

# **OFFSHORE WIND AND TRANSMISSION SEMINAR**

**18 February 2008**

# Offshore Wind and Transmission Investor Conference

- Malcolm Wicks MP      Opening Address
- Duarte Figueira      Overview of Offshore Wind &  
  (BERR)      Transmission.
- Katherine Macneill      Future Offshore –  
  (BERR)      Developments in Offshore  
                 Wind.
- Rob Hastings      Role of Crown Estate  
  (The Crown Estate)
- John Overton (BERR)      Offshore Transmission
- Bob Hull (Ofgem)      Grid Regulation

# Opening Address

Malcolm Wicks MP

Minister of State for Energy

# Introduction – Overview of Offshore Wind & Transmission

Duarte Figueira

Director BERR Renewables Deployment

# OFFSHORE WIND AND TRANSMISSION SEMINAR

18 February 2008

Duarte Figueira – Director,  
Renewables Deployment, BERR

# Overview

## Aims

- Inform investors of key offshore wind policy and regulatory developments
- To outline the potential commercial opportunities in offshore transmission and future rounds of offshore wind
- Provide an opportunity for business contacts

## Policy on renewables

- Renewables essential to delivering Government's climate change and energy security goals
- Government committed to providing the right environment for investment and to reducing barriers to deployment e.g. in planning
- EU Renewables Directive raises the bar – Government committed to UK meeting its share of the renewables target

## Key policy areas

- Energy Bill - Reform of the Renewables Obligation (RO) and banding of offshore wind
- Planning Bill – Energy National Policy Statements (NPS) and Infrastructure Planning Commission (IPC)
- Renewable Energy Strategy (RES) Summer consultation in response to the EU draft Renewables Directive



## RES - what are we seeking to achieve?

- To produce a strategy by Spring 2009 for meeting the UK's share of the EU 2020 renewable energy target.
- Need to do so in a manner that is:
  - Cost-effective
  - Coherent with wider energy policy & climate change goals
  - Makes sense for the long term

# Plan of the Seminar

## Agenda

- Future Offshore – Government policy and Crown Estate briefing
- Offshore Transmission – Policy/ Legislation and Regulation inc. tendering
- Opportunity for questions / comments

Thank you  
for your attention

**Duarte Figueira**

Director - Renewables Deployment

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# Future Offshore – Developments in Offshore Wind

Katherine MacNeill

Deputy Director

BERR Renewables Deployment

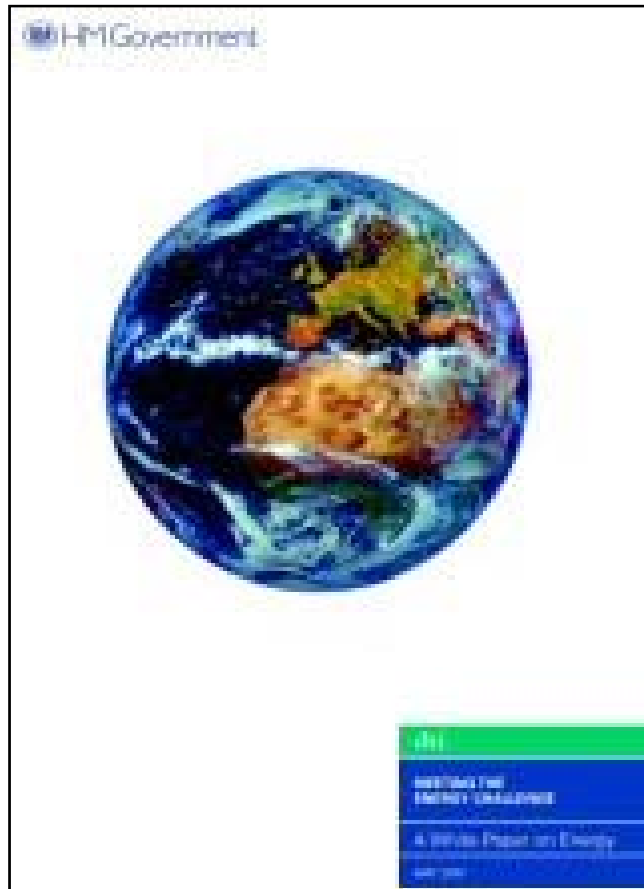
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# **Offshore Wind Policy**

