

**Meeting Note**

<b>File reference</b>	<b>EN010033 Hornsea Offshore Wind Farm</b>
<b>Status</b>	<b>Final</b>
<b>Author</b>	<b>Amy Cooper</b>

<b>Meeting with</b>	<b>Smart Wind Ltd.</b>
<b>Meeting date</b>	<b>11 January 2012</b>
<b>Attendees (IPC)</b>	<b>Mike Harris Jan Bessell Rebecca Pong Sheila Twidle Ian Gambles Nicola Mathiason (Apologies - Owain George)</b>
<b>Attendees (non IPC)</b>	<b>Chris Jenner Penny Pickett David Cowan Victoria Leam Pat Hawthorn</b>
<b>Location</b>	<b>Board Room</b>

<b>Meeting purpose</b>	<b>General Project Update</b>
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<b>Summary of key points discussed and advice given</b>	<p><b>Introductions</b>          The applicant (SMart Wind) were advised on the IPCs openness policy and the IPC not being able to discuss the merits of a specific project. Reference was made to the publication of advice in accordance with s.51 of the PA 2008.</p> <p>Smart Wind delivered a project presentation which provided an update on consultation, described their approach to the Rochdale envelope and drafting of application documents– <a href="#">[Link to Presentation]</a>.</p> <p>Discussion was structured around the presentation slides and the following points were raised:</p> <p>Dong Energy has acquired a 33.3% stake in Project One of the Hornsea Zone. The Company will be restructured and responsibilities will be clearly identified in the draft DCO.</p> <p><b>Survey Activity</b>          12 Marine licences have been consented by the MMO enabling surveys to take place in the area. LiDAR wind measurement devices continue to collect data from the Schooner and Babbage</p>
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platforms and the first Round 3 MetMast is fully installed and operational.

Onshore surveys are on track and will be included in the draft Environmental Statement (ES). There has been ongoing dialogue with Local Authorities (LAs) and bodies such as ABP, the MoD, Environment Agency and Natural England.

### **Consultation**

Phase II consultation was undertaken on preferred cable routes and 4 site options for the onshore converter station. Illustrations of a 1GW conversion station and interactive 3D modelling were used during consultation. Project design iterations since Scoping were highlighted in Phase 2 consultation information. In particular, the turbine rotor diameter was altered from 164m to 178m, however noting that the maximum blade tip height remained unchanged at 200m. To date no comments have been received on this matter. Phase 3 consultation will be undertaken this year.

The IPC asked if any hard to reach groups or seasonal communities have been identified. SMart Wind confirmed that local residents, businesses, community groups and organisations with postcodes within 400m of the preferred cable route corridor, landing point and within 1.5km of the proposed converter station boundary received a direct mail invitation to attend any of the Phase 2 consultation events and/or to provide written comments to SMart Wind. In addition, tourism and recreation groups have been consulted with and addressed in the ES. Face to face discussions have been held with hard to reach fishing groups including international fisherman and shipping operators. SMart Wind also utilise the services of a fisheries liaison officer to reach out to all local fisheries organisations and individuals.

### **Rochdale Envelope**

SMart Wind noted that the Rochdale Envelope covers on and offshore development (e.g methods of sea defence, constructions methods where the cable meets land (the Landfall), different turbine layouts and foundation types).

The IPC asked if material type and colour of the converter station has been explored. The applicant noted that consultation information has been expressed in 'neutral' terms however the colour pallet will be specified in the application documents. The converter station shown in the 3D modelling (used for consultation) are intentionally oversized to illustrate what the maximum visual impact would be.

Each chapter of the ES has defined the worst case scenario (WCS) for each type of receptor (e.g. the largest turbines will have the biggest visual impact and monopile foundations have been identified as WCS for underwater noise disturbance).

The IPC noted that in adopting this approach, the applicant must also consider impacts which may arise from implementing in-combination permutations expressed within the Rochdale envelope (e.g. mitigation measures for one impact may cause secondary effects). A large envelope with a wide range of flexible options must be robustly assessed.

Discussion led to the IPCs experiences from submitted offshore windfarm applications. [At this point, Jan Bessell (a Commissioner on other active projects) left the room].

The IPC drew the applicant's attention to s51 advice issued in relation to Galloper. The advice highlights the importance of robustly assessing all permutations within an envelope at the pre-application stage. [Jan Bessell re-entered the room]

### **Draft DCO**

SMart Wind has been working towards the clear description of the proposal within the DCO in terms of financing and procurement. It is not known at this stage when the applicant will seek an Offshore Transmission Owner (OFTO) however compulsory acquisition rights will be vested in that undertaker. An Explanatory Memorandum (EM) is being prepared and will justify any deviations from the Model provisions. A draft Marine Licence is being prepared in parallel.

The IPC advised that the draft DCO should be consistent with the information stated in the ES.

### **Zone Appraisal and Planning (ZAP)**

A desk based study was undertaken in January 2011 and site specific data was published on SMart Winds website. Data from this will be fed into the cumulative impact assessment and will be used for future projects within the Hornsea Zone. SMart Wind have limited access to data relating to Dogger Bank, East Anglia and Triton Knoll proposals therefore, where data and results are not publically available, a qualitative assessment will be made based on expert judgement.

### **Habitats Regs & update on Appropriate Assessment**

SMart Wind intends the Habitat Regs Report to address broad issues and focus on the Humber Estuary SPA. The IPC advised that the inter relationship between on and offshore pathways are clearly identified within the report and justify why focus has been made on the Humber SPA.

Dialogue is ongoing with statutory consultees to establish which European sites should be included in the report. During Scoping 14 SPA sites were identified and agreed with JNCC/NE for inclusion in the HRA. Following submission of the Year 1 bird and marine mammal report, the HRA scope increased to an additional 51 SPA sites within the UK and 9 EU sites. In addition,

	<p>12 UK SACS and 51 SACS outside the UK were also added. The screening document based on the above sites has been completed and will be sent to JNCC for comment.</p> <p><b>Transboundary Consultation</b> It is the IPCs duty to establish any transboundary impacts. We will consult the country at a high level (i.e. national government) and enable them 6 weeks to comment.</p> <p><b>Preliminary Environmental Information (PEI)</b> The applicant intends to provide PEI during Phase 3 consultation and this will take the form of the Draft Environmental Statement</p> <p><b>Crossing Agreements</b> A detailed crossing schedule has been drafted to accompany draft onshore and offshore work plans. Discussions regarding offshore pipeline crossing agreements are progressing with each pipeline operator.</p> <p>The IPC advised the applicant to be clear about what consents are being sought. If a right has been obtained by agreement, the applicant should seek their own legal advice to ensure the drafting of the DCO does not over ride these by seeking powers to acquire those rights.</p> <p><b>AOB</b> Two possible sites for the Converter Station are located within the Humber Gateway Simplified Planning Zone. Smart Wind queried the potential to use these SPZ functions in relation to the converter station. The IPC noted that the converter station may be included in the DCO as associated development however the applicant needs to satisfy themselves which approach is appropriate.</p> <p>The IPC may run an inception meeting to familiarise LAs with the PA2008 process and timescales. The applicant indicated that the majority of relevant LAs are familiar with the PA2008 timescales and process however West Lindsey District Council may find a meeting beneficial.</p>
<b>Specific decisions/ follow up required?</b>	<p>IPC to provide contact details for a DCLG member who can discuss the application regarding Section 127 Certificates.</p> <p>Applicant to submit draft documents including the DCO, EM and ES.</p>
<b>Circulation List</b>	All attendees



Delivering a New Energy

# SMart Wind Project Update

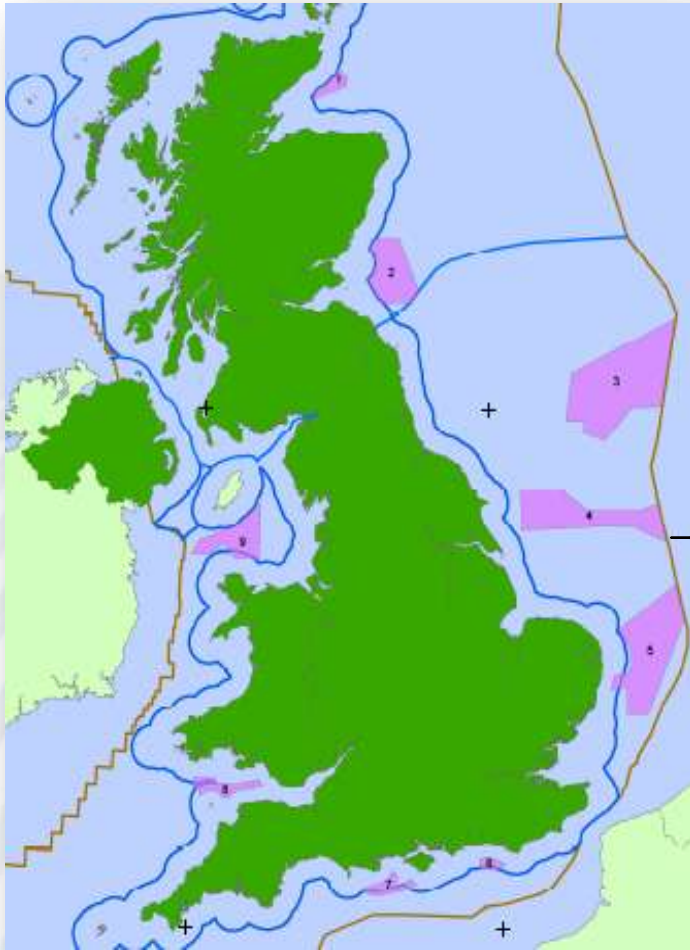
IPC

11<sup>th</sup> January 2012



1. **General Project Update**
2. Update on Phase 2 Consultation and Section 42
3. Approach to Rochdale - Hornsea Project One Design Statement & Work Plans
4. ZAP – update
5. Cumulative Impact Assessment – approach
6. DCO – update on drafting process
7. Marine Licence – update on drafting process & discussions with MMO
8. Habitat Regs – update on Appropriate Assessment
9. Transboundary Consultation – update
10. Preliminary Environmental Information (PEI)
11. Pipeline Crossing Agreements – update
12. AOB

# Hornsea Zone



## HORNSEA (ZONE 4)

4,735 km<sup>2</sup>

31 to 190km from coastline of Yorkshire  
Water depths predominantly 30 to 50m

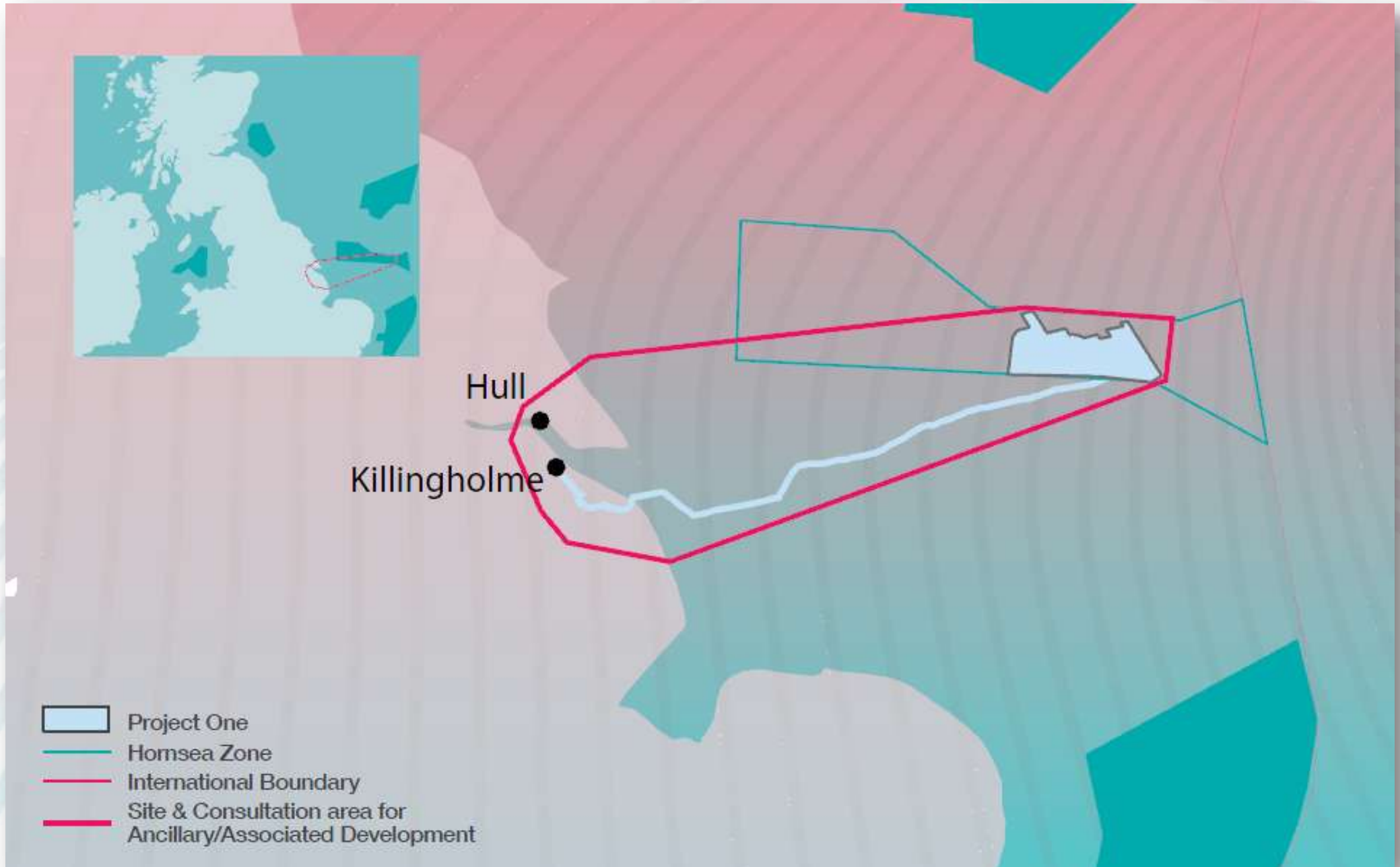
Target capacity for Zone of 4GW

Enough to meet 4% UK electricity demand

Enough power for three million homes\*

\*Using today's energy consumption numbers, the RenewableUK number of 4,700 kwh/household and net capacity factor of 41%

