC) technology or Direct Current (DC) technology depending on the final power output of the wind farm.

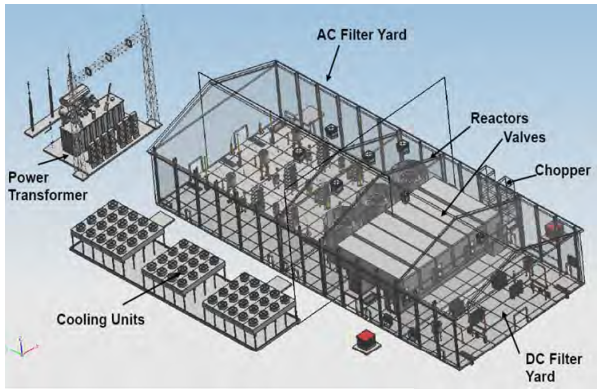
If using AC technology the substation will be:

Approximately 140m wide by 150m long

Example of an AC substation layout

If using DC technology the substation will be:

Approximately 200m wide by 200m long and 25m in height



Example of a DC substation layout

Get in touch

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morven.smith@sse.com

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Beatrice Offshore Windfarm Ltd

BEATRICE TRANSMISSION WORKS INFORMATION LEAFLET

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There are a number of features located nearby:

- The existing Beatrice demonstrator turbines 11km to the south west.
- The existing Jacky oil platform is located just outside the site to the south west.
- The proposed Moray Firth Round 3 offshore wind farm zone is located directly to the east.

What are the key components?

Wind Farm

The wind farm will comprise the following:

- Between 142 and 277 turbines (tower, nacelle, rotors and hub).
- Turbine sub-structure and foundations.
- Electricity cables at the site connecting turbines to the substations.
- Up to 3 offshore electricity substations.
- Up to 3 meteorological masts.

The Transmission Works

In order for the electricity generated at the Beatrice offshore wind farm to reach the centres of demand it will need to be connected to the national electricity grid.

We have applied to National Grid for permission to connect to the grid and have received a grid connection offer from them which allows us to connect into the existing electricity substation at Blackhillock. This offer is based on available network capacity and connectivity to the wider electricity grid.

Grid Infrastructure

To make this connection to the existing substation at Blackhillock we need to develop the following infrastructure:

- **Offshore:** approximately 75km of subsea cable to the landfall point.
- **Onshore:** approximately 24km of underground cable
- **An electricity substation** nearby the existing substation at Blackhillock.

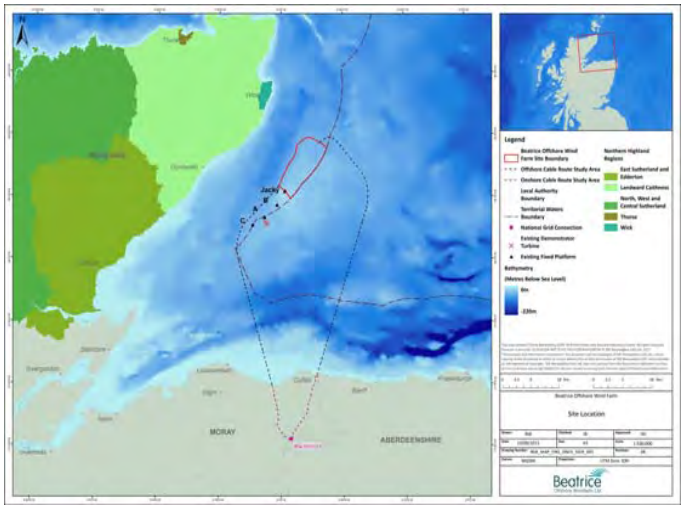
The onshore electricity cable will run from the land fall point on the coast and connect the dedicated wind farm substation to the existing substation at Blackhillock.

Following a site selection study looking at engineering feasibility and environmental impacts, we have identified a search area within which to develop the grid infrastructure.

No decisions have been made about where we will locate the substation, or the route the cables will take. We are therefore asking for comments from all interested parties.

We will now undertake more detailed assessments and studies to identify a preferred cable route and substation site within the study area. No decision will be made until full consideration has been given to any comments, views and suggestions provided by interested parties.