Katherine MacNeill, Deputy Director, Renewables Deployment

Investor Conference, 18 February 2008

## Policy Drivers



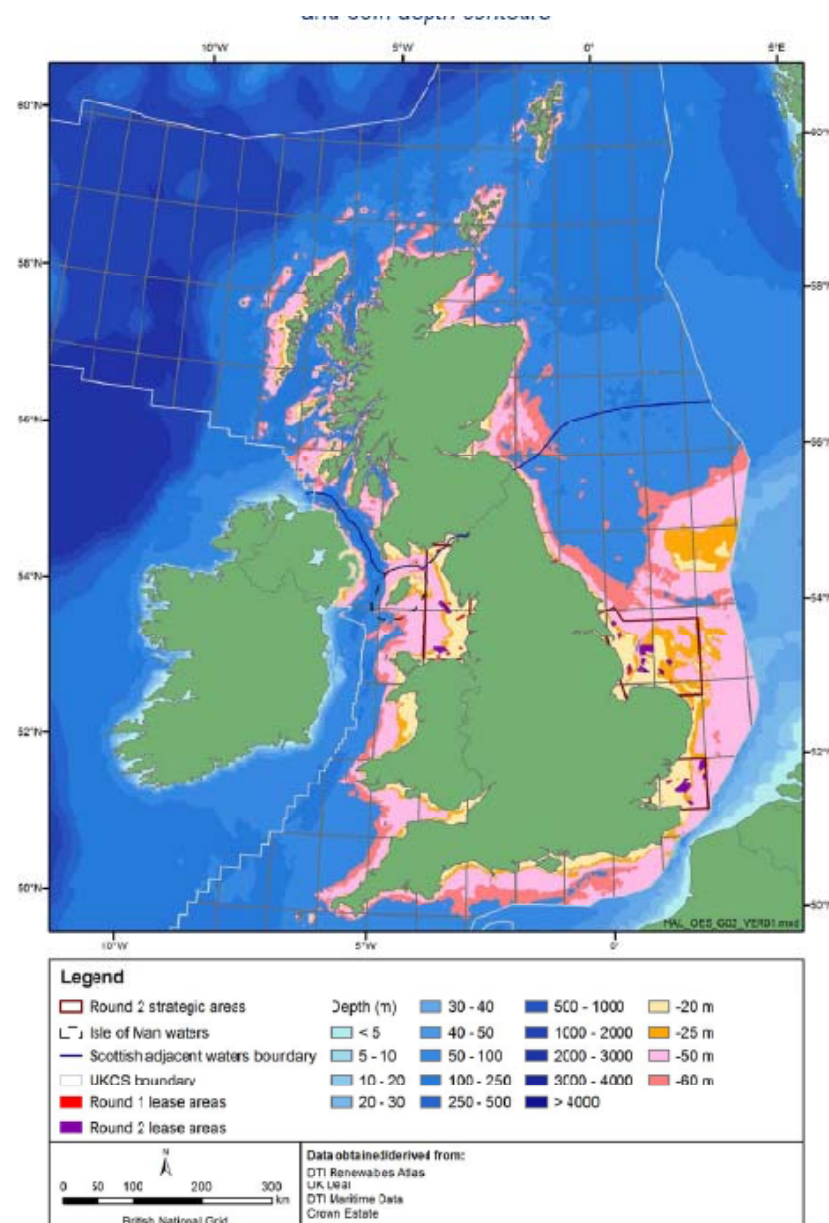
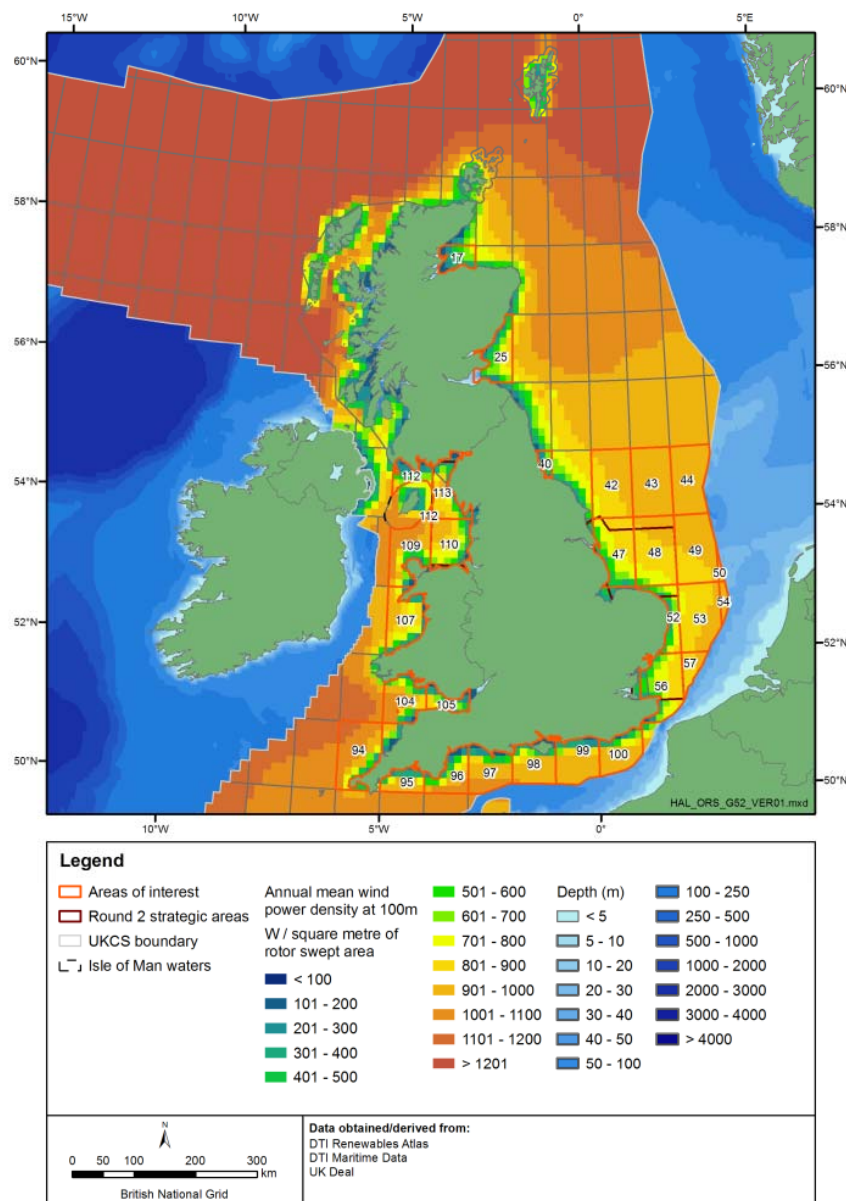
- 60% reduction in CO2 emissions by 2050
- UK 10% renewable electricity target by 2010
- UK 15% renewable energy target by 2020 (proposed)

# Offshore wind in the UK

- UK resource:
  - Shallow water depth
  - Consistent, high wind speeds
- Benefits for:
  - CO2 emissions reductions
  - Sustainability
  - Security of supply







- **Round 1 (1.6GW)**
  - 390MW operating
  - 450MW under construction
  - 180MW consented
  - 370MW in planning
- **Round 2 (7.2GW)**
  - 2.4GW consented
  - 1.8GW in planning
  - 3GW pre-application

