East Anglia Offshore Wind Limited

East Anglia Offshore Wind (EAOW) is a joint venture between ScottishPower Renewables (SPR) and Vattenfall Wind Power Ltd, created for the development of Zone 5 of the Crown Estate’s Round 3 process.

SPR is part of Iberdrola Renovables, the world’s largest renewable developer which has over 10,000MW of operational windfarms and is currently developing the 500MW West of Duddon Sands offshore wind project together with Argyll Array and other marine interests (R&D).

Vattenfall Wind Power is part of the state owned Swedish energy utility Vattenfall AB. Europe’s fifth largest generator of electricity and largest generator of heat. It currently operates over 1000MW of offshore wind capacity around Europe and has a pipeline of 2,700MW of offshore wind capacity at various stages of development. This includes the operational Thanet project and Ormonde which is under construction.

The Crown Estate Round 3

- EAOW awarded development rights for Zone 5
- Located 14km off coast of Norfolk and Suffolk and covers approximately 6000 km²
- Water depths range from 10m – 72m
- Initial studies identified target capacity of up to 7200MW, which could provide enough clean, green energy for over 5 million homes

First Project Selection – East Anglia ONE

- Zone Appraisal and Planning (ZAP) process being used to characterise, assess and prioritise development of entire area
- In order to help meet government ambitions for 2020 Renewable targets, the Environmental Impact Assessment (EIA) for the first project will be run in parallel with the Zone Appraisal
- East Anglia ONE selected as area with least constraints balanced against technical economic deliverability
- Application for consent for the first project will not be made until the initial output from ZAP process is delivered.

Programme

East Anglia ONE
- Consent Application Nov 2012
- Consent Dec 2013
- Contracting 2011 - 2014
- Build Commences 2014 - 15
- First export Dec 2015

East Anglia Zone
- Further planning applications for Projects TWO to SIX will follow through 2014 – 2017
- Rolling construction programme to 2022
- Expected to be fully operational by 2023
Grid Connection Offer

**Process**
1. Developer approaches NGET to discuss options/feasibility study for connection(s).
2. NGET considers contracted generation background/commitments/planned network changes.
3. NGET advises possible options/scenarios.
4. Developer formally applies to NGET for connection(s) to existing transmission system for export.
5. NGET provides fixed design/commercial terms within Offer in 90 days.
6. Developer has 90 days to accept and provide security for liabilities.

**Constraints/Considerations**
- Process is fully regulated and timebound.
- Only contracted background can be considered.
- Other potential connections cannot be included.
- Design is fixed at Offer but may vary as contracted background changes.

Key Considerations for East Anglia Offshore Wind
- Available capacity
- Programme dates/delivery
- Consenting risk
- Cost/liability security
- Design integration

Offer accepted in November 2010 for 7200MW capacity (6 x 1200MW projects)
- East Anglia ONE 1200MW connection to existing Bramford site in 2015
- Existing NGET substation development only (no consents required)
- Firm capacity contingent on wider system reinforcement
- Link from windfarm to Bramford not included (OFTO works)

Grid Connection Agreement

- Provides connection at Bramford in 2015 for East Anglia ONE.
- Future connections/actual design across Zone to be developed.

Key Issues and Challenges
- East Anglia Offshore Wind are a Generator Owner.
- No direct ongoing interest in Transmission assets (aside usage cost/reliability of connection).
- OFTO (Offshore Transmission Owner) Works.
- OFTO build process as managed by Ofgem adds 2 years to delivery timelines.
- Generator design, consent & build option only way to maintain programme.
- Grid Connection Offers.
- System can only be designed to contracted generation background.
- Security liabilities limit acceptance to minimal MWs and individual projects.
- Overall design becomes piecemeal – Integrated? Efficient?
- Planning/Consents.
- Infrastructure Planning Commission (IPC) – changing rules being developed/strictly legal.
- Scope of Development Consent Order (DDC) to include Windfarm + OFTO Works.

Summary
- East Anglia Zone is highly significant contribution to renewable targets.
- Grid Connection Offer accepted for 7200MW (6 x 1200MW connections).
- OFTO Works excluded, need to be progressed by Developer.
- Transmission system designed on basis of contracted generation background only.
- Windfarm assets designed for 25 years, Transmission assets 40+ years.
- Long term view required with strategic network planning & investment.
- Current regulatory & planning environment does not create truly efficient nor integrated network.
- Consider other regimes/regulatory approach eg. Germany.