The diagram below shows the study area that we propose to use for the cables and the substation.



Study area for the offshore and onshore cable and substation

Offshore cable route

Offshore cable laying will require a number of specialist vessels including a large construction vessel and a number of specialist support vessels.

Offshore construction will be carried out 24hrs a day, 7 days a week and will take approximately 2 months.

There are a number of methods that could be used to install the offshore cable depending on the seabed type. These may include:

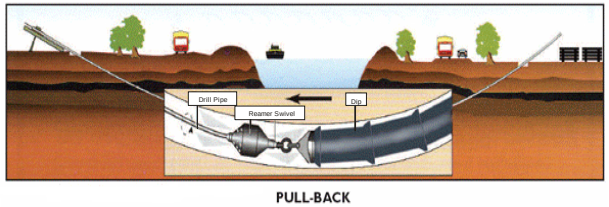
- Dredging a trench where the cable is laid first then backfilled with sediment.
- Ploughing the cable into the sediment where the cable is backfilled.
- Jetting the sediment to allow the cable to be buried deeper.

A typical cable laying vessel with cable trencher

Onshore cable route

The onshore cable will be underground. The installation of the cable will involve:

- Ground preparation work if required.
- Trenches will be dug with spoil stored for backfilling.
- Directional drilling may be employed for shore sections and crossing points such as roads, rivers and railways to avoid impacts to sensitive areas.
- Underground jointing pits may be required every 0.5 – 1km.



Cable instatllation onshore using directional drilling

APPENDIX 7: Exhibition Leaflet November 2011

Seascape, landscape and visual

The Wind Farm site is located approximately 13.5 km from the coastline of Caithness, at its closest point.

A computer generated Zone of Theoretical Visibility (ZTV) has been produced. This identifies locations within a 40 km radius study area of the Wind Farm where it may be theoretically possible to see the turbines or offshore substations.

The ZTV indicates the offshore turbines could be visible from locations along the Caithness coast, however due to the distance this is likely to only be the case in clear weather conditions.

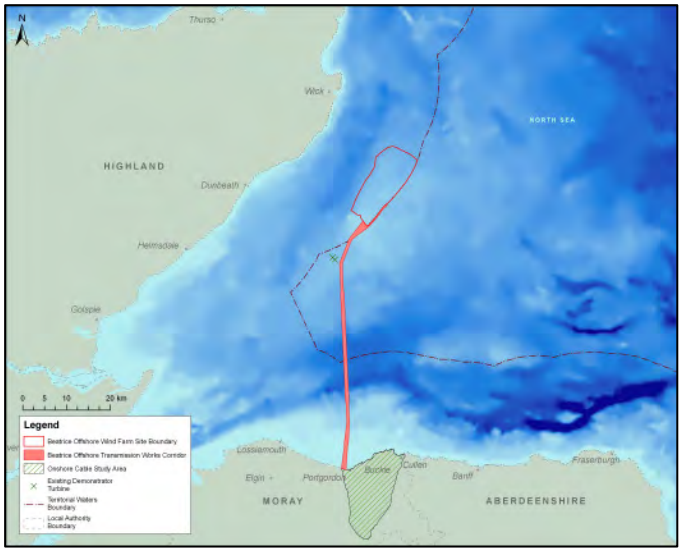
The areas where the Wind Farm may be visible lies within the Moray Firth, but also encompass an area of the Highlands landscape. This land is mainly made up of the Caithness and Sutherland coast and hinterland.

Marine mammals

The Moray Firth area is known for its presence of marine mammals. The main species known to visit the area of the Wind Farm include: bottlenose dolphins, harbour porpoise, minke whale, common dolphin, risso's dolphin, white-beaked dolphin, harbour (or common) seal and grey seal.

Marine mammals are sensitive to underwater noise and therefore construction techniques will be carefully assessed and adopted to reduce potential noise impacts. One measure is to have marine mammal observers on board construction vessels. The observer will indicate to the operatives when sensitive species are within a certain range of the vessel and measures will be put in place to stop/delay/control noisy activities.