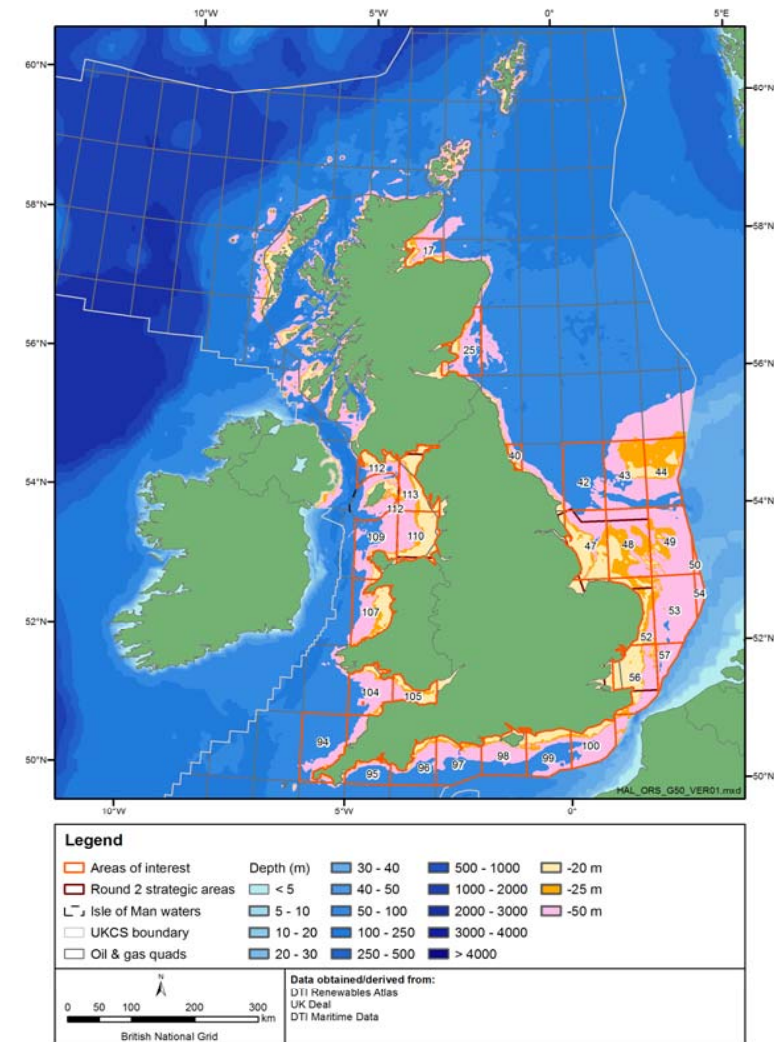
## Future offshore?

- Offshore wind critical to meeting 2020 target
- Providing a long-term market
- White Paper proposals address key barriers
- To deliver by 2020, need to start now
- 10 December SEA announcement



# SEA Draft Plan

- Up to 60m depth in English & Welsh territorial seas + REZ
- Assesses impacts of up to 25GW of new leases:
  - Environmental
  - Commercial
  - Social
  - Other policies
- Decision in Spring 2009