# Hornsea Zone – Project One





8.0MW Turbine

8.0MW Turbine – Height to tip 200m

Siemens 3.6MW – Height to tip 150m

Siemens 3.6MW

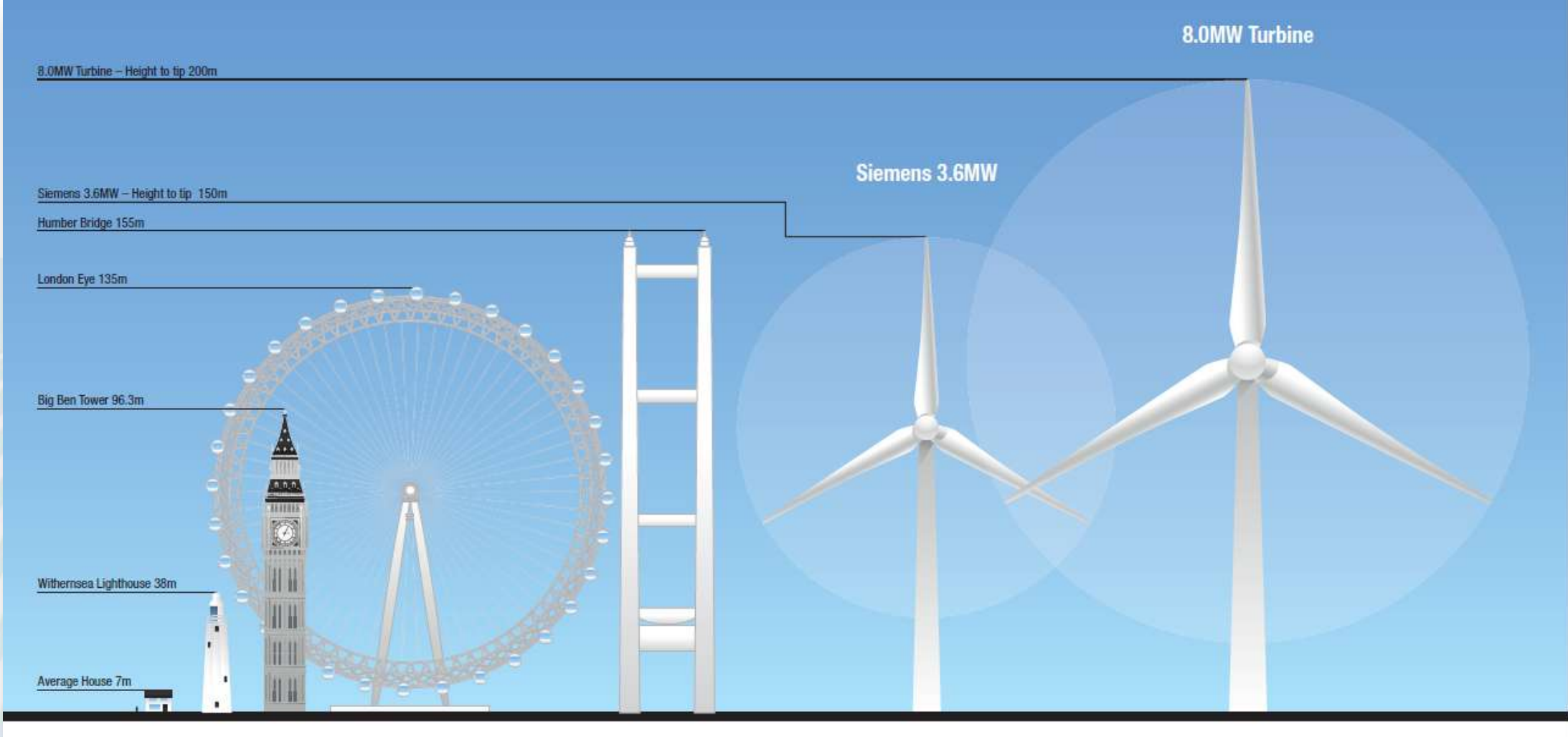
Humber Bridge 155m

London Eye 135m

Big Ben Tower 96.3m

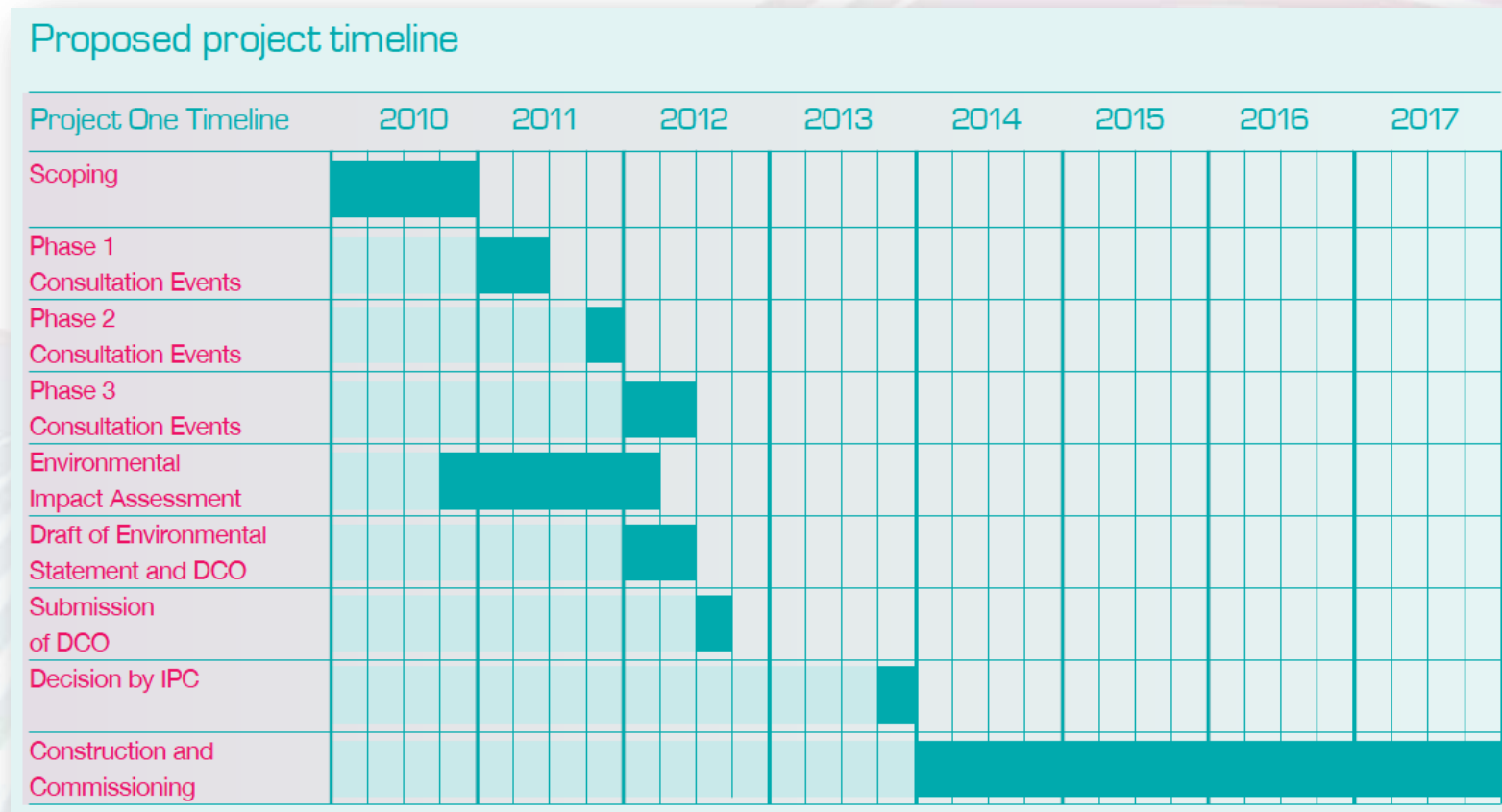
Withernsea Lighthouse 38m

Average House 7m



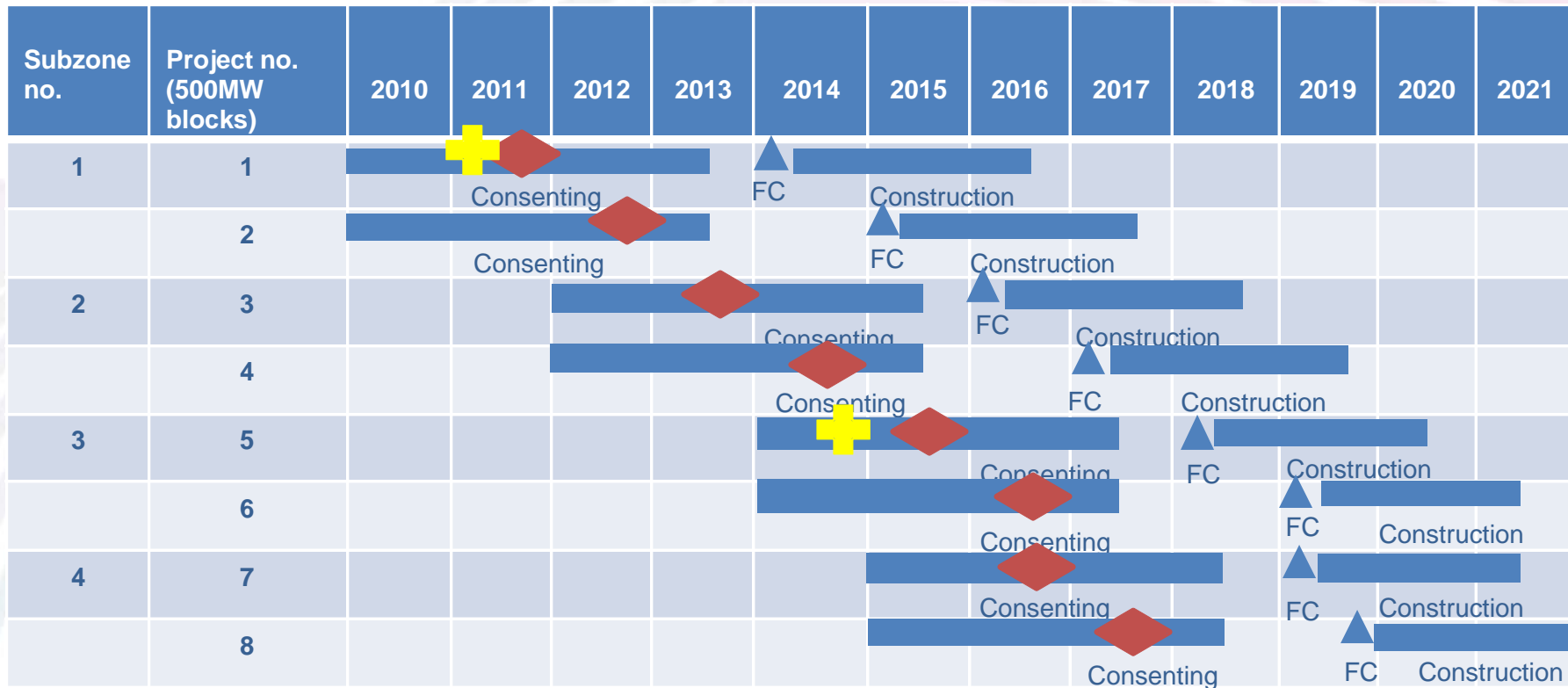
# Consents, planning and site selection

## Proposed Project timeline



Agreement for Lease from The Crown Estate for Project One signed on 20<sup>th</sup> July 2011 and cable route AfL signed January 2012

# Zone Programme



 Detailed Geotech     
  Met Mast Installation

Assumes Grid Connection Agreement in Place Prior to Detailed Geotech

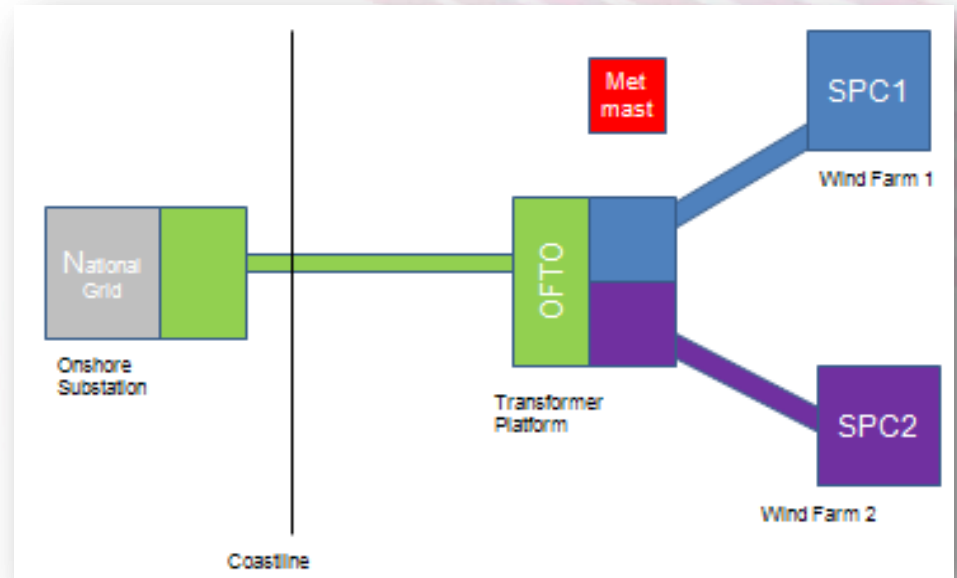
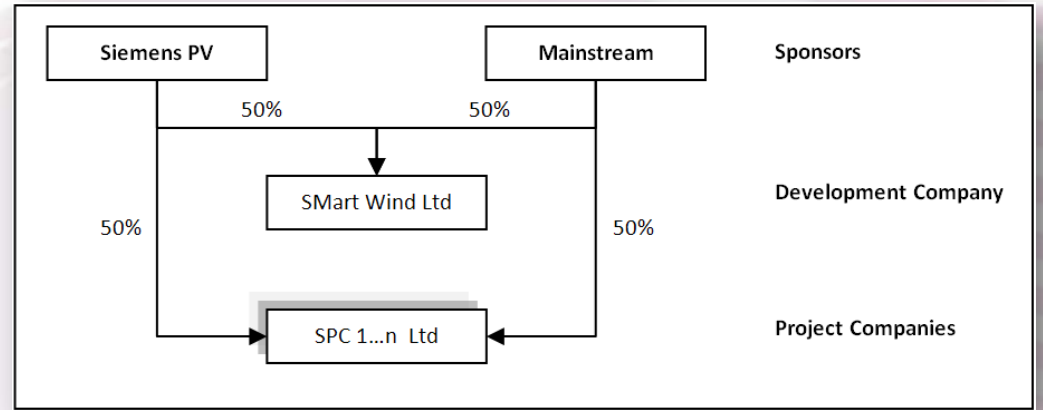




DONG Energy has acquired a 33.3% stake in the first two offshore wind projects in the Hornsea zone from SMart Wind, the 50/50 joint venture between Mainstream Renewable Power and Siemens' Financial Services unit, represented by Siemens Project Ventures GmbH. The wind projects, Heron Wind Ltd and Njord Ltd., have a potential total capacity of up to 1GW.