Bottlenose dolphin



Site Location

Get in touch

Whether formal or informal, your views and opinions about the proposed offshore wind farm, even at this early stage, are welcome and valued. If you have any comments, queries or views about the proposals please feel free to contact BOWL at the address below.

Morven Smith
BOWL Communications Manager
SSE
Inveralmond House
200 Dunkeld Road
Perth
PH1 3AQ

Morven.smith@sse.com

Digital copies of the Environmental Scoping Report are available from the project website at: **www.sse-beatrice.com**

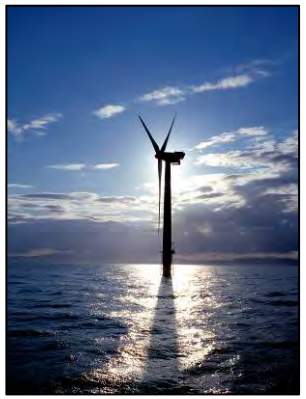
Beatrice
Offshore Windfarm Ltd
INFORMATION LEAFLET

Beatrice Offshore Windfarm Limited (BOWL) is a joint venture partnership formed between SSE Renewables (75%) and Repsol Nuevas Energais UK (25%) (formerly SeaEnergy Renewables).

SSE Renewables is responsible for the development of SSE's renewable energy projects across Europe. SSE is the leading generator of renewable energy in the UK, with over 2,450 Megawatt (MW) of renewable energy projects consented.

Repsol Nuevas Energias UK (Repsol) was formed following Repsol's purchase of 100% of SeaEnergy Renewables Limited in June 2011. It has development rights for a total of 1,190 MW in the United Kingdom, equivalent to a third of the offshore wind capacity currently installed worldwide.

What is it we propose?



The Wind Farm site is located in the Outer Moray Firth on the north-western point of the Smith Bank. The site is adjacent to the world's first deep water wind farm development – the two-turbine (10 MW) Beatrice Demonstrator Project. The Beatrice Demonstrator turbines are owned and were developed by SSE and Talisman. The turbines have been operational since 2007.

Building on the success of the Beatrice Demonstrator Project, we are proposing to develop an offshore Wind Farm which will generate up to 1,000 MW of renewable energy, enough to power over 796,000 homes.

What are the key components?

The proposed Wind Farm will have a maximum of 142 to 227 turbines, depending on turbine size. The offshore components of the Wind Farm will include the following.

- Turbines (tower, nacelle, blades and hub).
- Turbine substructures and foundations.
- Up to three offshore electricity substations.
- Electricity cables at the site connecting the turbines to the substations.
- Up to three meteorological masts.
- Wave measuring equipment.

In order that the electricity generated can reach the centres of demand the Wind Farm will need to be connected to the national electricity grid. We have a grid connection agreement with National Grid which allows us to connect into the existing electricity network at Blackhillock, near Keith, Moray.

The electricity transmission will require the following.

Offshore Transmission Works:

- Approximately 65 km of subsea cable.

Onshore Transmission Works:

- Approximately 20 km of onshore underground cable.
- A new substation nearby the existing substation at Blackhillock.

Where is it?

This site is 13.5 km from the Caithness coastline and is 19 km long and 9 km wide. The existing Beatrice Demonstrator turbines are located 11 km to the south west of the site, and Jacky oil platform is adjacent to the southern boundary. The proposed Moray Firth Round 3 offshore wind farm zone is located directly to the east.

The need for this project?

UK renewable energy policy centres around two key factors.

- Reduction of CO_2 emissions to tackle climate change.
- Security of energy supply.

There are a number of government targets set to try and achieve this.

- UK Government target of generating 15% of energy from renewable sources by 2015 and 20% by 2020.
- The Scottish Government's target of generating the equivalent of 100% of Scotland's gross annual electricity consumption from renewable sources by 2020.

Wind Farm design

A final site layout has not yet been developed. Therefore the consent will allow for flexibility to define the layout of the Wind Farm once detailed design has been undertaken. An Environmental Impact Assessment (EIA) is being carried out and will be submitted as part of the application. The EIA will consider a number of scenarios and indicative layouts to ensure every possible significant impact has been assessed.

