

2005 Copenhagen Offshore Wind Conference

Grid Issues in the UK –
A Developers Perspective

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Agenda

- Who we are
- A Round 2 Project
- Grid Issues
- Way Forward

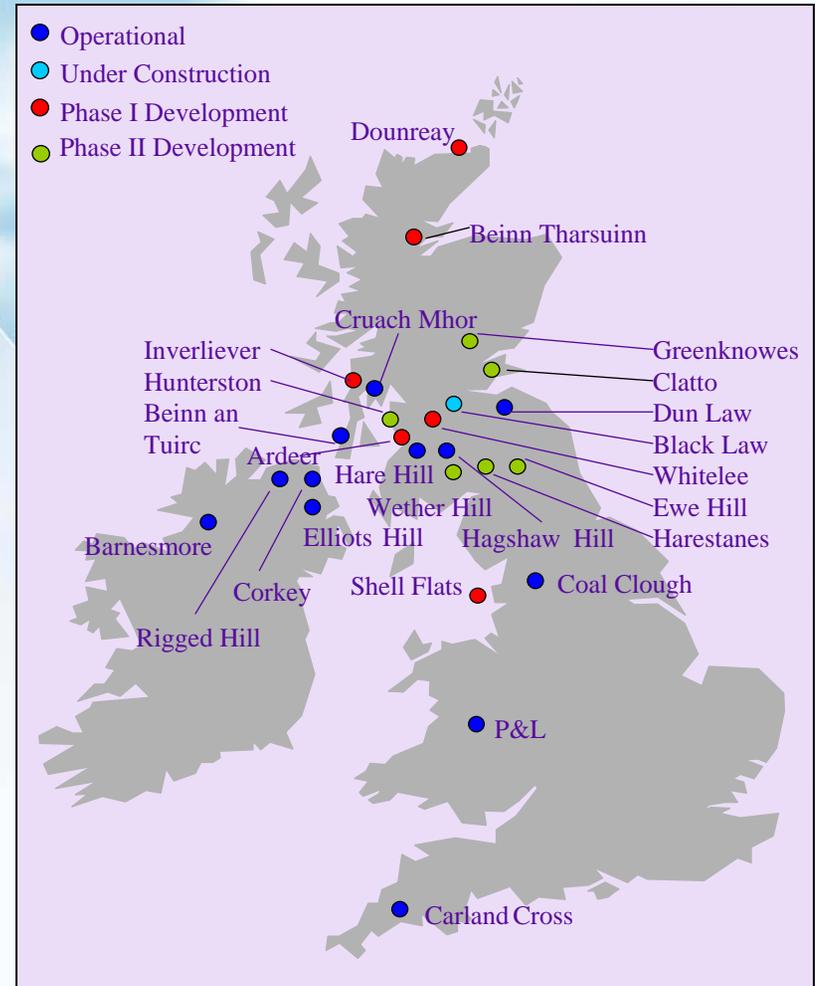
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Largest windfarm owner in Great Britain:

- 255 MW current capacity
- 1000 MW in planning / under construction including:
 - Black Law 143 MW
 - Whitelee 322 MW
 - Harestanes 213MW