The initial purchase price has been agreed at approx. GBP 15 mill. for a 33.3% share of the projects with an option to acquire the remaining 66.7% of the shares at a fixed market price. DONG Energy has also acquired an option over an additional 1 GW from the Hornsea zone.

DONG Energy will build on the existing partnerships of Smart Wind with Siemens Wind Power and Siemens Transmission to move these projects into construction.





# SMart Futures

During SMart Futures' first year, over 2,000 pupils from sixteen local schools around the Humber area have been engaged.

In collaboration with Humber Engineering Training Association (HETA), the first two wind farms within the Hornsea Zone were named "Heron Wind" and "Njord" by Year 9 pupils from South Axholme School and Hessle High School respectively as part of SMart Wind's four-year SMart Futures initiative.



Figure 4 – Year 9 pupils from South Axholme School and Hessle High School.



Figure 5 – SMart Futures Technical workshop.

# Growth for the Region

Proposed port developments on north and south bank of the Humber – ABP and Able UK

Supply chain growth and job creation are however dependent on Round 3 offshore wind farm projects such as the Hornsea Zone gaining consent and being built.



Figure 6 – Proposed ABLE port Development.



Figure 7 – Proposed ABP port Development.



# Hornsea Offshore Survey Activity (2010-2011)

## 1. Metocean Survey

- Zone survey ongoing

## 2. Geotechnical Survey

- Subzone 1 completed
- Cable Route Q2 2012

## 3. Geophysical Survey

- Zone, Subzone 1 and Cable Route completed
- Subzone 2 commenced

## 4. Bird and Marine Mammals

- Zone, Subzone 1, Subzone 2

## 5. Benthic Ecology

- Zone, Subzone 1 and Cable Route

## 6. Fish Ecology

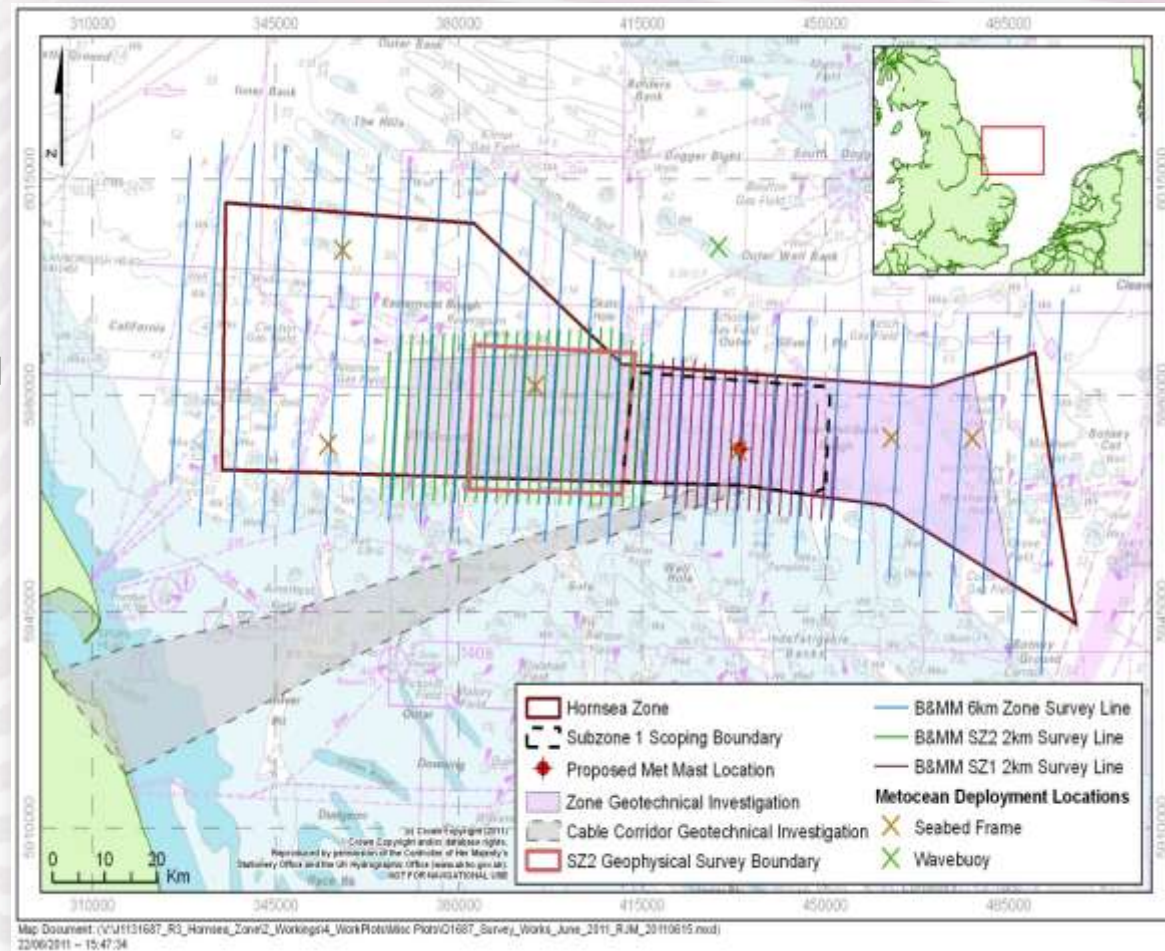
- Zone, Subzone 1 and Cable Route

## 7. Intertidal Ecology

- Landfall

## 8. Shipping and Navigation

- AIS surveys are ongoing & MetMast receiver



12 Marine Licences issued to SMart Wind since 2010







# Windcube Lidar – Schooner and Babbage Platforms



# The UK's first Round 3 MetMast



Figure 13 – Met mast installation (September 2011)



Figure 14 – Completed met mast with twisted jacket foundation (October 2011)



# Onshore Environmental Survey Activity

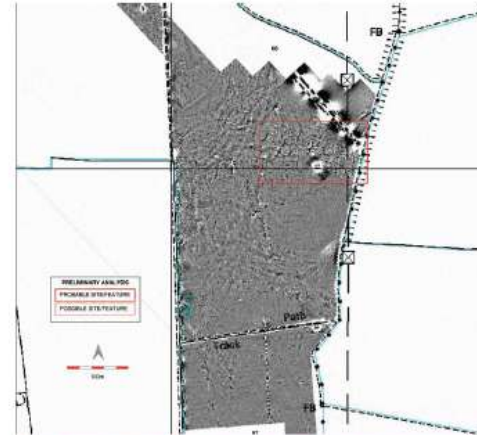
- Great Crested Newts
- Breeding Birds
- Extended Phase 1 Habitat
- Intertidal Habitat Survey
- Bats
- Otter
- Water vole
- Badger
- Hedgerow
- Reptile Habitat
- Wintering & Migratory Birds
- Archaeology
- Traffic & Transport
- Landscape & Visual
- Soils



Pink Footed Geese (Migratory Birds most likely found in the coastal area.)



Geophysics survey in progress



Geophysical survey of cable route near Laceby showing feature of possible archaeological significance



Hedgerow Surveying



Hedgerow Surveying



Hedgerow Surveying





# The Landfall

## Selection

- Early engagement with stat. consultees
- Robust alternatives assessment
- Engineering, environmental, planning, commercial & land owners issues

## Timings

- Seasonal constraints

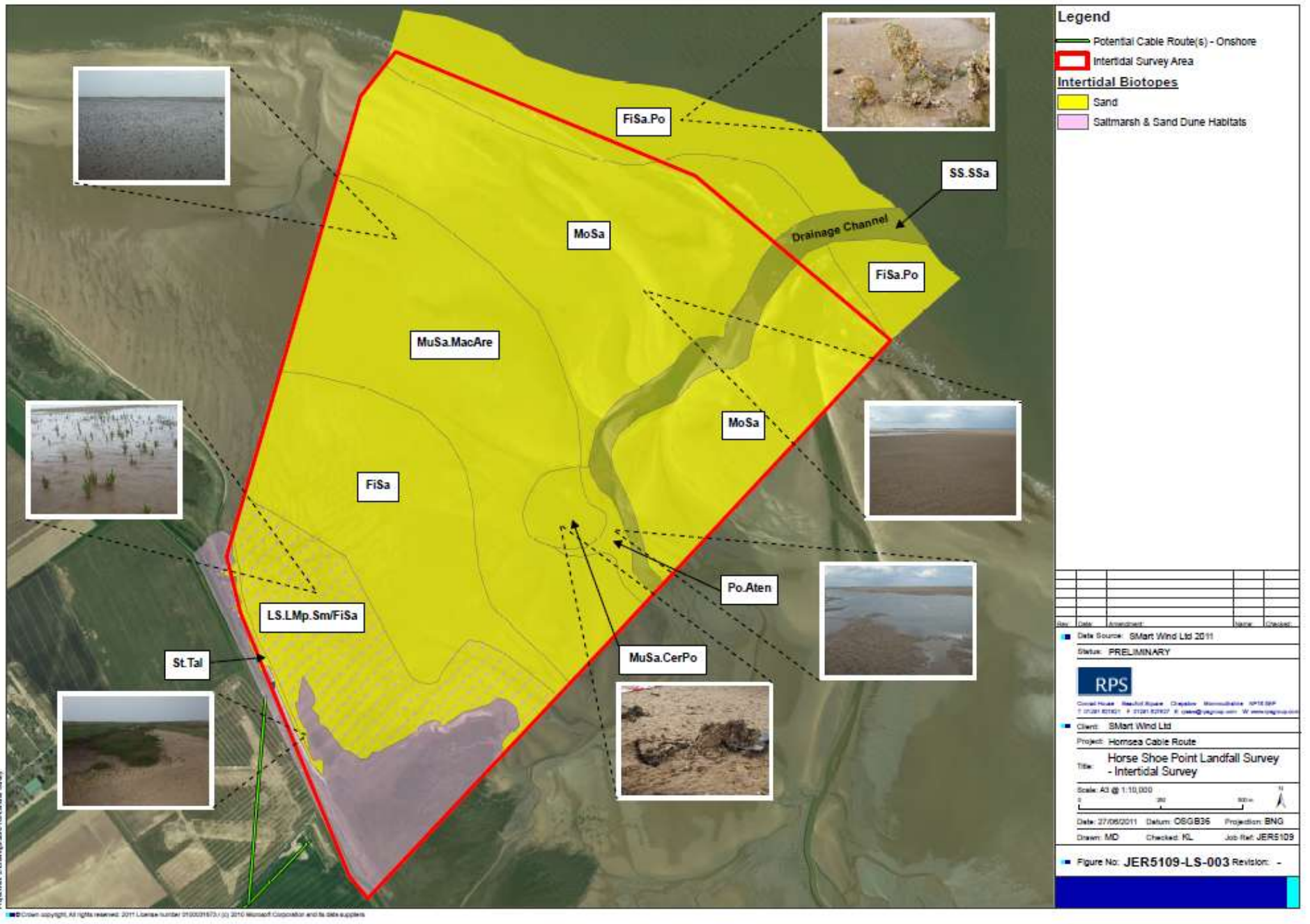
## Installation methodology

- Range of options under consideration
- Preliminary survey undertaken in 2011
- Further survey work required in 2012





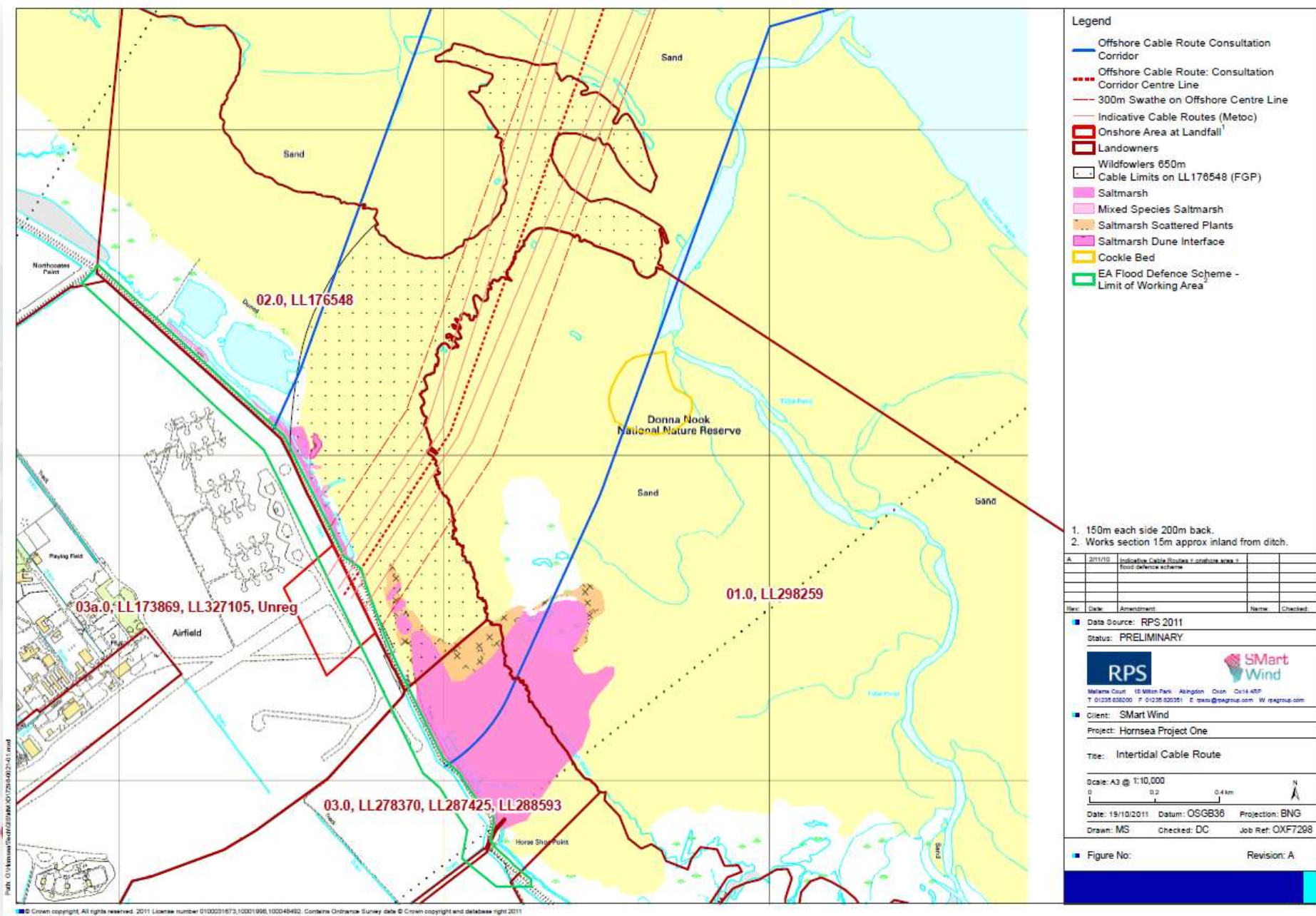
# Intertidal Ecology Survey



Project File: J:\Down\p1\JERC\008\Intertidal Survey



# Landfall Route Alignment Optimisation



- Legend**
- Offshore Cable Route Consultation Corridor
  - - - Offshore Cable Route: Consultation Corridor Centre Line
  - 300m Swathe on Offshore Centre Line
  - Indicative Cable Routes (Metoo)
  - Onshore Area at Landfall<sup>1</sup>
  - Landowners
  - Wildfowling 650m
  - Cable Limits on LL176548 (FGP)
  - Saltmarsh
  - Mixed Species Saltmarsh
  - Saltmarsh Scattered Plants
  - Saltmarsh Dune Interface
  - Cockle Bed
  - EA Flood Defence Scheme - Limit of Working Area

1. 150m each side 200m back.
2. Works section 15m approx inland from ditch.