The final layout will have a generating capacity of up to 1000 MW. In order to achieve this maximum capacity a number of turbine scenarios are being considered, including up to 277 turbines of 3.6 MW capacity, and up to 142 turbines of 7 MW capacity.

Construction timeline

There will be a lot of activity in the sea during the construction phase. Construction could potentially start in 2014 and continue to 2018. Offshore construction is likely to be carried out 24 hours a day when weather and sea conditions permit.

The wind turbines will be designed to operate for a period of 25 years. After this time the Wind Farm could be decommissioned, or continue operating and be upgraded. If the project was to be decommissioned, towards the end of the project life a Decommissioning Plan will be prepared and submitted to Marine Scotland for approval.

Wind turbine installation

Construction methods

The vessels used during the construction phases will range from small crew vessels, transporting workmen on and offshore, to large specialist installation vessels. During the construction phases these vessels could be based at a port within the Moray Firth area, or it is possible they could sail with the components from another location within the UK or Europe. Whilst construction is taking place there will be safety zones created to make sure both construction vessels and other users of the sea can navigate safely.

Substructure being towed to site

Offshore environmental impacts

BOWL is assessing the proposals from an environmental perspective. Some of the topic areas that are being considered are outlined here.

Birds

Both the Moray Firth and East Caithness Cliffs Special Protection Areas (SPAs) are sites of European importance for certain sea birds and wildfowl. It is therefore required by law that BOWL assess whether the proposed Wind Farm would have an impact on these sites and the species important to them. The key bird species BOWL has assessed include; Fulmar, Kittiwake, Great black-backed gull, European storm-petrel, Gannet arctic tern, European shag, Guillemot, Great skua, Arctic skua, Herring gull, Scooty shearwater, Pink-footed goose, Greylag goose, Barnacle goose.

Kittiwake

APPENDIX 8: Press Advertisement August / September 2011 Exhibitions

edp renewables

SeaEnergy RENEWABLES

Beatrice Offshore Windfarm Ltd

moray offshore renewables ltd

Public Consultation Exhibitions

To reduce harmful greenhouse gas emissions and increase the amount of energy generated from renewable sources, Moray Offshore Renewables Ltd and Beatrice Offshore Windfarm Ltd (BOWL) propose to develop offshore wind energy at two different locations in the Outer Moray Firth.

If you would like to find out more about either project, please come along to one of our public exhibitions where you can discuss the proposals with our project staff and take part in our consultation. We would welcome your views.

Moray Offshore Renewables Ltd is a joint venture partnership owned 75% by EDP Renewables Ltd and 25% by SeaEnergy Renewables Ltd.

Beatrice Offshore Windfarm Ltd (BOWL) is a joint venture partnership owned 75% by SSE Renewables and 25% by SeaEnergy Renewables Ltd.

Wick	Helmsdale	Brora	Tain
Tues 31 August MacKays Hotel 12pm-8pm	**Wed 1 Sept** Community Centre 12pm-8pm	**Thurs 2 Sept** Royal Marine Hotel 12pm-8pm	**Fri 3 Sept** Royal Hotel 12pm-8pm

Your opinions are invited, and public consultation on the Moray Offshore Renewables Ltd Environmental Impact Scoping Report runs from 31 August 2010, to 30 November 2010. The report is available at www.morayoffshorerenewables.com. For further information, please contact The Stakeholder Manager, Moray Offshore Renewables, EDPR UK, 40 Princes Street, Edinburgh, EH2 2BY

Further Information about the Beatrice Offshore Windfarm is available from www.sse-beatrice.com, or from The Stakeholder Manager, Beatrice Offshore Windfarm Ltd, Inveralmond House, 200 Dunkeld Rd, Perth PH1 3AQ

edp renewables

SeaEnergy RENEWABLES

SSE Renewables

Beatrice Offshore Windfarm Ltd

moray offshore renewables ltd

Public Consultation Exhibitions

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*Peterhead	*Banff	Fraserburgh	Elgin
Mon 13 Sept Palace Hotel, 12pm-8pm	**Tues 14 Sept** Fife Lodge Hotel, 12pm-8pm	**Wed 15 Sept** Leisure Centre, 12pm-8pm	**Thurs 16 Sept** St Giles Shopping Centre, 9am-5:30pm