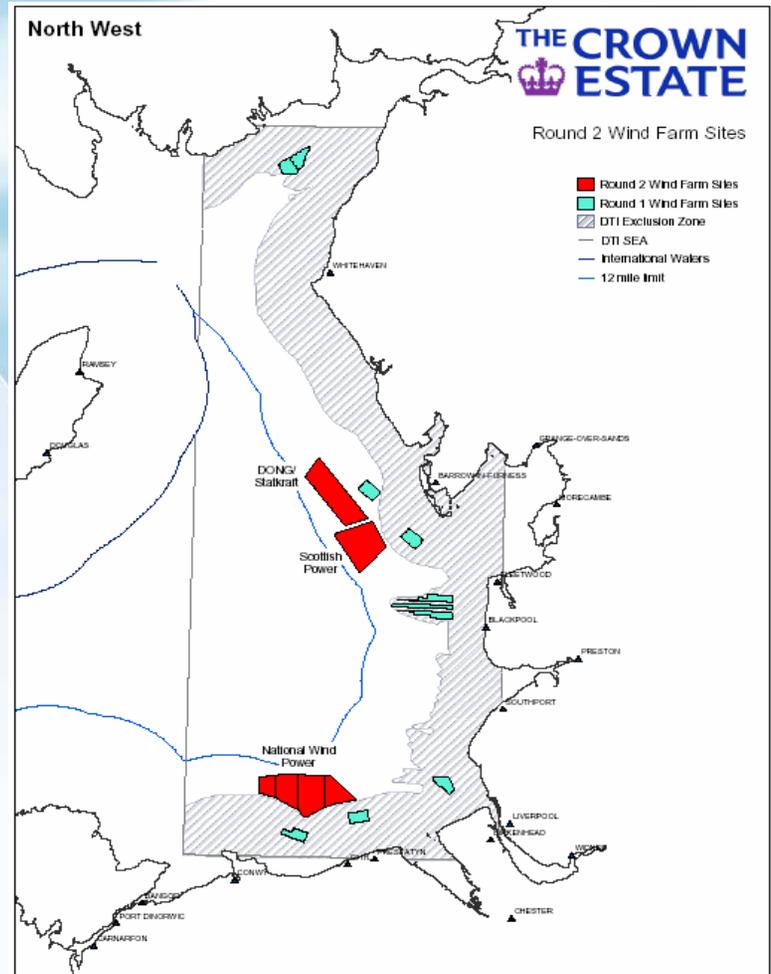


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Offshore Round 2 Investment

- Significant government initiative to achieve 2010 targets
- West of Duddon Sands
- East Irish Sea – 13 - 21 km offshore
- We are in 20m of water (low tide)
- 140 turbines; 350-500MW
- Joint Venture Partnership
 - Elsam/Eurus/ScottishPower



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Grid Access - Issues

- Final sums liabilities (FSL)
- Connection availability and interactivity
- Offshore network operation

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Final Sums Liability

- Single biggest hurdle for Round 2 development
- Financial value to be guaranteed (and paid) in the event of cancellation
- Onshore reinforcement works required ahead of Connection
 - Creates early, high value Final Sums Liabilities
- Size of FSL's relative to the development of the project
- Unacceptable level of liability at high risk stage of the project