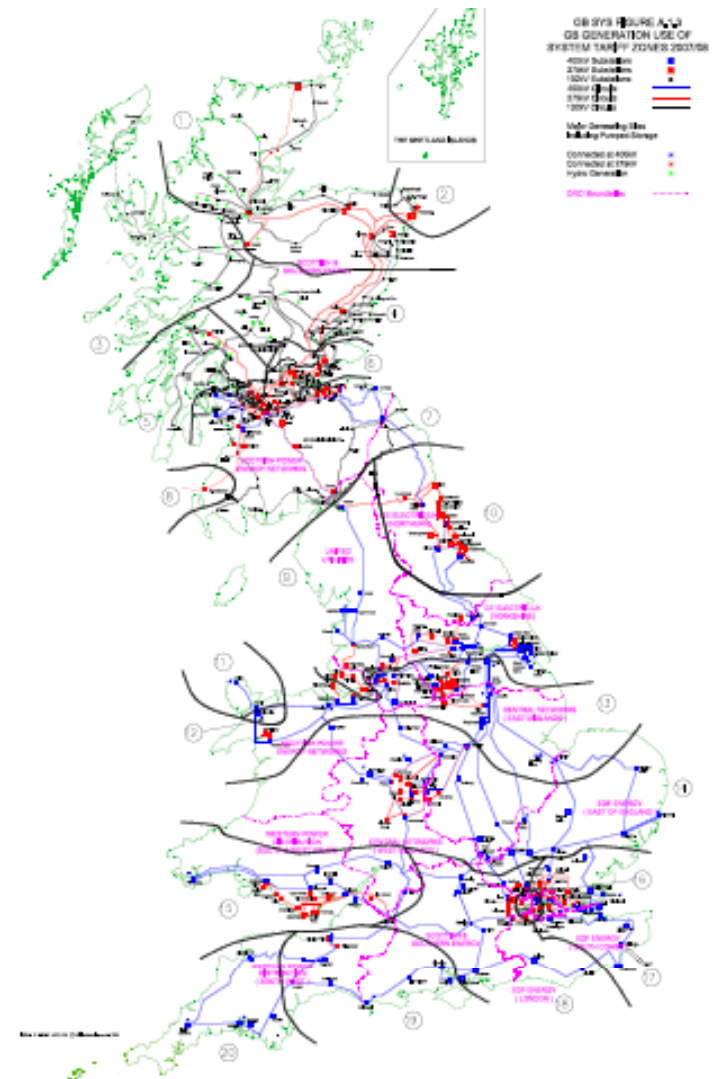
## Process





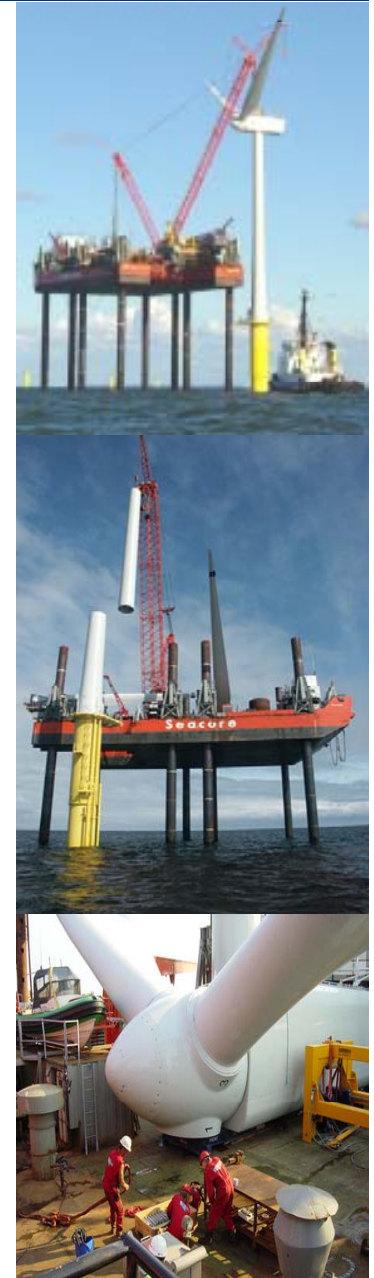
## Delivering Round 3

- Key policy constraints:
  - Access to grid on and offshore
  - Planning consents
  - Financial support mechanism
- Energy and Planning White Paper reforms
- UK Renewable Energy Strategy



# Supply chain constraint

- Rapid expansion in demand globally
- Delivery lead times now around 3 years for turbines
- Industry needs to invest in expanding capacity:
  - Skills
  - Installation
  - Manufacturing / component supply
  - Next generation technology



## Investment opportunity

- Skills, capabilities and facilities exist in the UK :
  - Natural resource
  - R&D base
  - North Sea offshore engineering experience
  - Domestic demand
  - Component supply chain
- Opportunity for long-term investment – without this, cannot deliver by 2020





# Role of Crown Estate

Rob Hastings

Head of Marine Estate

The Crown Estate

# **Criteria for obtaining Round 3 leases**

**Rob Hastings**  
**Director of Marine Estates**

- **Introduction to The Crown Estate**
- **The Offshore Estate**
- **Marine agenda**
- **Round 3**

## A Brief History

- **1760 - George III surrendered Crown's land revenues to UK Treasury**
- **Accepted the Civil List in return**
- **Consolidated under the Crown Estate Act 1961**



# What the The Crown Estate is.....

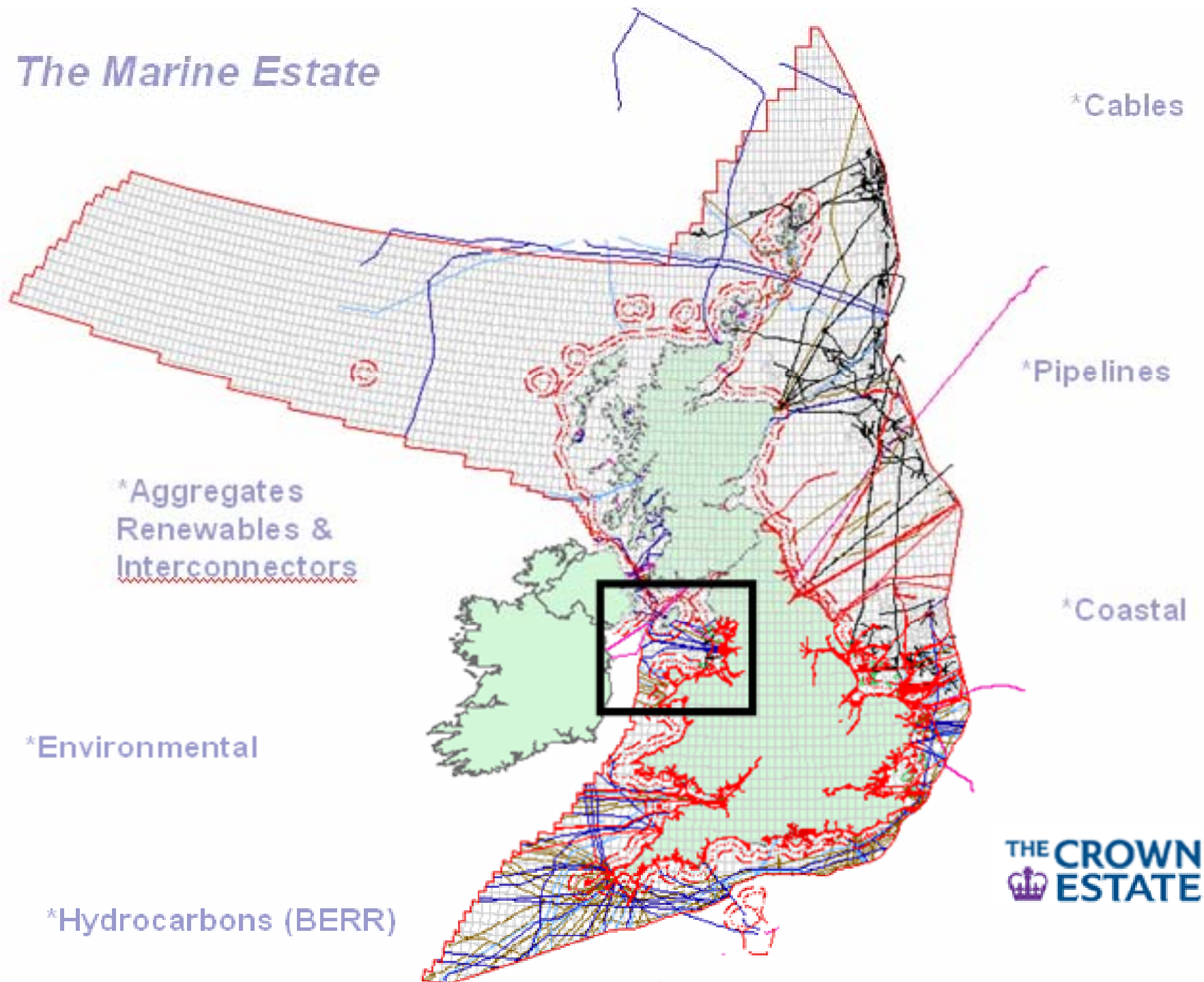
- **The Urban Estate - Substantial blocks of commercial, retail and residential property with an approximate value of £6bn**
- **The Rural Estate (inc. Windsor) - Approximately 113,100 ha agricultural land, 16,900 ha forestry with an approximate value of £1bn**
- **The Marine Estate – Capitalised value of about £0.5bn, Consisting of:**
  - Approximately 55% of the UK foreshore,
  - almost all UK seabed to the 12 nautical mile territorial limit
  - rights to natural resources of UK Continental Shelf (including the Renewable Energy Zones but excluding hydrocarbons)