***Moray Offshore Renewables Ltd only**

Your opinions are invited, and public consultation on the Moray Offshore Renewables Ltd Environmental Impact Scoping Report runs from 31 August 2010, to 30 November 2010. The report is available at www.morayoffshorerenewables.com. For further information, please contact The Stakeholder Manager, Moray Offshore Renewables, EDPR UK, 40 Princes Street, Edinburgh, EH2 2BY

If you have any comments or queries on the Beatrice Offshore Wind Farm further information is available from www.sse-beatrice.com, or from the BOWL Communications Manager, Beatrice Offshore Windfarm Ltd, Inveralmond House, 200 Dunkeld Rd, Perth, PH1 3AQ

APPENDIX 9: Press Advertisement July 2011
Exhibitions

Beatrice Offshore Wind Farm Consultation - Onshore Electricity Connection

SSE Renewables and SeaEnergy Renewables are proposing to develop the **Beatrice Offshore Wind Farm** and its connection to the national electricity network.

You are invited to share your views on our proposals for the onshore electricity connection which will include an underground cable from a coastal landing point and a new electricity substation in the Keith area.

The public exhibitions are:

- **Buckie – Town House Halls, Cluny Place, Buckie - Tuesday 5 July (3pm to 7pm); and**

- **Keith - Longmore Hall, Church Road, Keith Wednesday 6 July (3pm to 7pm)**

You can find out more information by visiting our website at **www.sse.com/beatrice** or by contacting Morven Smith on 01738 516650 or email morven.smith@sse.com

Consultation ends on 12 Aug 2011

APPENDIX 10: Press Advertisement November 2011 Exhibitions

BEATRICE OFFSHORE WIND FARM
PUBLIC INFORMATION EXHIBITIONS

Beatrice Offshore Windfarm Limited (BOWL) is a joint venture partnership between SSE Renewables and Repsol Nuevas Energias UK. BOWL is proposing to develop the Beatrice offshore wind farm which will be located in the Outer Moray Firth.

We will be submitting an application for consent to develop the site to Scottish Ministers before the **end of January 2012**. Ahead of this we are holding public information exhibitions to provide people with the opportunity to learn more about the proposals and raise any questions that they may have with our project team. The exhibitions will be held as follows:

VENUE	DATE	TIMES
WICK MACKAYS HOTEL, WICK	**TUESDAY 8 NOVEMBER**	**13:00 - 19:00**
HELMSDALE COMMUNITY CENTRE, HELMSDALE	**WEDNESDAY 9 NOVEMBER**	**13:00 – 18:00**
BUCKIE TOWN HOUSE HALL, BUCKIE	**THURSDAY 10 NOVEMBER**	**13:00 – 19:00**
INVERNESS EASTGATE CENTRE	**FRIDAY 11 NOVEMBER**	**09:00 – 17:00**

We held earlier consultation exhibitions in summer 2010 and invited comments from members of the public. We are keen to hear peoples' views and therefore **comment forms** will also be available at the forthcoming exhibitions and can either be completed on the day, or posted at a later date to our Communications Manager –

Morven Smith,
BOWL Communications Manager
Inveralmond House,
200 Dunkeld Road
Perth
PH1 3AQ
Telephone – 01738 516650
Email – morven.smith@sse.com

The closing date for comments to BOWL on the proposals is **Friday 2 December.**

Further information on the proposals (including comments forms) can be obtained from our website www.sse.com/beatrice

APPENDIX 11: Poster Advertisements August / September 2010 Exhibitions

Proposed offshore wind farms

Public Exhibition

Royal Marine Hotel, Brora

Thursday, 2 September

12noon until 8pm

Beatrice Offshore Windfarm Ltd

moray offshore renewables ltd

edp renewables

SeaEnergy

SSE Renewables

APPENDIX 12: Poster Advertisements July 2011 Exhibitions

Beatrice Offshore Wind Farm
Onshore Electricity Connection

PUBLIC EXHIBITION

SSE Renewables and SeaEnergy Renewables are proposing to develop the **Beatrice Offshore Wind Farm** and its connection to the national electricity network.

