

The challenges of building transmission



Carole Hook

UK energy landscape is changing

Sustainability



Affordability



Security of supply



Existing powerstation closures

~25%

of total capacity by 2020

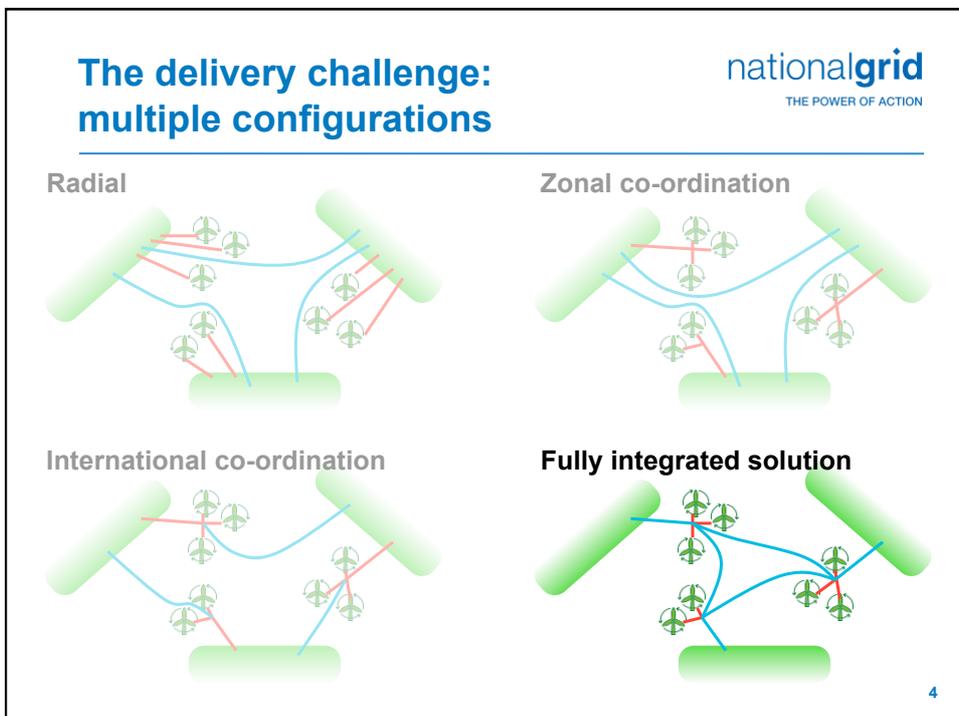
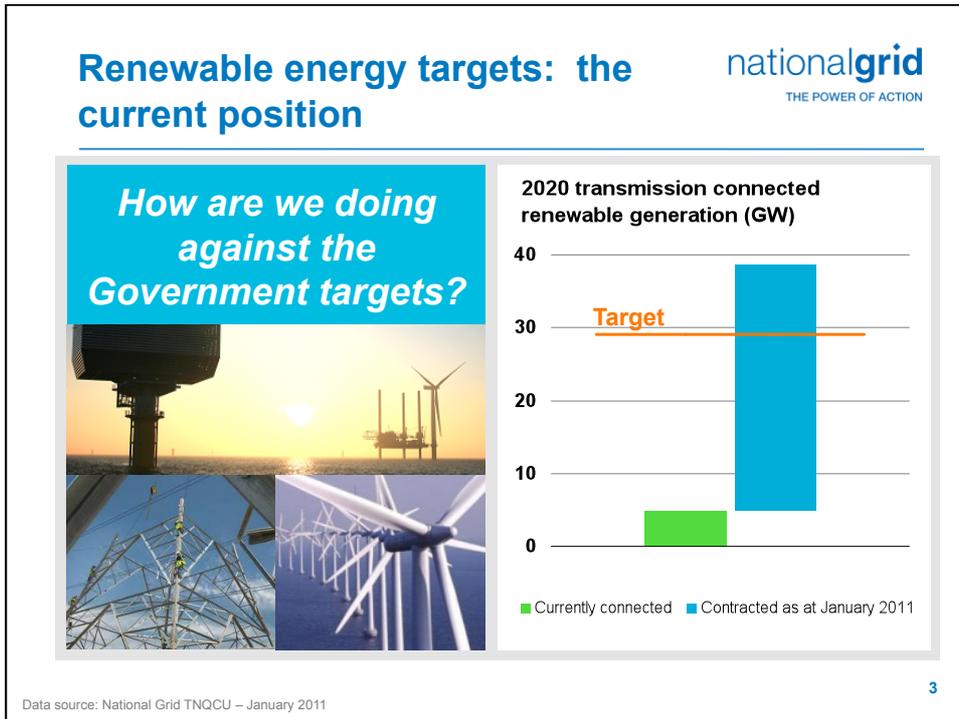