Rev	Date	Amendment	Name	Checked
A	2/11/10	Indicative Cable Routes + onshore area + Flood Defence scheme		

■ Data Source: RPS 2011  
 Status: PRELIMINARY

**RPS**

Millers Court | 10 Milton Park | Abingdon | Oxon | OX14 4BP  
 T: 01235 830200 F: 01235 830351 E: rps@rpsgroup.com W: rpsgroup.com

**Smart Wind**

■ Client: Smart Wind  
 Project: Hornsea Project One

Title: Intertidal Cable Route

Scale: A3 @ 1:10,000  
 0 0.2 0.4 km

Date: 19/10/2011 Datum: OSG836 Projection: BNG  
 Drawn: MS Checked: DC Job Ref: OXF7298

■ Figure No: Revision: A

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# Phase 1 & Phase 2 Consultation Events

## Phase 1 Consultation Events

- Over 200 attendees over 11 events
- Widespread Local TV and Newspaper Coverage
- 0800 tel number & Freepost return cards
- Children's activities

## Questionnaires

- 65 completed and returned
- 92% support the Hornsea Project One
- 98% of respondents said they felt better informed as a result of attending the consultation event.

## Phase 2 Consultation Events

- Over 250 attendees over 8 events in November
- 4<sup>th</sup> November to 16<sup>th</sup> December 2011
- 42 day consultation period
- Local residents, businesses, community groups and organisations with postcodes within 400m of the preferred cable route corridor, landing point and within 1.5km of the proposed converter station boundary
- Landowners likely to be affected by the preferred cable route corridor









# Site A



Existing view



Proposed view

	Date of production: August 2011 License: 900141	Designed to: 400V OR to meet: 415/240, 415/415	Direction to site: South west Viewpoint to grid: 400	Plot number: 110 of view: 75 Working code: 42811 2/02	Proposed Converter Station SW A
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## Location Plan



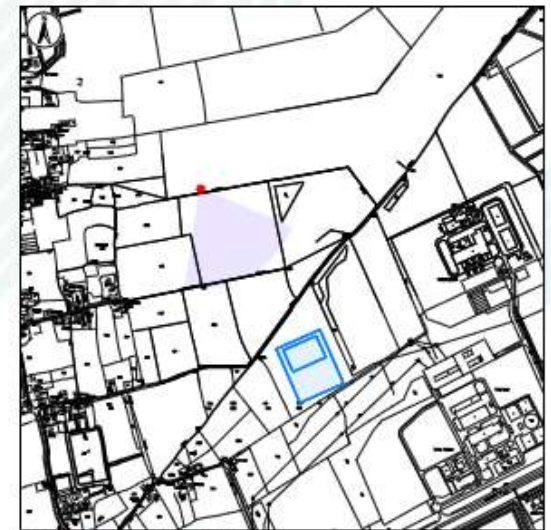


# Site B



	Date of photograph: August 2011 Lens type: 50mm	Distance to site: 500m OS to location: 514557, 419997	Direction to site: South east Viewpoint height: 12m AOD	Horizontal field of view: 70° Viewing distance: 420m @ 62	Proposed Converter Station Site B
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## Location Plan





# Site C



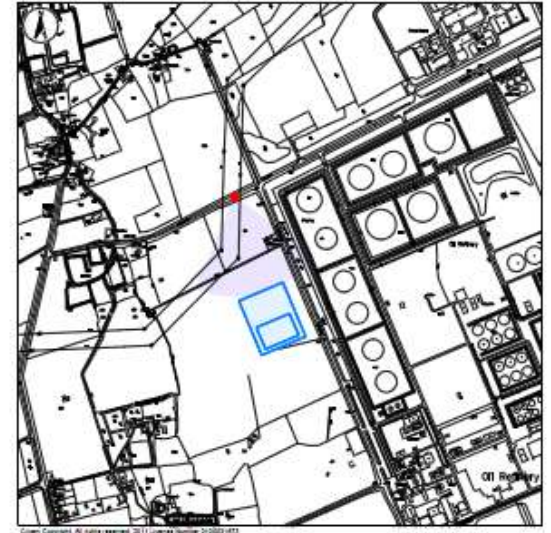
Existing view



Proposed view

	Date of photograph: August 2011 Lens type: 30mm	Distance to site: 300m OS reference: S 147 04 410042	Direction to site: South Viewpoint height: 15m AOD	Horizontal field of view: 75° Viewing distance: 420m @ A2	Proposed Converter Station B to C
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## Location Plan



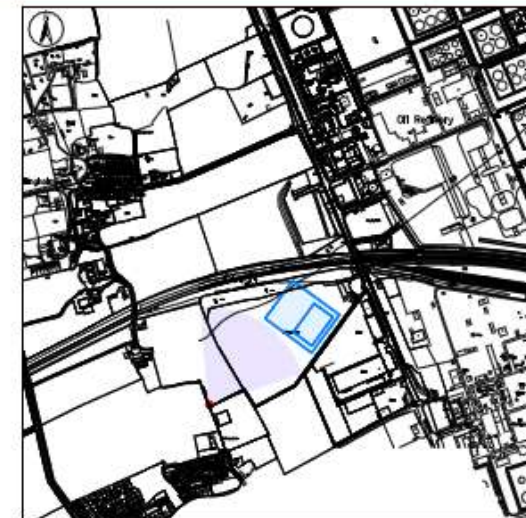


# Site D



RPS	Date of photograph: August 2011 Lens type: 50mm	Distance to site: 300m OS reference: 514860, 419323	Direction to site: North west Viewpoint height: 10m AOD	Horizontal field of view: 75° Viewing distance: ~200m @ A2	Proposed Converter Station Site D
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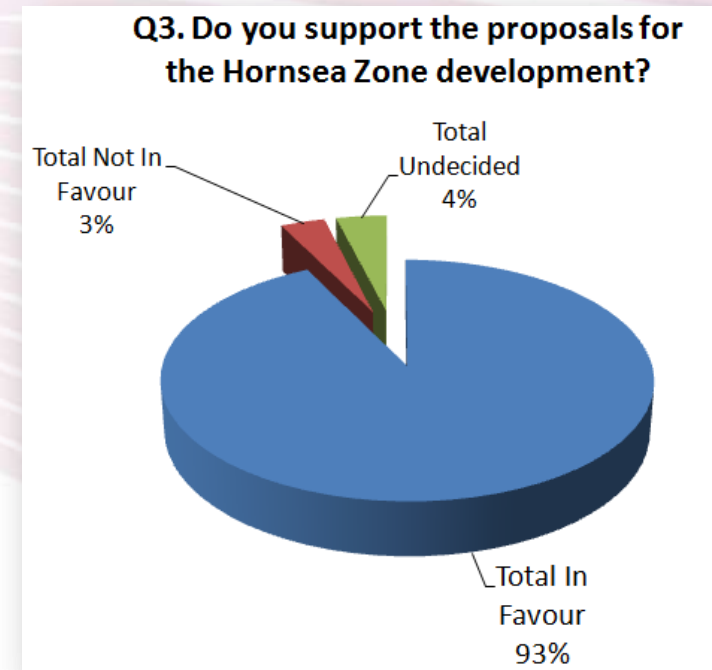
## Location Plan





# Phase 1 & Phase 2 Consultation Events

- Section 42 Prescribed Consultees – 285 recipients
- 2,074 residents within 400m of the cable route and 1.5km of potential convertor station sites
- 117 Landowners, occupiers and land agents
- Over 5,000 non-statutory invited to comment
- 646 Website registrants invited to comment
- MPs, local government members and officers and local VIPs
- Over 200 questionnaires completed both online and hardcopies
- >50 written responses to S.42 - no comments received from consultees on project parameter iterations included in Phase 2
- **Consultation Report Structure** is based on IPC advice note and review of other projects submitted reports:



## **Section 1: Overview of Pre Application Consultation**

- Comprises the attached consultation tables and will also include a timeline diagram (needs input from team). This is for quick reference as per IPC advise

## **Section 2: Introduction**

- General introduction to SMart Wind, the Zone, Project One and why we consult

## **Section 3: Consultation Strategy**

- Legal and Policy context and also SMart Wind approach and how responses are dealt with.

## **Section 4: Pre Application Consultation**

- A narrative of the different phases of consultation incl results and responses

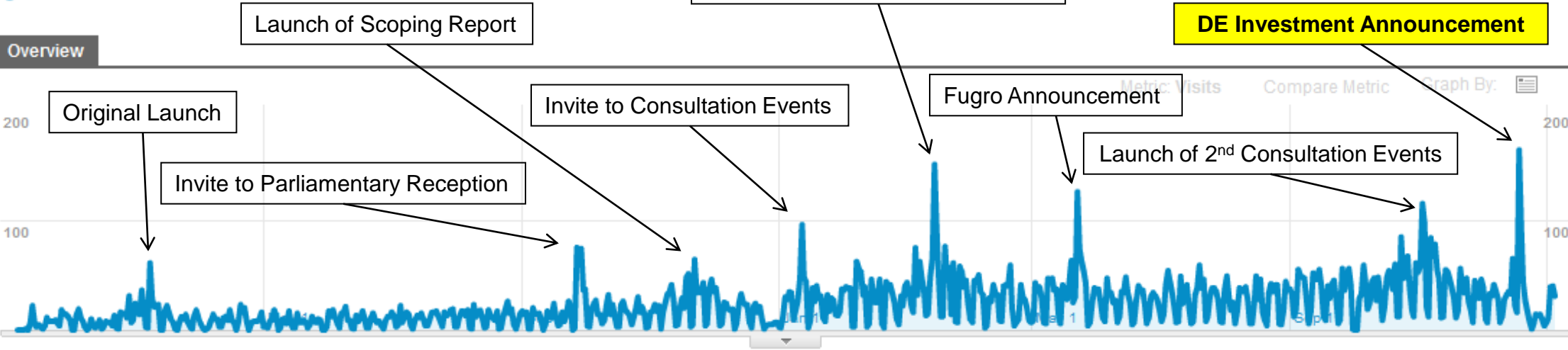
## **Section 5: Conclusions**

- Conclusions from consultation

# Visitors Overview

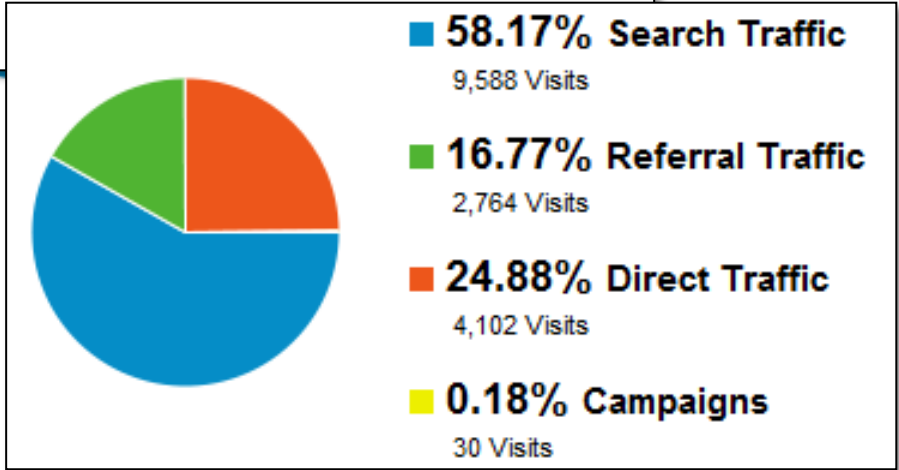
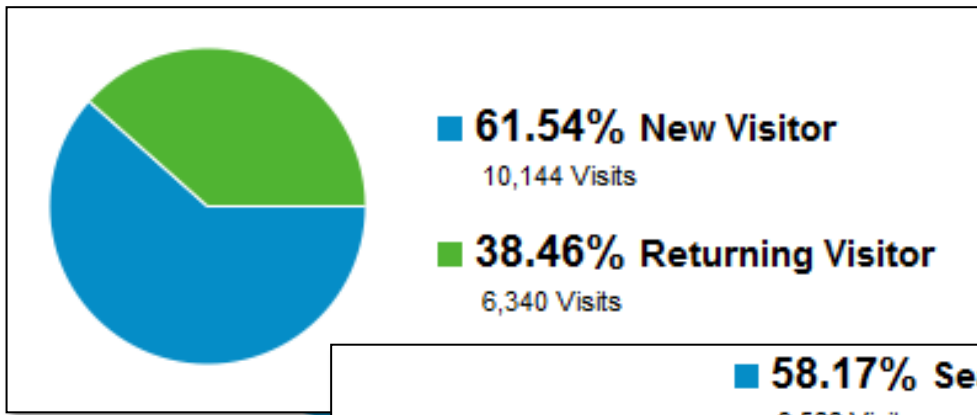
Jan 4, 2010 - Jan 5, 2012