We are holding public consultation exhibitions to outline our proposals for the onshore electricity connection. The connection will include an underground cable from a coastal landing point and a new electricity substation in the Keith area.

The exhibitions will be held as follows:

Tuesday 5 July – Buckie Town House Halls, Cluny Place, Buckie
3pm - 7pm

Wednesday 6 July – Longmore Hall, Church Road, Keith
3pm – 7pm

The exhibitions will provide an opportunity for people to raise questions, concerns, ideas or comments that can be considered as part of the development process.

Further information on the proposal can be obtained from our website at www.sse.com/beatrice or by contacting our Communications Manager Morven Smith by email, morven.smith@sse.com.

APPENDIX 13: Poster Advertisements November 2011 Exhibitions

BEATRICE OFFSHORE WIND FARM
PUBLIC INFORMATION EXHIBITIONS

Beatrice Offshore Windfarm Limited (BOWL) is a joint venture partnership between SSE Renewables and Repsol Nuevas Energias UK. BOWL is proposing to develop the Beatrice offshore wind farm which will be located in the Outer Moray Firth.

We will be submitting an application for consent to develop the site to Scottish Ministers before the **end of January 2012**. Ahead of this we are holding public information exhibitions to provide people with the opportunity to learn more about the proposals and raise any questions that they may have with our project team. The exhibitions will be held as follows:

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HELMSDALE COMMUNITY CENTRE, HELMSDALE	**WEDNESDAY 9 NOVEMBER**	**13:00 – 18:00**
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Inveralmond House,
200 Dunkeld Road
Perth
PH1 3AQ
Telephone – 01738 516650
Email – morven.smith@sse.com

The closing date for comments to BOWL on the proposals is **Friday 2 December.**

Further information on the proposals (including comments forms) can be obtained from our website www.sse.com/beatrice

APPENDIX 14: November 2011 eBulletin

BEATRICE OFFSHORE WIND FARM NEWSLETTER - OCTOBER 2011

Beatrice Offshore Windfarm Ltd

WHO WE ARE?

Beatrice Offshore Windfarm Limited (BOWL) is the joint venture partnership formed between **SSE Renewables (75%)** and **Repsol (25%)** (formerly SeaEnergy Renewables). In February 2009 we were awarded an exclusivity agreement by the Crown Estate to develop the Beatrice Offshore Wind Farm in Scottish Territorial Waters.

SSE Renewables is responsible for the development of SSE's renewable energy projects across Europe. SSE is the leading generator of renewable energy in the UK, with over 2,450 Megawatts of renewable energy projects consented.

Repsol Nuevas Energias UK was formed following Repsol's purchase of 100% of SeaEnergy Renewables Limited in June 2011. It has development rights for a total of 1,190 megawatts (MW) in the United Kingdom, equivalent to a third of the offshore wind capacity currently installed worldwide.

We will shortly be holding public information events to provide people with the opportunity to learn more about our proposals and raise any questions they may have with our project team. The exhibitions will be held as follows:

VENUE	DATE	TIMES
WICK MACKAYS HOTEL, WICK	TUESDAY 8 NOVEMBER	13:00 - 19:00
HELMSDALE COMMUNITY CENTRE, HELMSDALE	WEDNESDAY 9 NOVEMBER	13:00 - 18:00
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BEATRICE OFFSHORE WIND FARM NEWSLETTER - OCTOBER 2011

Beatrice Offshore Windfarm Ltd

The Beatrice Offshore Wind Farm site is located in the Outer Moray Firth on the north-western point of the Smith Bank. It is approximately 13.5km from the Caithness coastline.

The site is adjacent to the world's first deep water wind farm development - the two-turbine (10MW) Beatrice Demonstrator Project. The Beatrice Demonstrator turbines are owned by SSE and Talisman and were developed by the founding members of SeaEnergy Renewables. The turbines have been operational since 2007.

Building on the success of the Beatrice Demonstrator Project, we are proposing to develop an offshore wind farm which will generate up to 1,000MW of renewable energy, enough to power over 796,000 homes.

WHAT ARE WE PROPOSING TO DEVELOP?

The proposed wind farm will have a maximum of 142 to 277 turbines, depending on turbine size.