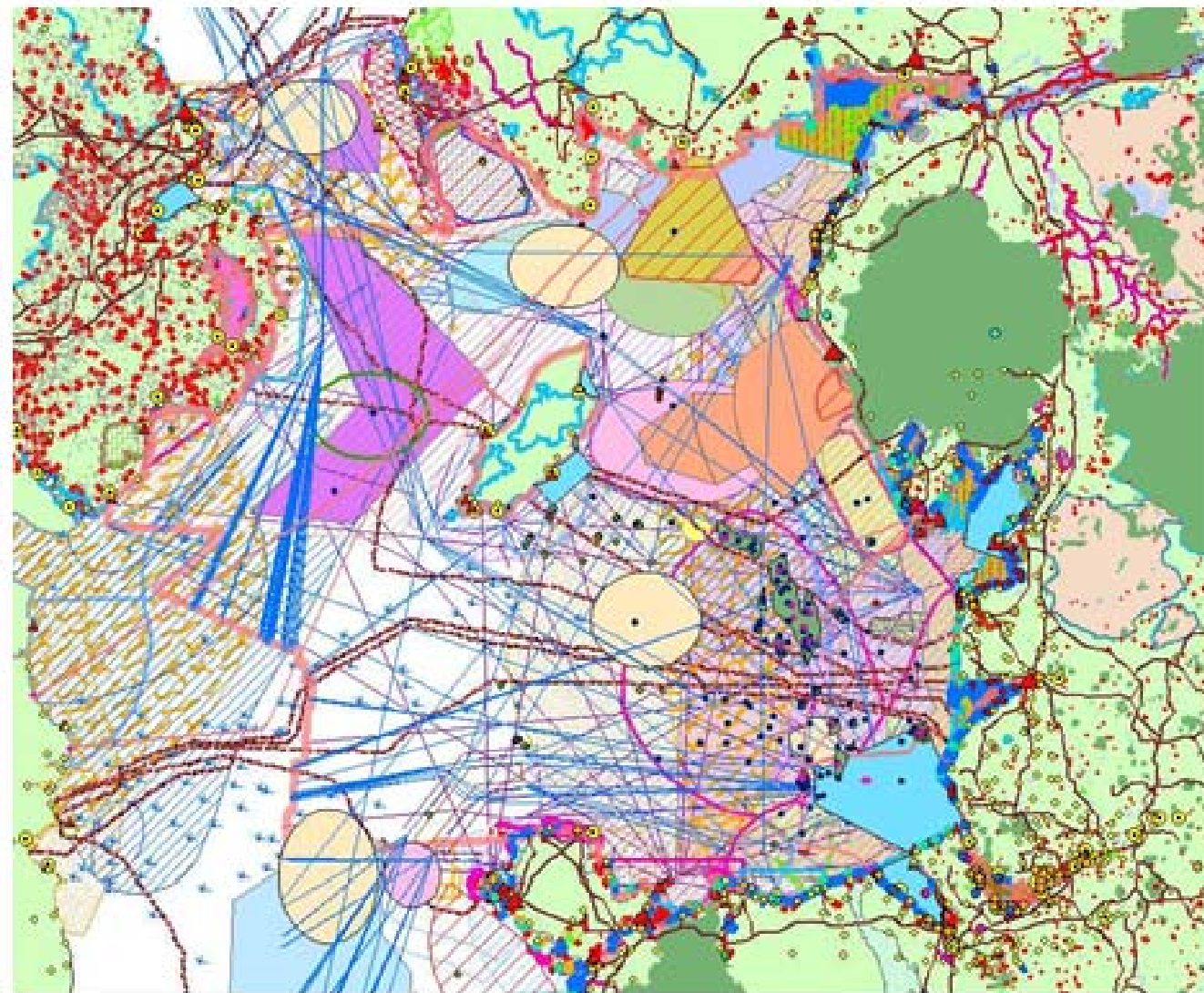
# **The Crown Estate's Marine Agenda**

- **The Crown Estate are required under statute to actively manage the marine estate in a sustainable manner**
- **New technology constantly bring new opportunities**
- **But also greater pressure on resources, space and environmental protection**
- **We therefore undertake sustainable estate management with equal consideration of economic, environmental and social objectives**

## *The Marine Estate*



- Landuse
- Tourism
- Oil & Gas
- Mariculture
- Coastal Defence
- Ports & Navigation
- Military Activities
- Culture
- Conservation
- Dredging & Disposal
- Submarine Cables



- Fishing
- Renewable Energy
- Marine Recreation
- Mineral Extraction



# The Crown Estate & Offshore wind farms

- We are undertaking development planning to meet UK targets
- Seabed leases for offshore wind farms will be within SEAs developed by BERR (excluding Scottish Territorial Waters)
- Two previous rounds have provided valuable experience in managing the development and build process

# Experiences of Rounds 1 and 2

- Site adjustments restrictions
- Consenting bottlenecks
- Cumulative issues
- Limitations of the SEA
- Supply chain constraints
- Grid connection