100.00% of total visits



10,185 people visited this site

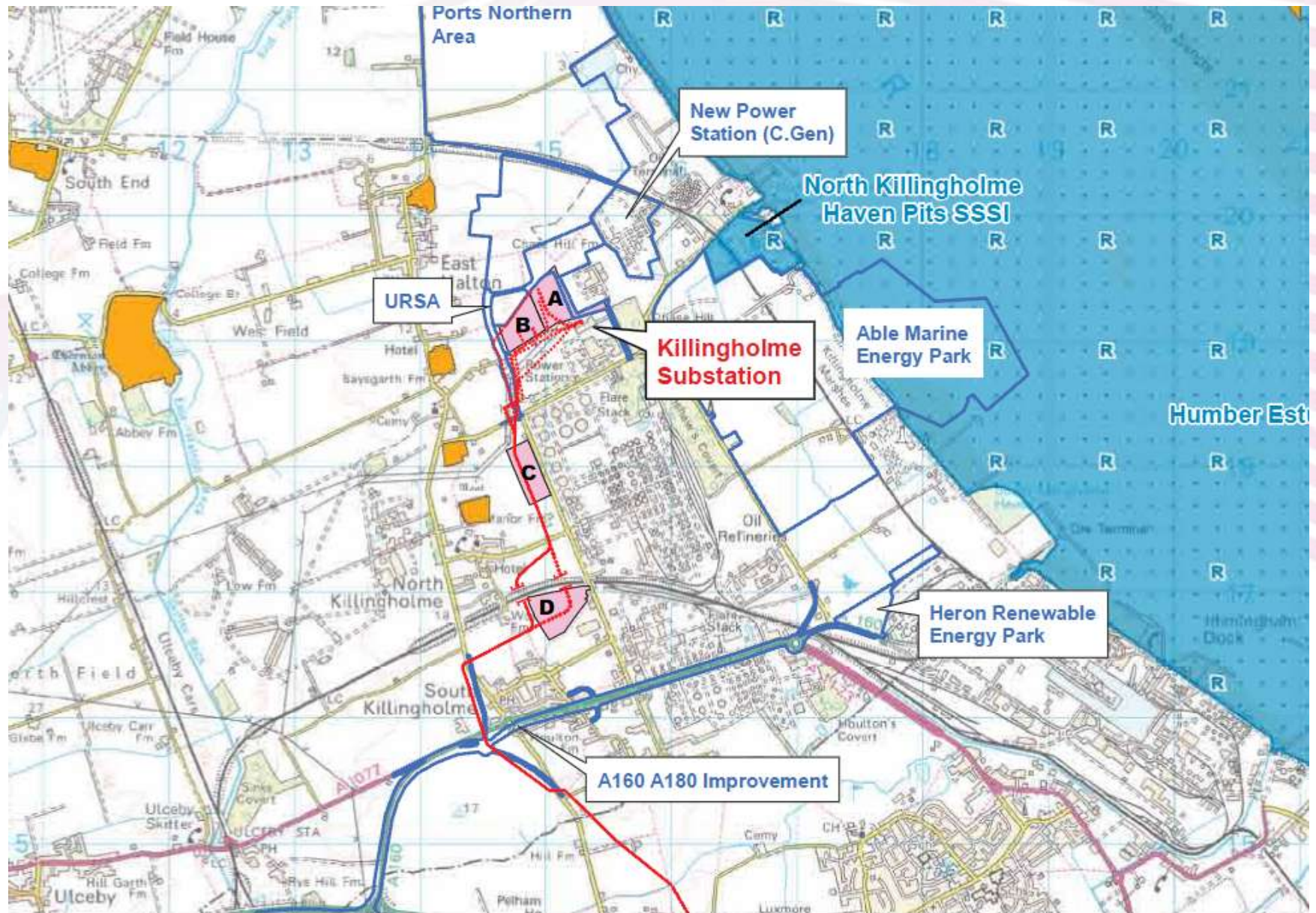
- 16,484 Visits
- 10,185 Unique Visitors
- 72,400 Pageviews
- 4.39 Pages/Visit
- 00:03:09 Avg. Time on Site
- 35.34% Bounce Rate
- 61.54% % New Visits







# Converter Station Candidate Locations (November 2011)





# 1 GW Converter Station (November 2011)

- The detailed design of the converter station has not yet been confirmed but the maximum dimensions are 180m length x 146m length with a building up to 24m in height.
- There will also be an additional landscaping buffer to mitigate any potential visual impacts of the building.
- As National Grid has now confirmed a 2nd GW can be connected at North Killingholme, SMart Wind are negotiating with land owners, to ensure enough land is secured at each site to build two converter stations.







# Hornsea - Interactive 3D Model





# Where in the world?

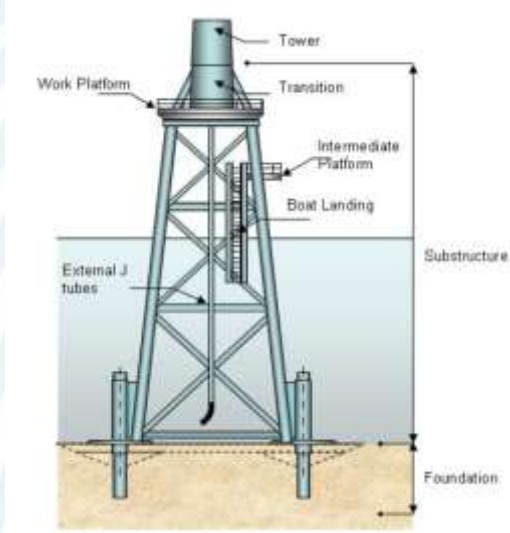
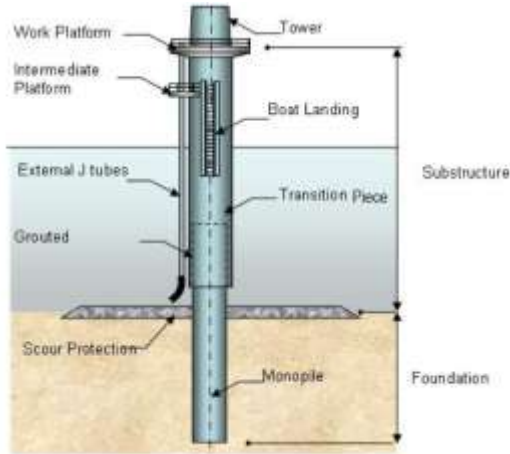




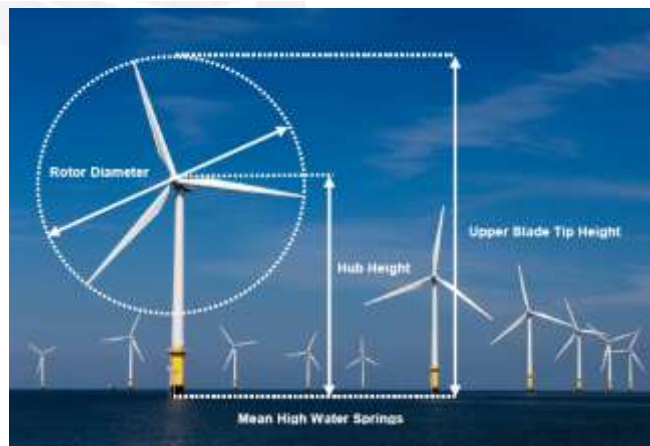
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# Approach to Rochdale Envelope

## Project Component Rochdale Envelope



Component	Dimension
<b>Wind Turbine</b>	
Number of turbines in array	Max 332 Min 150
Total Turbine Capacity	Max 8 MW Min 3.6
Array Capacity	Max 1.2 GW
Turbine Spacing	Min 600 m row Min 960 m column
Hub height	Max 120 m Min 82 m
Upper blade tip height	Max 200 m
Lower blade tip height	Min 22 m
Rotor diameter	Max 178 m
Operating wind speeds	2 – 30 ms <sup>-1</sup>
Seabed Area Affected	Max 6370 m <sup>2</sup>
Scour Protection Area	Max 4400 m <sup>2</sup>
Array Seabed Area Affected	Max 2120000 m <sup>2</sup>
Array Spoil Volume	Max 6390000 m <sup>3</sup>
Pile driving duration	Average: 3.5hrs per pile Max: 1 day per pile



<b>Offshore Collector Station</b>	
Number	Max 5
Main Building Height	25 m
Topside Area	1800 m <sup>2</sup>
Foundation Type	Monopile, Jacket, or GB
Seabed Area Affected	m <sup>2</sup>

<b>Offshore Converter Station</b>	
Number	Max 2
Main Building Height	Max 58 m
Topside Area	7200 m <sup>2</sup>
Foundation Type	Monopile, Jacket, or GB
Seabed Area Affected	m <sup>2</sup>

<b>Array Cabling</b>	
Length of Cable	319 km
Cable Diameter	150 mm
Type of Cable	
Voltage	30 -70 kV
Seabed Area Affected	2560000 m <sup>2</sup>
Installation	Buried
Burial Depth	1.5 m

<b>Offshore HVDC Cable</b>	
Number of Cables	Max 4
Length of Cable Route	Max 140 km
Cable Diameter	150 mm
Type of Cables	Mass Impregnated or XPLE
Voltage	Max +/- 400kV
Seabed Area Affected	4480000 m <sup>2</sup>
Installation	Buried
Burial Depth	1.5 m

<b>Cable Landing</b>	
Installation	TBC (Horizontal directional drilling)
Number of ducts	Max 4
Diameter of Ducts	Max 0.75 m
Length of Ducts	100- 300m
Burial depth of Ducts	0.5 - 10m
Transition Pit Area	Approx. 75 m <sup>2</sup>
Transition Pit Depth	Approx. 1.5 m
Transition Pit Height	Approx. 0 m

<b>Onshore HVDC Cable</b>	
Length of Cable Route	43 km
Type of Cable	
Voltage	Max +/- 400kV
Land Area Affected	880000 m <sup>2</sup>
Installation	Buried

<b>Onshore Converter Station</b>	
Main Building Height	Max 40 m
Main Building Width	Max 110 m
Main Building Length	Max 210 m
Site Area	Max 100000 m <sup>2</sup>

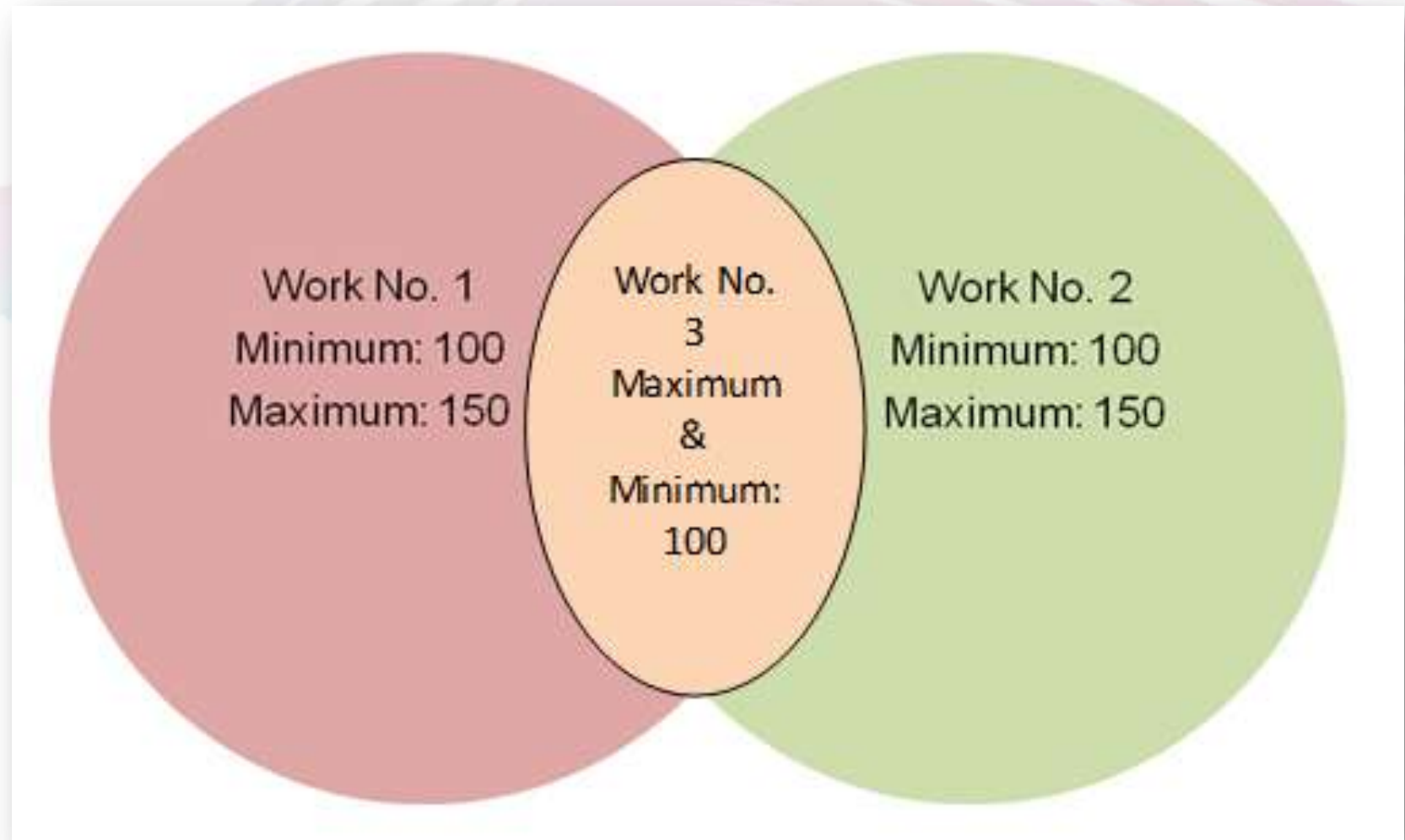
**Exclusion and Safety Zone** See Section 2.4