The offshore components of wind farm will include:

- Turbines (tower, nacelle, blades and hub).
- Turbine sub-structure and foundations.
- Up to 3 offshore electricity substations.
- Electricity cables at the site connecting the turbines to the substations.
- Up to 3 meteorological masts.
- Wave measuring equipment.

In order that the electricity generated can reach the centres of demand the wind farm will need to be connected to the national electricity grid. We have a grid connection agreement from National Grid which allows us to connect into the existing electricity network at Blackhillock, near Keith, Moray.

The electricity transmission connection will include:

- Approximately 65km of subsea cable.
- Approximately 20km of onshore underground cable.
- A new electricity substation nearby the existing substation at Blackhillock.

BEATRICE OFFSHORE WIND FARM NEWSLETTER - OCTOBER 2011

Beatrice Offshore Windfarm Ltd

WHY ARE WE DOING THIS?

UK Renewable energy policy centres around two key factors:

- Reduction of CO_2 emissions to tackle climate change.
- Security of energy supply.

There are a number of government targets set to try and achieve this:

- UK Government target of generating 15% of energy from renewable sources by 2015 and 20% by 2020.
- The Scottish Government's target of generating the equivalent of 100% of Scotland's gross annual electricity consumption from renewable sources by 2020.

PROPOSED TIMETABLE

Exclusivity agreement with The Crown Estate	February 2009
Environmental Scoping Report submitted to Marine Scotland	March 2010
Initial wind farm public exhibitions	September 2010
Initial transmission works public exhibitions	July 2011
Baseline surveys and Environmental Impact Assessment	Currently Ongoing
Final Wind Farm public exhibitions prior to submission	November 2011
Submit wind farm application and Environmental Statement to Marine Scotland	Expected January 2012
Final Transmission Works public exhibitions	Expected February 2012
Submit planning application to Moray Council for the onshore Transmission Works	Expected Spring 2012
Should we receive consent for the wind farm and the onshore transmission works by the end of 2012:	
Commencement of construction	Expected 2014/2015
Fully operational	Expected 2017/2018

For further information please visit www.sse.com/beatrice or contact the BOWL Communications Manager:

Morven Smith, Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ
Email: morven.smith@sse.com Telephone: 01738 516650

APPENDIX 15: Exhibition Questionnaire August/ September 2010

PUBLIC EXHIBITION

BEATRICE OFFSHORE WIND FARM

We thank you for taking the time to come to this public exhibition and hope it has been informative. To help us record your views and to improve the effectiveness of our consultation with local communities and other consultees, could you please take a minute to complete our short questionnaire – you may use additional pages for comments if required.

1/ Which public exhibition event did you attend today?

Location:

2/ How did you find out about this exhibition?

Local Newspaper ☐ Posters ☐ Word of Mouth ☐ Website ☐ Other ☐

Any comments?

3/ Has this public exhibition been helpful in terms of giving you more information about the offshore wind farm proposal?

Very helpful ☐ A little helpful ☐ Not helpful ☐

Any comments – if there were any issues that you feel we did not address, please do let us know

4/ What are your views on renewable energy?

Very supportive ☐ Supportive ☐ Undecided ☐ Against ☐ Strongly against ☐

Any comments?

5/ What are your views on the proposed Beatrice Offshore Wind Farm?

Very supportive	Supportive	Undecided	Against	Strongly against
☐	☐	☐	☐	☐

Any comments?

6/ If you would like any further information regarding a specific aspect of the proposal please write your query below (and ensure you leave your contact details):

7/ We would appreciate it if you could fill in your details below in BLOCK CAPITALS. This will aid us in putting together the exhibition feedback:

Name

Address

Postcode

Email

Telephone

Thank you for taking the time to complete this questionnaire.