## Round 3

- Could be three to five times bigger than Rounds 1 and 2 combined
- Could be equivalent to 10 to 15 times the total UK onshore wind farm current capacity
- Could be the equivalent of about half of Europe's total currently installed capacity
- Could require an ultimate investment of between £30bn and £70bn
- Must have completed development within 4 years (2013)
- Must start construction within six years

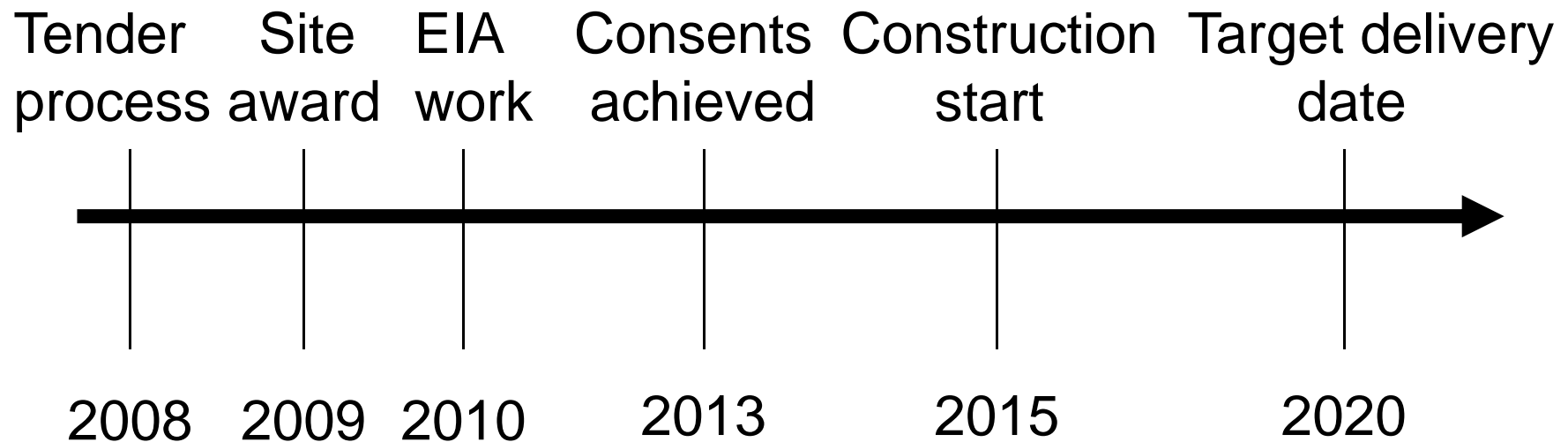
# Plan for Round 3

- Proactive and pragmatic involvement by The Crown Estate
- Resolution of stakeholder conflicts at an early stage
- Early resolution of generic development issues
- Early identification of cumulative impacts and mitigation solutions
- Development of blocks to allow flexibility
- Work the timeline
- Support and promote offshore technology and cost reduction
- Aid supply chain certainty by early engagement and phased deployment

# Timetable

- Public offering to be made in 2008
- Assessment of bids will be based on
  - Financial criteria
  - Technical competence
- Overall - ability of company to deliver is key

# Timeline



# Offshore Transmission

John Overton

Deputy Director

BERR Renewables Deployment

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# **Offshore Transmission Regulatory Regime**

John Overton, Deputy Director

Investor Workshop , 18 February 2008

## Development of Offshore Wind

- Government's 2010 target of 10% renewables;
- EU 20% Target;
- R1 and R2 projects expected to deliver 8 GW of offshore wind;
- Will need to connect to the onshore grid;
- Majority radial connections;
- Future Rounds + 25GW?
- Other connection solutions needed?

## Government Approach to Offshore Transmission

Energy Act 2004 gave SoS powers to licence offshore electricity transmission (& distribution):

- Modify licences & codes for purposes of offshore transmission;
- Prohibit transmission without a licence in REZ (132kV + );
- Competitive tenders for licences;

## Options for Licensing – July 2005



- Consultation set out high-level regulatory options
  - Licensed price-control approach;
  - Licensed merchant approach;

## Government Decision – March 2006

Regulated approach would provide most assistance to development of offshore wind;



- Consistency with onshore;
- Payment for connections recovered through transmission charges;
- Risks and costs shared with consumers;
- Enable co-ordination of connections;

## Financial benefits of this approach

- Connections built and financed by OFTOs;
- OFTOs bid for regulated revenue stream to recoup cost of construction and operating;
- Developers pay annual TNUoS charges over fixed period;
- Consumer shares risk of asset stranding;

## Development of licensing options – November 2006

2 Options consulted on:

- Exclusive area based OFTO licences – with competition for licences;
- Non-exclusive – asset based OFTO licences - with competition to connect specific projects;

## Non-exclusive OFTOs

Government concluded this approach would:

- Deliver cheaper quicker connections;
- Encourage innovation;
- Be more focused on generator's needs
- Enable generators to bid to own cable connections if they wished;



## July 2007 Policy Statement

- Key proposals in July Policy Statement:
  - OFTOs appointed by competitive tender to design, build, finance and maintain OT networks;
  - Ofgem to make key selection decisions and manage tender process;
  - Annual tender window. Any person meeting pre-qualification criteria could enter tender;
  - Transitional arrangements for projects where generator is already constructing or taking steps to construct OT assets.

## Government decisions (1)

- That Ofgem will be the body to run the competitive tender process to appoint companies to connect offshore projects
- To enable Ofgem's Authority to recover the costs of running the tender process from participants in the process the Government will seek additional powers in the Energy Bill;

## Government decisions (2)

- The Government will also seek time-limited powers in the Bill to enable Ofgem, in limited circumstances, to make a property transfer scheme for transitional projects.

## Government decisions (3)

- Timing of new regime now dependent on Energy Bill
- But Go-Active will be as close as possible to our original date of October 2008 (currently expect new date to be December 2008); and
- If the date of Go-Active is delayed, then the date of Go-Live will also be delayed to allow one year for tenders.