# Approach to Rochdale Envelope

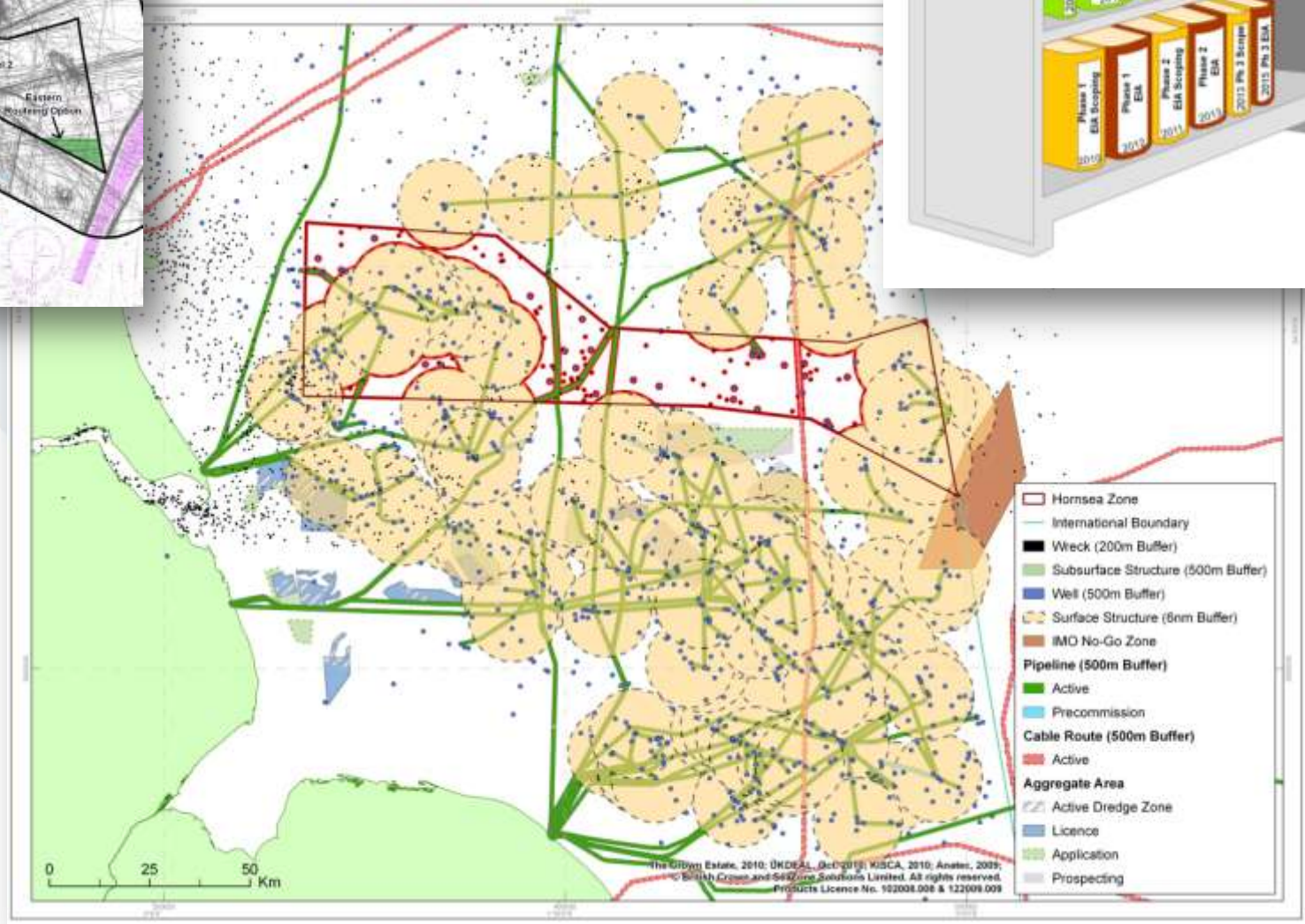
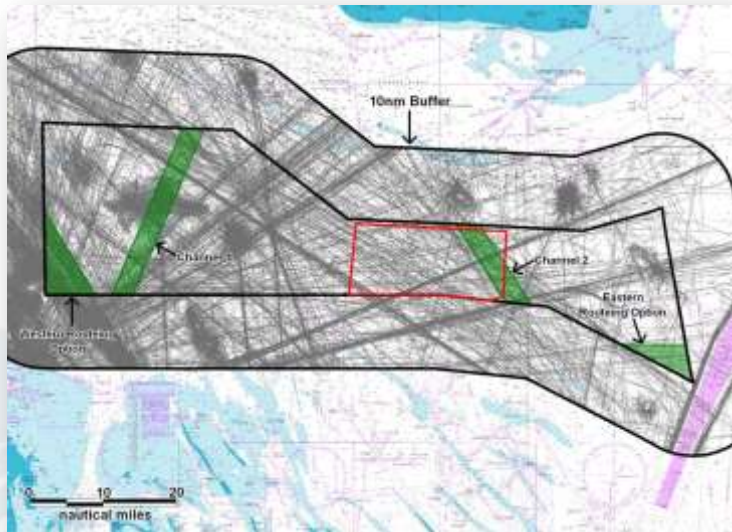
Schedule A, Part 1 – Authorised Development  
Phasing of construction



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# ZAP



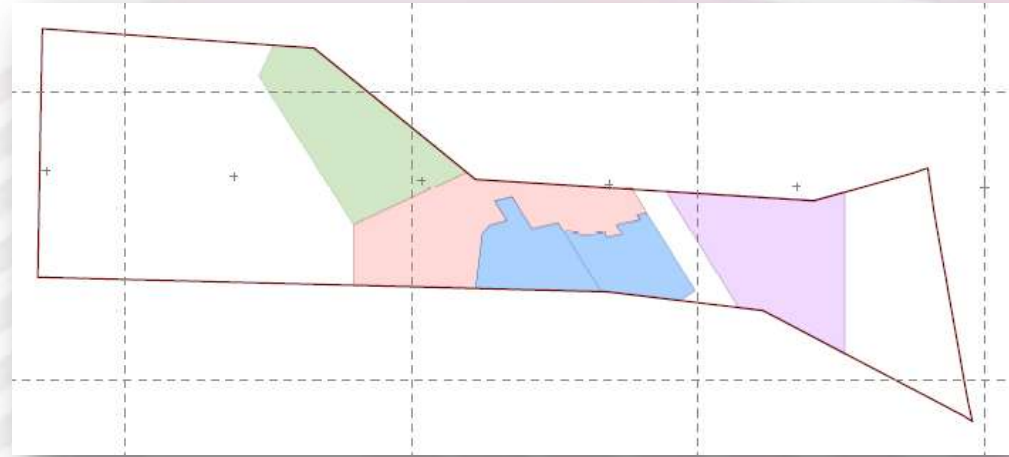
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# Cumulative Impact Assessment

## Hornsea Project One

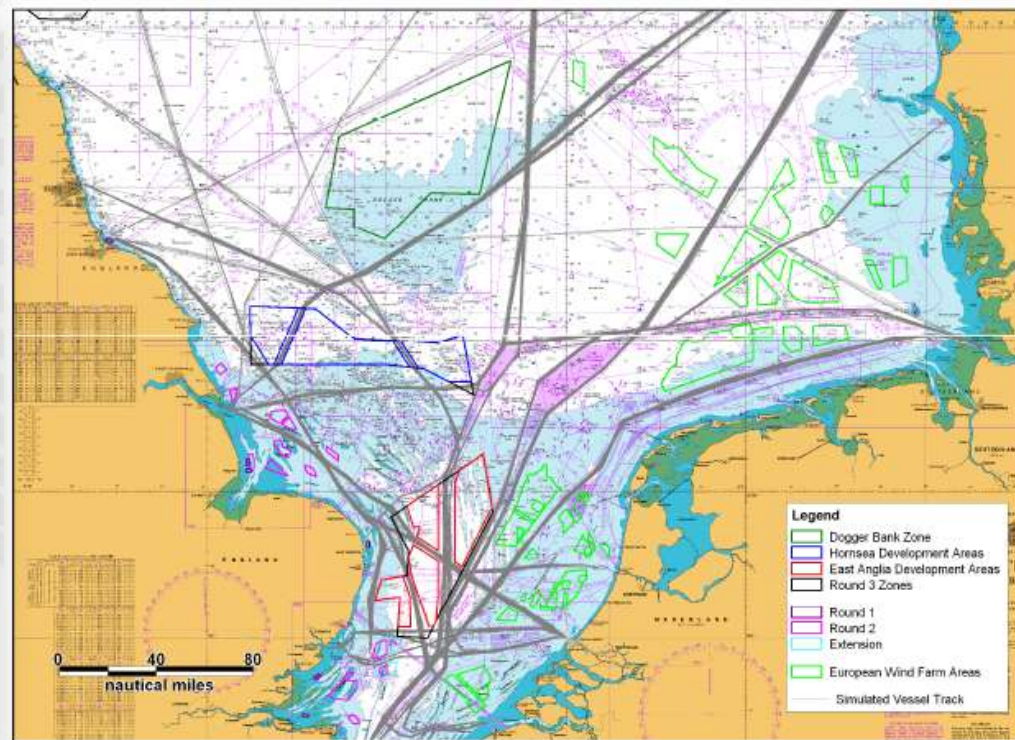
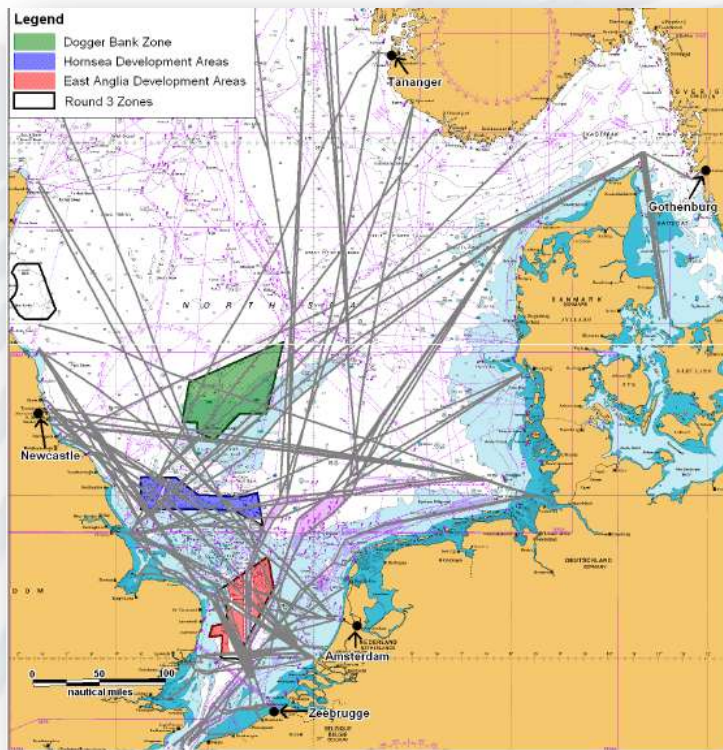
- Quantitative assessment of cumulative impacts for key parameters across all four projects in Hornsea Zone (4 GW)
- Included other Round 1 and 2 developments as well other offshore developments (e.g., oil & gas, aggregates, CCS)
- Used results from submitted project EIAs or agreed data sharing with other developers
- For Round 3 projects (Dogger Bank and East Anglia) and some Round 2 sites (Triton Knoll) the data is not available to carry out quantitative assessments due to availability of site specific data and detailed project description
- Suggested approach:
  - Assess projects and target zone capacity qualitatively through expert judgement or by scaling up results from Hornsea projects
  - This approach would be agreed in consultation with key stakeholders
  - NB: Carrying out a quantitative assessment without data/project parameters =meaningless results
  - (e.g. carrying out CRM for Tranche A at Dogger Bank without site-specific bird density data is not possible. If we use our bird density then we would get the same results as scaling up our results from P1-4. )



# Cumulative Impact Assessment

## Navigation

- Joint SNSOWF study
- Consultation with MCA, THLS, Chamber of Shipping, RYA
- International Meetings – Dutch, Belgium, German workshops + correspondence with Norway & Denmark
- Meeting with Shipping Minister, Mike Penning, 12/1/12



\*28 Days of Simulated AIS for Deviated Routes Only



# Cumulative Impact Assessment

## Birds/Marine Mammals

- Ongoing studies

## Commercial Fisheries

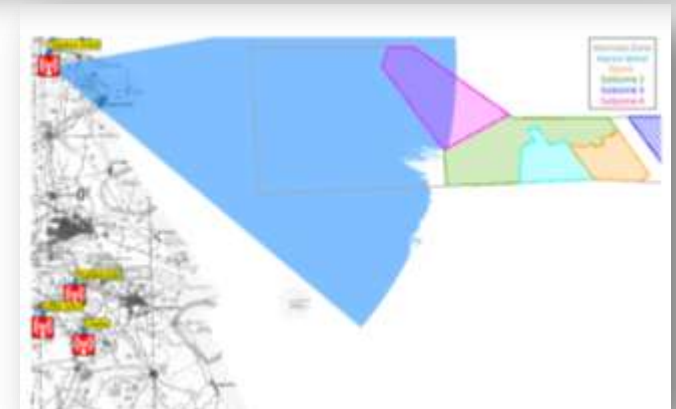
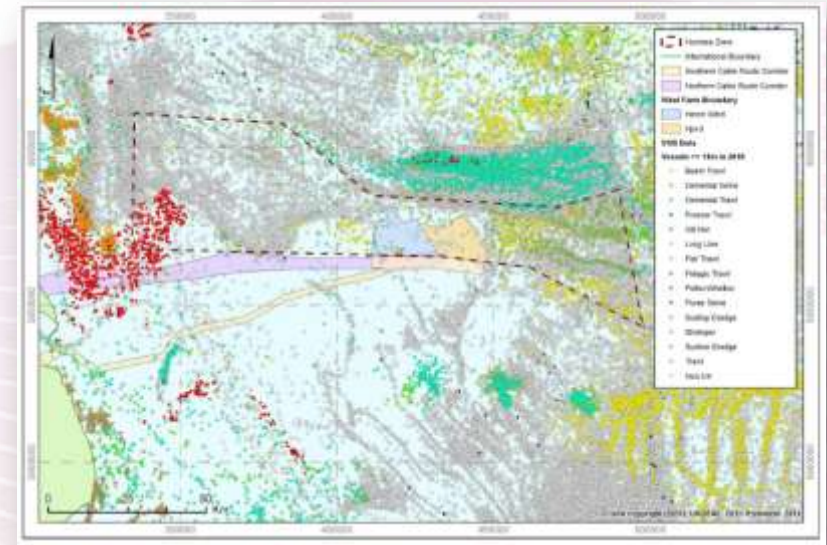
- SNSOWF Joint International Meetings – Belgium, Danish, Dutch, French
- Regular National & Regional Meetings & Communications
- NFFO Services

## Oil & Gas

- Ongoing dialogue with Operators, DECC, RUK, TCE & O&G UK
- 27<sup>th</sup> Round

## Aviation, Military & Radar

- Ongoing dialogue with MOD, NATS & CAA
- Approval of Nav Aids with THLS & MCA



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# Drafting the DCO

- Internal review of 1st Draft
- **Winckworth Sherwood** – Parliamentary Agents
- Consulting with consultees on protective provisions at early stage – EA, ABP, Drainage Boards, Network Rail, etc.
- Explanatory Memorandum & Works Plans
- Inventory of Documents for Application

IPC Electronic Application Index						
Please use a new line for each document. Strip down both in column category and document type need to be selected from the strip down lists only.						
IPC Application Reference Number(s)		PNE00000				
Category (see strip down list)	Document type (see strip down list)	Main English Description	Ref or drawing number	Date	Author	
example: Application Form	Form	Application form for the 000 project	PNE0000	1.1.11	J. Smith	
Application Form	Form	Completed and signed application form for Hornsea Project Use of Waters and Wells including payment of fee for marine registration fee.			Shepherd & Wedderburn	
Blank Media or electronic	Non-spatial Software	Non-spatial software required under 3(8) PA 2006, 34, 35(2)(c) & 4(1) AWP 2009			Shepherd & Wedderburn	
Plans/Drawings	General Site Plans (Part 2)	Location plan(s) required under 4(2)(a) AWP 2009				
Plans/Drawings	General Site Plans (Part 2)	Site layout plan(s) required under 4(2)(a) AWP 2009				
Plans/Drawings	Excavation (Part 2)	Excavation drawings required under 4(2)(a) AWP 2009				
Plans/Drawings	Flow Plans (Part 2)	Flow plans required under 4(2)(a) AWP 2009				
Plans/Drawings	Detected Plans (Part 2)	Access, Working, and stopping required under 4(2)(a) AWP 2009			APD	
Plans/Drawings	Detected Plans (Part 2)	Drainage Surfaces in water management required under 4(2)(a) AWP 2009			APD	
Plans/Drawings	Detected Plans (Part 2)	Other detected interventions required under 4(2)(a) AWP 2009			APD	
Plans/Drawings	Plan showing any other work (Part 2)	Plan showing any other work required under 4(2)(a) AWP 2009				
Plans/Drawings	Detected Plans (Part 2)	Claims for marine access required under 4(2)(a) AWP 2009				
Draft development consent order	Draft Order (Part 5)	Draft Development Consent Order for Hornsea Project Use of Waters and Wells required under			Shepherd & Wedderburn	

WS 9.1.12

## STATUTORY INSTRUMENTS

201X No.