PLEASE HAND YOUR COMPLETED FORM IN AT THE EXHIBITION OR ALTERNATIVELY SEND TO:

Chris Harris, BOWL Communications Manager,
Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ

Any information given on this questionnaire may be used and published as part of our consultation response. By completing this questionnaire you consent to us using this information for these purposes. By providing contact details you consent to us contacting you in relation to the Beatrice Offshore Wind Farm proposal. Your details will not be used for marketing purposes. If you wish for your comments to remain anonymous, please tick this box: ☐

APPENDIX 16: Exhibition Questionnaire July 2011

PUBLIC EXHIBITION
BEATRICE OFFSHORE WIND FARM
TRANSMISSION WORKS

We thank you for taking the time to come to this public exhibition and hope it has been informative. To help us record your views and to improve the effectiveness of our consultation with local communities and other consultees, could you please take a minute to complete our short questionnaire – you may use additional pages for comments if required.

1/ Which public exhibition event did you attend today?

Location:

2/ How did you find out about this exhibition?

Local Newspaper ☐ Posters ☐ Word of Mouth ☐ Website ☐ Other ☐

Any comments?

3/ Has this public exhibition been helpful in terms of giving you more information about the transmission works associated with the offshore wind farm?

Very helpful ☐ A little helpful ☐ Not helpful ☐

Any comments – if there were any issues that you feel we did not address, please do let us know

4/ What are your views on renewable energy?

Very supportive ☐ Supportive ☐ Undecided ☐ Against ☐ Strongly against ☐

Any comments?

5/ What are your views on the proposed Beatrice Offshore Wind Farm?

Very supportive	Supportive	Undecided	Against	Strongly against
☐	☐	☐	☐	☐

Any comments?

6/ If you would like any further information regarding either the transmission works or the offshore wind farm proposal please write your query below (and ensure you leave your contact details):

7/ We would appreciate it if you could fill in your details below in BLOCK CAPITALS. This will aid us in putting together the exhibition feedback:

Name

Address

Postcode

Email

Telephone

Thank you for taking the time to complete this questionnaire.

PLEASE HAND YOUR COMPLETED FORM IN AT THE EXHIBITION OR ALTERNATIVELY SEND TO:

Morven Smith, BOWL Communications Manager,
Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ

Any information given on this questionnaire may be used and published as part of our consultation response. By completing this questionnaire you consent to us using this information for these purposes. By providing contact details you consent to us contacting you in relation to the Beatrice Offshore Wind Farm proposal. Your details will not be used for marketing purposes. If you wish for your comments to remain anonymous, please tick this box: ☐

APPENDIX 17: Exhibition Questionnaire November 2011

PUBLIC EXHIBITION
BEATRICE OFFSHORE WIND FARM

We thank you for taking the time to come to this public exhibition and hope it has been informative. To help us record your views and to improve the effectiveness of our consultation with local communities and other consultees, could you please take a minute to complete our short questionnaire – you may use additional pages for comments if required.

1/ Which public exhibition event did you attend today?

Location:

2/ How did you find out about this exhibition?

Local Newspaper ☐ Posters ☐ Word of Mouth ☐ Website ☐ Other ☐

Any comments?

3/ Has this public exhibition been helpful in terms of giving you more information about the offshore wind farm proposal?

Very helpful ☐ A little helpful ☐ Not helpful ☐

Any comments – if there were any issues that you feel we did not address, please do let us know

4/ What are your views on renewable energy?

Very supportive ☐ Supportive ☐ Undecided ☐ Against ☐ Strongly against ☐

Any comments?

5/ What are your views on the proposed Beatrice Offshore Wind Farm?

Very supportive	Supportive	Undecided	Against	Strongly against
☐	☐	☐	☐	☐

Any comments?

6/ If you would like any further information regarding a specific aspect of the proposal please write your query below (and ensure you leave your contact details):

7/ We would appreciate it if you could fill in your details below in BLOCK CAPITALS. This will aid us in putting together the exhibition feedback:

Name

Address

Postcode

Email

Telephone

Thank you for taking the time to complete this questionnaire.

PLEASE HAND YOUR COMPLETED FORM IN AT THE EXHIBITION OR ALTERNATIVELY SEND TO:

Morven Smith, BOWL Communications Manager,
Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ

Any information given on this questionnaire may be used and published as part of our consultation response. By completing this questionnaire you consent to us using this information for these purposes. By providing contact details you consent to us contacting you in relation to the Beatrice Offshore Wind Farm proposal. Your details will not be used for marketing purposes. If you wish for your comments to remain anonymous, please tick this box: ☐