## Framework of new regime established

- Licensed Price Control;
- Exemption for Distribution connections;
- GBSO role extended offshore;
- Competition for OFTO licences;
- Ofgem to run tenders

## Other Issues - OFTO of last resort

- The Government also considers there should be an OFTO of last resort for transitional projects, subject to regulatory safeguards,
- To that end, the Government has asked the Authority to design an appropriate regulatory framework to take this into account.

## Opportunities for new OFTOs

- Government committed to development of offshore wind;
- £2 – 3 billion of new offshore grid infrastructure needed for R1 & R2 alone;
- Competition means opportunities for new market players;
- RO changes to support offshore wind;
- Proposals for further 25 GW;
- More opportunities to come.

## Other Issues

- Number of issues remain to be discussed with industry;
- Ofgem's Policy Update published 14 January sets out further details and clarification;
- Subject of further work and discussion with industry;
- Govt's aim to ensure that final package balances interests of generators, OFTOs and consumers.



## High-level timetable

- **January 2008** - Publication of Government Response and Ofgem's Consultation Document
- **January - April 2008** - Consultation on draft licence, code and agreement modifications
- **April 2008** - Publication of final policy proposals
- **June 2008** - Consultation on full regime (subject to the completion of consultations on draft licence, code and agreement modifications)
- **September 2008** - Consultation closes
- **December 2008**
  - 'Go-Active' commencement of ss. 90, 91 & 92 of the Energy Act 2004
  - Modifications made to licences and associated codes & agreements
  - First tender process commences, including for those with connections to be adopted
- **December 2009** - 'Go-Live' commencement of ss. 89 & 180 of the Energy Act.

## Conclusions / next steps

- There is still significant work to be done as set out in Ofgem's document
- Key that stakeholders continue to engage in the process
- Significant work for Government and Ofgem to deliver Energy Bill powers to enable the regime to function as planned
- Commencement of regime and timetable tied to delivery of Energy Bill powers

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# Grid Regulation

Bob Hull

Director of Transmission

Ofgem



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for all gas and electricity customers

# Offshore Transmission

- a new regulatory regime

Robert Hull

Director, Transmission

Ofgem

18th February 2008

## Agenda

1. The proposed regulatory regime
2. The tender process
3. Transitional projects
4. Financing offshore transmission
5. Next steps

## Key regulatory proposals (1)

- An Offshore Transmission Owner (OFTO) will be responsible for the design, building, financing and operational maintenance of the transmission assets needed to connect an offshore generator to the onshore network;
- Generator connection requirements set the scope and trigger the selection of an OFTO
- Compliance required with existing industry codes and standards
- The OFTO will be appointed by competitive tender with the winner awarded a transmission licence.
  - This will set out the obligations and entitlements of the OFTO, including requirements for financial ring fencing;
  - In return they will receive a regulated revenue stream for an expected period of 20 years
  - Tender will offer opportunities for innovation in delivering fit for purpose, value for money assets

## Key Regulatory proposals (2)

- The OFTO's annual income received from the GB System Operator (GBSO) is based on asset availability not utilisation
  - 20 year initial regulated revenue period
  - Potential for extension/re-tender if continued operation is needed
  - Business separation required
  - Regime expected to be long term, low risk
- OFTO's will have performance targets and be liable for penalty payments
- Post construction revenue adjustments
  - Incremental capacity increases up to 20% by existing OFTO
  - Further tender exercise for major capacity increases
  - No pre-defined adjustment mechanisms, except performance incentives
- Light-handed regulatory approach
- Current consultation closes 25 February 2008



## Tender process - General

- The tender process would be run by Ofgem, resulting in selection of a preferred bidder and approval of regulated revenue stream;
- A generator applying for a connection will trigger a notice inviting expressions of interest from prospective OFTOs
- Need to co-ordinate the tender process to minimise costs – so proposals for annual competition windows;
  - To qualify, a generator must sign its indicative onshore connection offer by a certain date
- Upon final agreement by all parties, Ofgem will award a licence to the winning bidder
  - Following successful construction this will result in an ongoing revenue stream to the OFTO for an (expected) 20 years
- Ofgem expects to be able to recover tender costs from bidders and generators

## Tender process (1)

- Step 1- Expressions of Interest and pre-qualification
  - Description of the Project from Offshore Developers
  - Bids may be made against one or more projects
- Step 2 - Invitation to Tender and Bid Evaluation
  - GBSO confirm user commitment from offshore generator
  - GBSO confirm location(s) for onshore substation
  - Bidder provides assessable technical and commercial proposals
    - Engineering, Procurement, Construction, Performance
    - Timescale, Financing Structure, Licence/Code commitment
    - Annual revenue post commissioning and for 20 years

## Tender process (2)

- Step 3 - Best and Final Offer
  - This optional stage is designed to provide bidders one final opportunity to improve their bids before a preferred bidder is selected
- Step 4 - Selection of Preferred Bidder and Financial Close
  - Generator receives a final connection offer from GBSO
  - If Offer accepted Ofgem approves revenue & awards licence
  - OFTO works with Generator to meet "Start Up Provisions"
  - After a post construction engineering audit, the licence revenue is activated

## Transitional Projects – Key issues

- Assets built or under construction, before the new regime is in place will be “adopted” by licensed TO’s into the new regime. These are “transitional offshore transmission assets”;
- Our proposals are:
  - Transitional assets will be adopted – i.e. an OFTO will be appointed to maintain the constructed assets;
  - An OFTO would be selected by competitive tender – but modified to reflect the different stage of development;
  - There would be comfort that projects would receive the greater of 75% of Ofgem’s ex-ante estimate of the capital costs of the project or 100% of the efficient ex-post cost;
  - Ofgem has transfer powers available to ensure tenders are efficient