### INFRASTRUCTURE PLANNING

Hornsea Offshore Wind Farm Order 201[X]

Made - - - - - \*\*\*

Coming into force - - - - - \*\*\*

### CONTENTS

#### Preliminary

1. Citation and commencement
2. Interpretation
3. Disapplication of legislative provisions
4. Defence to proceedings in respect of statutory nuisance

#### Principal Powers

5. Development consent etc. granted by the Order
6. Limits of deviation
7. Maintenance of authorised project
8. Operation of electricity generating stations

#### Streets

9. Street works
10. Application of the 1991 Act
11. Temporary stopping up of streets
12. Agreements with street authorities

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# Drafting the Marine Licence

- Good progress on 1st Draft
- Early consultation with MMO
- Key that monitoring conditions are linked to findings of the ES chapters
- Meetings in Jan/Feb with SNCBs to discuss Marine Licence in conjunction with review of 1st draft of ES chapters

SCHEDULE 1	
DEEMED LICENCE UNDER THE MARINE AND COASTAL ACCESS ACT 2009	
Part 1	
<b>1. Interpretation</b>	
1.1 In this Schedule:	
"the 1990 Act"	means the Town and Country Planning Act 1990;
"the 2008 Act"	means the Planning Act 2008;
"the 2009 Act"	means the Marine and Coastal Access Act 2009;
"authorised deposits"	means the substances and articles specified in paragraph 2.3 of Part 1 of this Schedule;
"authorised development"	means the development described in Part 1 of Schedule A of the development consent order and any other development authorised by the Order, which is development within the meaning of section 32 of the 2008 Act;
"best environmental practice"	means best environmental practice as defined in Appendix 1 of the 1992 OSPAR Convention of the Protection of the Marine Environment of the North-East Atlantic;
"Centre"	means the Centre for Environment, Fisheries and Aquaculture Science or any replacement body;
"commencement"	means beginning to carry out any material operation (as defined in section 56(4) of the 1990 Act) forming part of the authorised development other than operations consisting of site clearance, demolition work, archaeological investigations, investigations for the purpose of assessing ground conditions, remedial work in respect of any contamination or other adverse ground conditions and "commencement" shall be construed accordingly;
"the Commission"	means the Infrastructure Planning Commission or any replacement body;



# RUK Consenting Lessons Learned Publication



Key Consenting Risk	Key Recommendation
<b>Adaptation to a new consenting system and regulatory environment</b>	<ul style="list-style-type: none"> <li>• Ensure that there is clear understanding between developers and regulators over the way in which offshore wind projects develop, and the way in which they are assessed.</li> <li>• Consider whether regulators could provide a stronger steer to applicants pre-application, to ensure that developers know that they are on the right track.</li> </ul>
<b>The difficulties of data collection in large areas far offshore</b>	<ul style="list-style-type: none"> <li>• A more pragmatic approach to data and data collection – targeted to specific consenting requirements.</li> <li>• Clarity from regulators and stakeholders on the meaning of “scientifically robust” data for stages of development and sensitive receptors.</li> <li>• More effective scoping to allow better targeted data collection programmes.</li> </ul>
<b>Uncertainties in the assessment of environmental impacts</b>	<ul style="list-style-type: none"> <li>• Adoption of a more pragmatic, risk-based approach to the assessment of impacts and significance.</li> <li>• Consideration of the wider environmental benefits of offshore wind when considering the risk to one particular species or receptor.</li> <li>• Ensure that stakeholder requirements are clearly defined up-front.</li> </ul>
<b>Assessment of cumulative impacts</b>	<ul style="list-style-type: none"> <li>• Encourage open, early and frank dialogue between regulators, stakeholders and developers when discussing cumulative impacts.</li> <li>• Develop improved guidance with standard terminology.</li> </ul>
<b>Flexibility in consent and the Rochdale Envelope</b>	<ul style="list-style-type: none"> <li>• Develop techniques for effective consultation on project envelopes as part of the pre-application process.</li> <li>• Allow greater variation or less onerous requirements to vary post consent without impacting construction time scales..</li> </ul>
<b>Achieving effective monitoring programmes</b>	<ul style="list-style-type: none"> <li>• Re-evaluate data already collected from monitoring programmes for evidence of gross effect. Where none is found this should contribute to the regulators’ assessment of significance of effects.</li> <li>• Discuss what is and what isn’t practical in terms of data collection in the marine environment, and develop a definition of an acceptable evidence base.</li> <li>• Design monitoring programmes that clearly link pre and post construction monitoring and are suitable for validating the predictions made in the Environmental Statement.</li> <li>• Develop a programme between the developer and the regulator to review monitoring outputs with an adaptive management plan to reduce the monitoring effort and reduce requirements if certain stage gates/requirements are met.</li> <li>• Investigate ways that data from monitoring programmes could be combined with other data gathering programmes to enhance value of outputs.</li> </ul>



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# Appropriate Assessment - Onshore

## Habitats Regulations Assessment: Information Sources

### SAC Annex I Habitats:

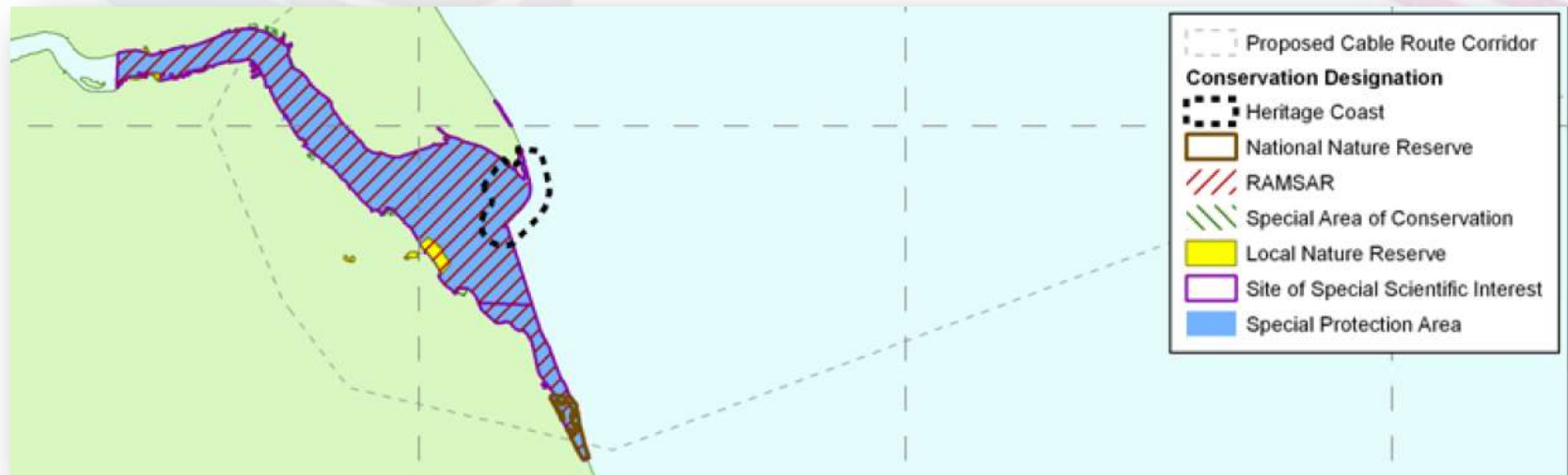
- Phase 1 intertidal and coastal habitats survey
- Phase 2 intertidal core sampling survey

### SAC Annex II Species:

- Detailed fish ecology desktop study
- Site specific fish ecology sampling
- Detailed desktop study of grey seals at Horseshoe Point

### SPA Bird Features:

- Site specific breeding bird and wintering and migratory bird count surveys at Horseshoe Point
- Detailed desktop study and data review of bird populations in the Humber Estuary SPA





# Appropriate Assessment - Onshore

## **Annex I Habitats: Likely Significant Effect**

- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- *Salicornia* and other annuals colonising mud and sand

## **Annex I Habitats: Uncertain/Potential Likely Significant Effect**

- Sandbanks which are slightly covered by sea water all the time
- Coastal lagoons
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Embryonic shifting dunes
- Shifting dunes along the shoreline with *Ammophila arenaria* (`white dunes`)
- Dunes with *Hippophae rhamnoides*

## **Annex I Habitats: No Likely Significant Effect**

- Fixed dunes with herbaceous vegetation (`grey dunes`)

## **Annex II Species: Uncertain/Potential LSE**

- Sea Lamprey
- River Lamprey
- Grey Seal

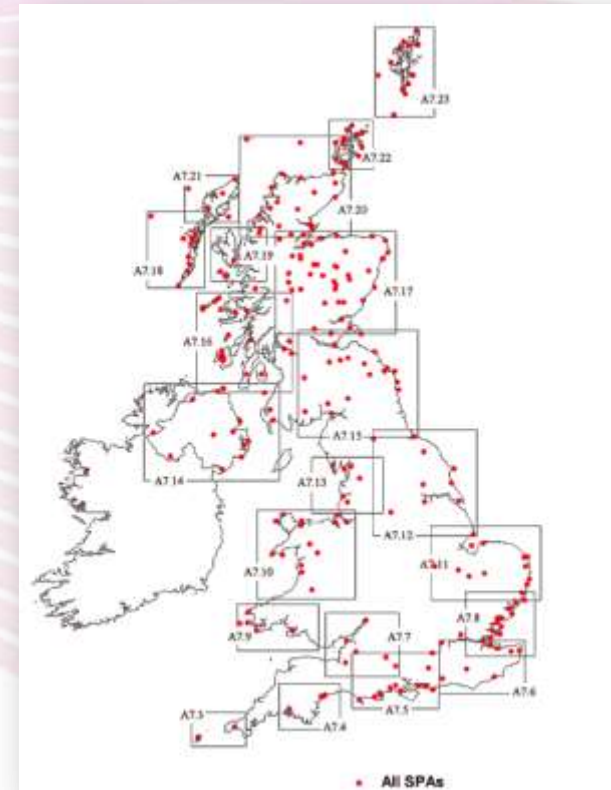
## **SPA Features**

- All features (i.e. breeding, over wintering and passage species) to be included in the Appropriate Assessment

# Appropriate Assessment - Offshore

## HRA Scope and Approach

- Six SPAs originally identified within Hornsea scoping document as being of relevance to the project:
  - North Norfolk Coast SPA, The Wash SPA, Gibraltar Point SPA, Great Yarmouth SPA, Hornsea Mere SPA, Humber Estuary SPA (including Humber, Marshes and Coasts SPA).
- Scoping document identified an additional eight SPAs (December 2010):
  - Broadland SPA, Coquet Island SPA, Northumbria Coast SPA, Teesmouth and Cleveland Coast SPA, Lindisfarne SPA, Forth Islands SPA, Hornsea Mere SPA, St Abb's Head to Fast Castle SPA.
  - Including sites from southern Scotland down to Norfolk
- Following consultation with JNCC on the Year 1 bird report and the HRA methodology in November 2011 the HRA scope increased significantly
- An additional 51 SPA sites within the UK stretching from the Shetland Islands down to Kent and 9 EU sites were added
- 12 UK SACS and 51 SACS outside the UK
- An assessment has been made for each of the species cited against each site's Conservation Objectives, where available.
- Screening exercise is 400 pg document, further consultation being carried out with JNCC as to appropriate way forward