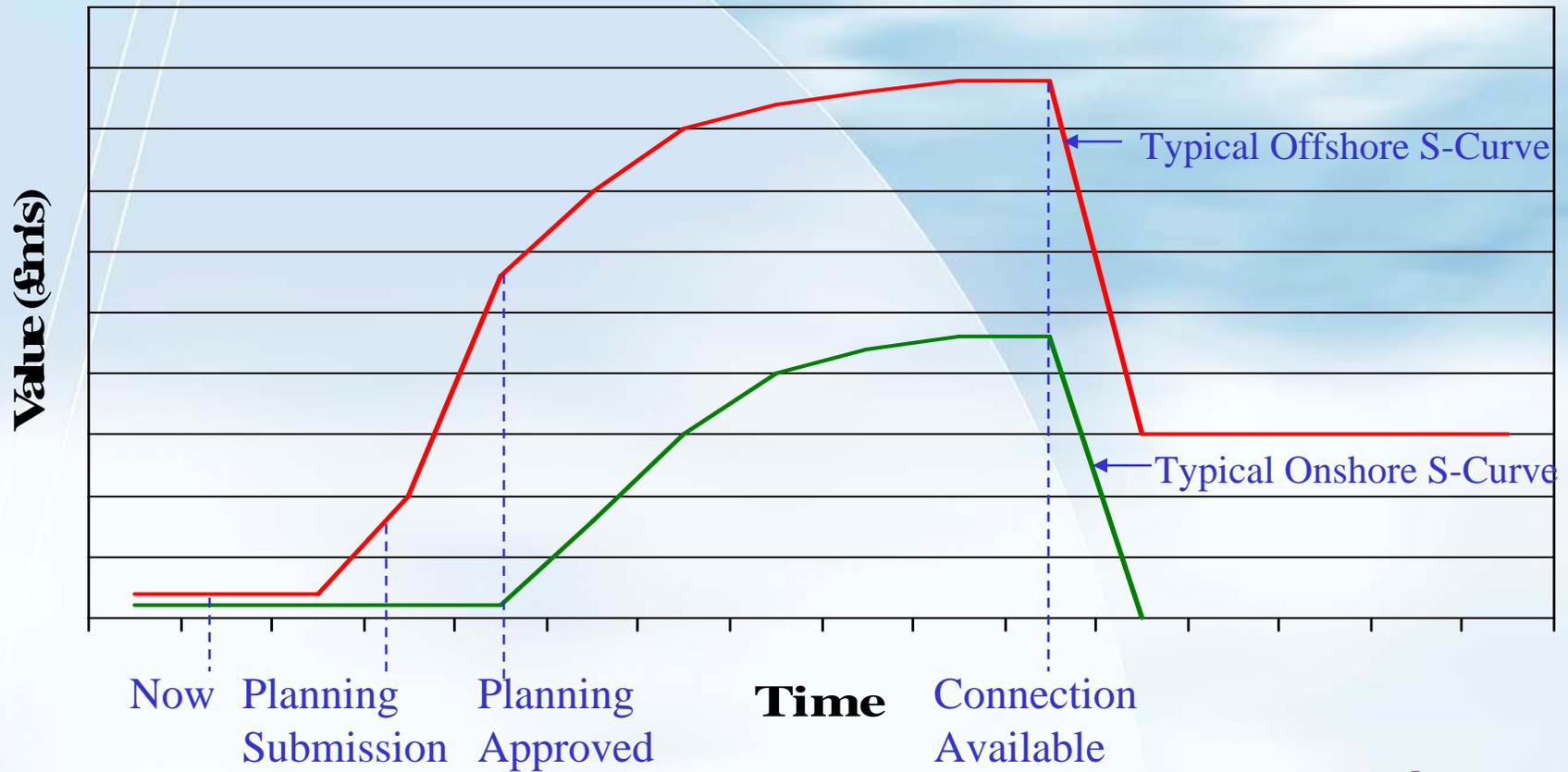
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Final Sums Liability Curve

(or S-Curve)

Illustrative Only



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Final Sums Liability Implications

- Developers cannot sign up to the FSL's prior to Consent
- Delays to the onshore reinforcement
- Concomitant delay in the Connection date
 - e.g. Planning Consent of Q2 '07
 - Connection date delayed 18 months
- Knock-on impact on project economics
 - Lose early ROC's
 - No ROC benefits post 2027

Connection Availability & Interactivity

- Significant onshore deep reinforcement of Transmission network required
- Requires several outage seasons to complete
- Connection availability – 2010
 - If we sign up to FSL's!
 - If we don't sign up – 2012?
- Interactivity
 - Another party has related connection offer
 - First to sign gains connection

Offshore Network Operations

- Consultation started - but is it early enough?
- Developers to date have installed offshore infrastructure to onshore connections
 - Increased costs, cabling, cable crossings, landing points
 - Sub-optimal economic installation due to infrastructure duplicity
- Developer preference to have offshore point of connection

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Way Forward

- Strong Government leadership required to solve the FSL and thus enable this key Government initiative to proceed
- FSL solutions
 - Treatment of reinforcement costs/liabilities like RETS in Scotland
 - Underwriting of liabilities by DTI/OFGEM
- Socialisation of Grid costs
- Offshore Network operator with appropriate use of system (UoS) charging mechanism
- More dialogue with DTI & NGC on concerns
- URGENCY

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