## What is a “Transitional” Project

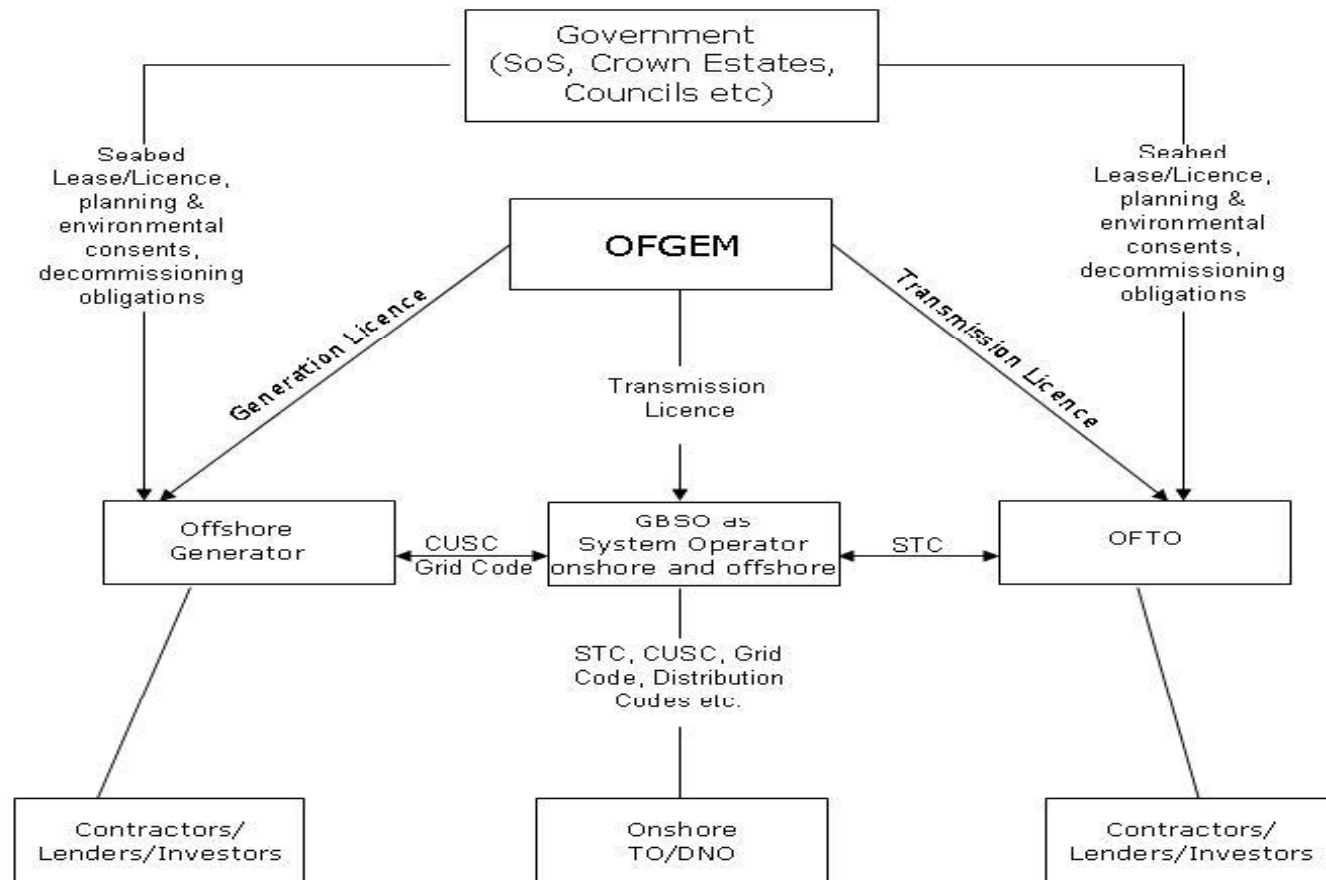
- Three classifications of transitional projects:
  - Projects constructed by ‘go-active’ (December 08)
  - Projects not constructed, but achieve financial close by ‘go-active’; and
  - Projects that achieve financial close after ‘go-active’ but before ‘go-live’ (December 09);
- Tender processes would commence at ‘go-active’ and ‘go-live’ for the appointment of an OFTO to adopt transitional projects;
- Assets would transfer to an OFTO post construction;
- Enduring tender process may also commence at ‘go-active’ for those seeking the early appointment of an OFTO;

**Projects that do not achieve financial close by the ‘go-live’ date will be deemed to fall within the enduring regime**

## Financing Offshore Transmission – Who can own?

- The Tender will be open to all interested parties, including consortiums of companies, banks, investment groups, manufacturers, as well as existing network companies
- The offshore generator can own its own transmission, always provided EU and domestic unbundling rules are met.

## Outline commercial structure



## Financing Offshore Transmission – Risks

### Generator

- Turbine failure
- Wind unavailability
- Energy risk (price, volume, ROC)
- Network reliability
- Decommissioning of turbines

### GBSO/Consumers

- Generator insolvency or abandonment
- Credit risk of non-payments of charges by offshore generator

### OFTO

- Bid Costs
- Construction Risks
- Operational Risks
- Financing Risks
- Decommissioning of own assets

Current proposals - risks are similar to onshore regulated networks



## Financing Offshore Transmission – Certainty

- Certainty over Technical, Licence and Regulatory Requirements
  - Stable regulated income for project lifetime
  - Pre Agreement on risk allocation and reward
  - Transparent bidding process
  - Full disclosure of project information via tender and clarity on Tender Information from Bidders
- Greater flexibility on choice of financial structure e.g. gearing, tax, insurance, etc.
- OFTO's adopt transitional projects once assets have been constructed

## Offshore Regime – Next steps

- Responses to consultation document – February '08
- Initial proposals on licences – February '08
- Industry code proposals – ongoing
- Draft licences, draft code modifications, draft tender regulations and final policy proposals – April '08
- Final consultation on code modifications and licences – expected July-October '08
- 'Go-active' – expected December '08 (start of tender process for transitional projects)
- 'Go-live' – expected December '09 (licences are switched on)



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