# Appropriate Assessment - Offshore

## Summary Table for HRA Screening Assessment for SPAs

Species	Site	Likely significant effect alone and/or in-combination
Gannet	Hermaness Saxa Vord and Valla Field, Noss, Fair Isle, Forth Islands, Flamborough Head, Dogger Bank, Seevogelschutzgebiet Helgoland	Collision (+ Displacement, Barrier for Flamborough Head)
Kittiwake	Hermaness Saxa Vord and Valla Field, Noss, Foula, Sumburgh Head, Fair Isle, West Westray, Marwick Head, Calf of Eday, Rousay, Copinsay, North Caithness Cliffs, East Caithness Cliffs, Troup Pennan and Lion's Heads, Buchan Ness to Collieston Coast, Fowlsheugh, Forth Islands, St Abb's head to Fastcastle, Farne Islands, Flamborough Head, Doggerbank, Littoral seino-Marin.	Collision
Great black-backed gull	Calf of Eday, Copinsay, Hoy, East Caithness Cliffs, Ramsar-Gebiet S-H Wattenmeer und angrenzende, Ístliche Deutsche Bucht, Littoral seino-Marin, Baie de Seine Occidentale.	Collision
Lesser black-backed gull	Forth Islands, Alde Ore, Ramsar-Gebiet S-H Wattenmeer und angrenzende K.stengebiete, Ístliche Deutsche Bucht Seevogelschutzgebiet, Helgoland, Littoral seino-Marin, Baie de Seine Occidentale	Collision
Herring gull	East Caithness Cliffs, Troup Pennan and Lion's Heads, Buchan Ness to Collieston Coast, Fowlsheugh, Forth Islands, St Abb's head to Fastcastle, Flamborough Head, Alde Ore,	Collision
Razorbill	Foula, Fair Isle, North Caithness Cliffs, Fowlsheugh, Forth Islands, St Abb's head to Fastcastle, Flamborough Head,	Displacement
Guillemot	Hermaness Saxa Vord and Valla Field, Noss, Foula, Fair Isle, Sumburgh Head, West Westray, Marwick Head, Calf of Eday, Rousay, Copinsay, Hoy, North Caithness Cliffs, East Caithness Cliffs, Troup Pennan and Lion's Heads, Buchan Ness to Collieston Coast, Fowlsheugh, Forth Islands, St Abb's Head to Fastcastle, Farne Islands,	Displacement
Puffin	Hermaness Saxa Vord and Valla Field, Noss, Foula, Hoy, North Caithness Cliffs, East Caithness Cliffs, Forth Islands, Farne Islands, Coquet Islands, Flamborough Head,	Displacement

# Appropriate Assessment - Offshore

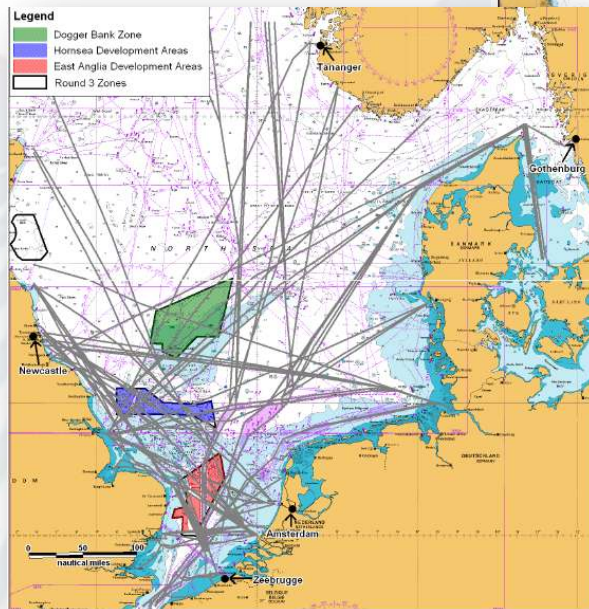
- Based on Year 1 survey results and noise modelling undertaken, all SACs identified that have marine mammals as qualifying species have the potential to be impacted
  - Therefore no SACs have been screened out at this stage
- SACs may also be designated for Annex I habitats.
  - Potential impacts on habitats are generally more localised than impacts on species
  - Therefore only SACs adjacent to Project One are considered
    - North Norfolk and Saturn Reef SAC is 11km from zone , HRA will consider changes in sediment flow and current regime



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# Transboundary Consultation

- Topic updates covered under cumulative impacts agenda item
- Approach to screening matrix



\*28 Days of Simulated AIS for Deviated Routes Only



## 10 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION AND MONITORING

This is the summary table presenting all the potential environmental impacts requiring assessment. The table correlates with the Scoping Report headings. Where there is the potential for a transboundary impact an \* is given at the end of the sentence.

Table 10-1 Summary of potential impacts

Parameter	Project One – Environmental Impacts Requiring Assessment
Geology	<p><b>Construction Phase</b></p> <ul style="list-style-type: none"> <li>• Temporary increase in suspended sediment could change sediment composition (locally);</li> </ul>



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# Preliminary Environmental Information

- Para 21 requires “a description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment”
- Para 25 – prescribed content for ES – requires “a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects
- Para 26 – the ES should include the data required to identify and assess the main effects which the development is likely to have on the environment
- SMW stated in SoCC that our full PEI would not be available until a later stage of consultation be available until Phase 3 Consultation
- Potential impacts of the Project were at that time identified in the Scoping Report, to which LAs were referred to ensure that the LAs comments on how to consult on the PEI would be ‘fully informed’



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# Cable - Schedule of Crossings

## Offshore (4)

- Pipelines – Perenco, ConocoPhillips, BP & Shell
- Based on UK Oil and Gas Standard Agreement - Pipeline Cable Crossing Agreement OP024 (Edition 2 and Proximity Agreement)

## Onshore (~333)

- Network Rail
- Drainage Board – waterways, drains
- Highways
- Public Rights of Way
- Utilities (water, gas, electricity)
- Field Boundaries (hedges)

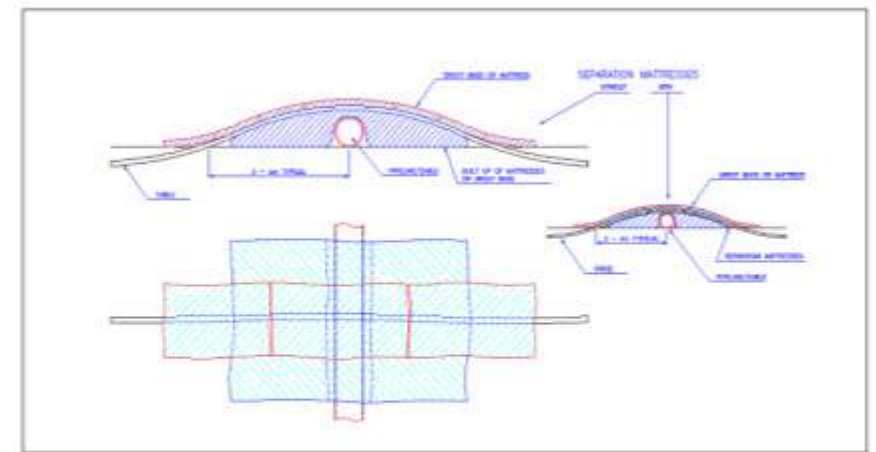
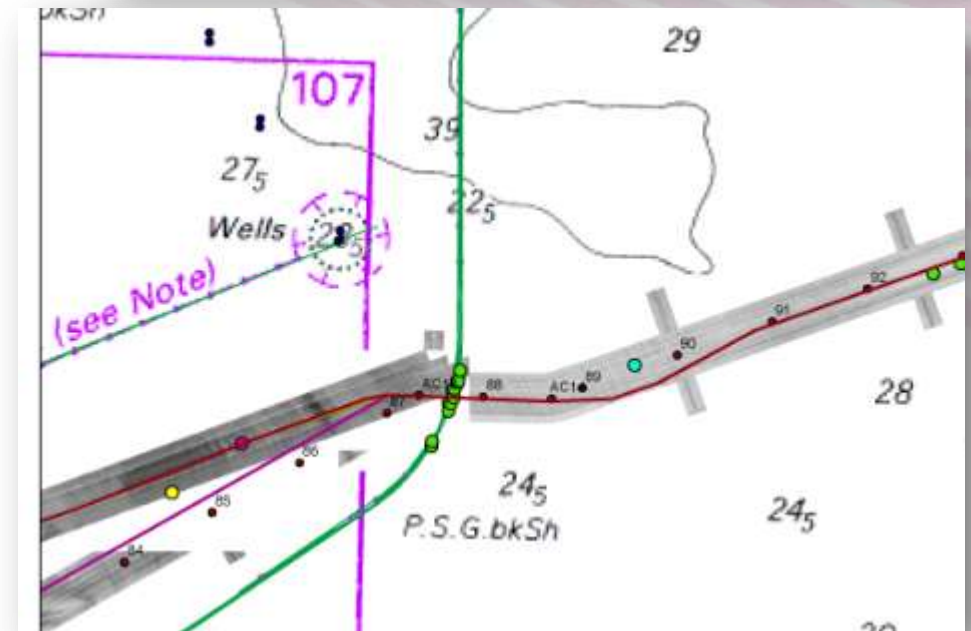


Figure 3 - Crossing with exposed cable / pipeline

Rock dumping is often required in substitution of mattresses. The installation of protective sleeves, mattresses and rock dumping has already been treated in previous chapters.

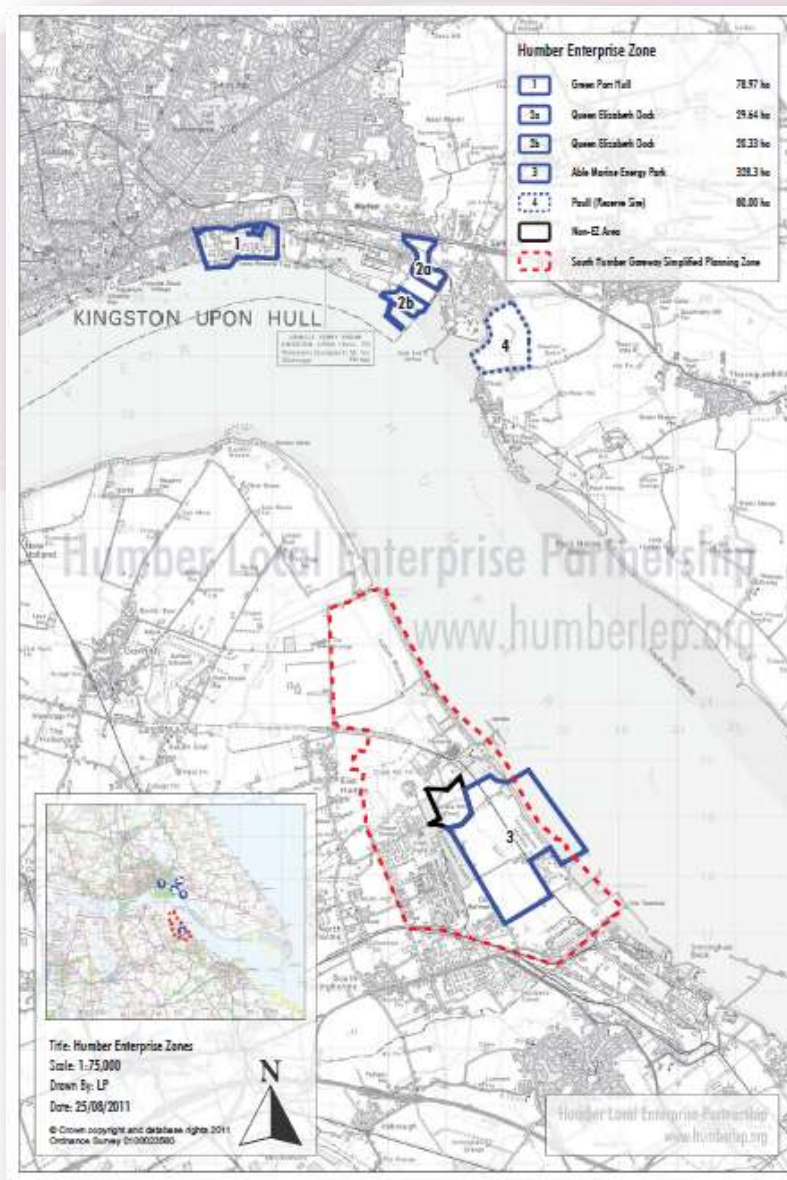
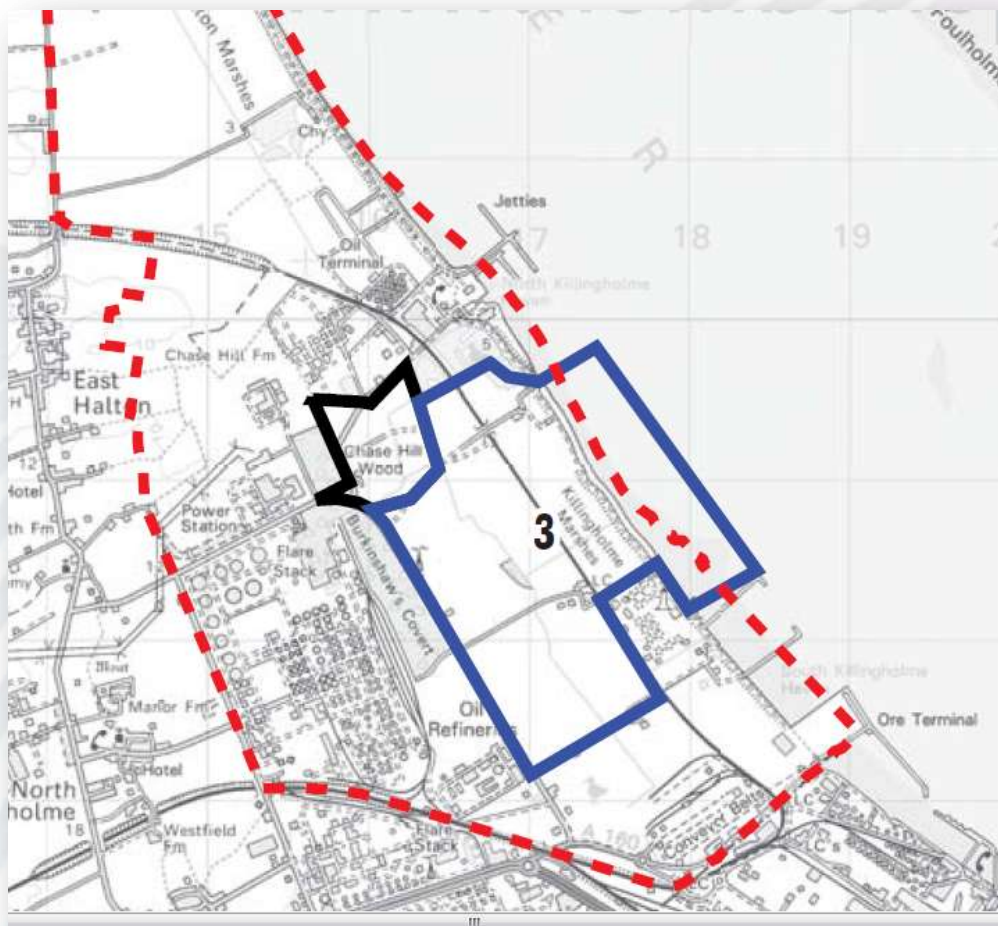




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# AOB

## Humber Gateway Simplified Planning Zone





# AOB

## DCLG Certification Process

**Meetings with Local Authorities (Owain George 9/1/12)** - *“It would also be worthwhile meeting with the relevant local authorities to discuss roles and responsibilities and I will seek to arrange this over the next couple of weeks.”*