Gas from UK sources

~25%

of total supplies by 2020







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The benefits of integration

Reduces planning consent issues

Better management & utilisation of valuable resources

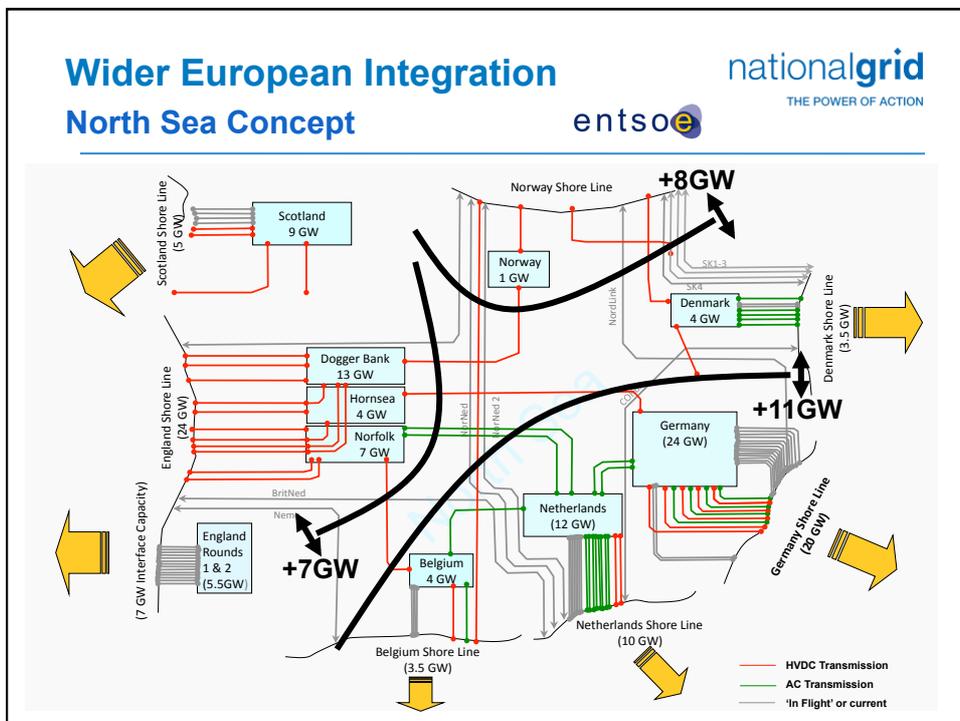
~£4-8bn potential savings for UK consumers

"Future proof" for network evolution & greater European integration

Other benefits include:

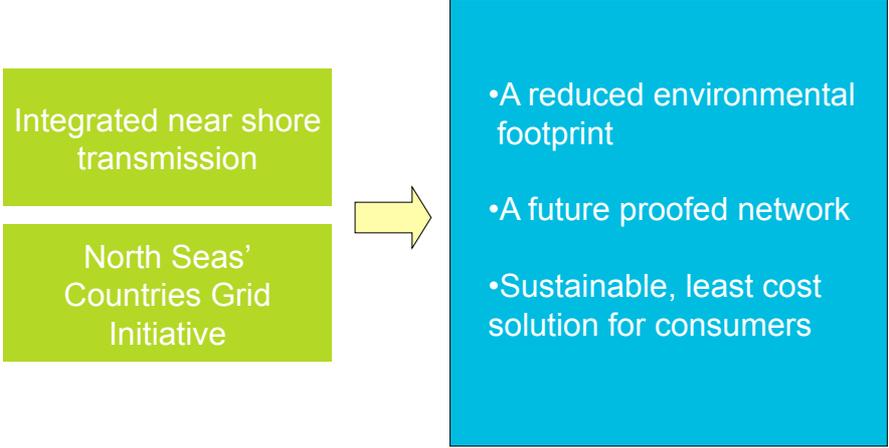
- Minimising environmental impact
- Meeting / potentially exceeding developer timelines
- Strengthening security of supply
 - More resilient / reliable network
- Maximising deliverability:
 - Reduces supply chain pressures through lower asset volumes
 - Better secures resources to enable a step-up in UK supply chain capacity
 - Supports vital technology development
 - Facilitates a move towards standardisation
- Strengthening UK role in EU energy
 - Enabler of a North Seas grid
 - Increased potential for UK to export excess wind power

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Coordination is key to ensuring...



Integrated near shore transmission

North Seas' Countries Grid Initiative

- A reduced environmental footprint
- A future proofed network
- Sustainable, least cost solution for consumers

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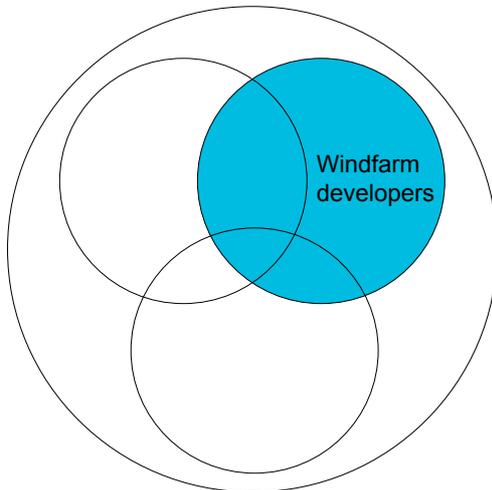
Challenges of developing transmission



Timothy Bull
Principal Specialist – Strategic Consents Support

Offshore grids – windfarm developers

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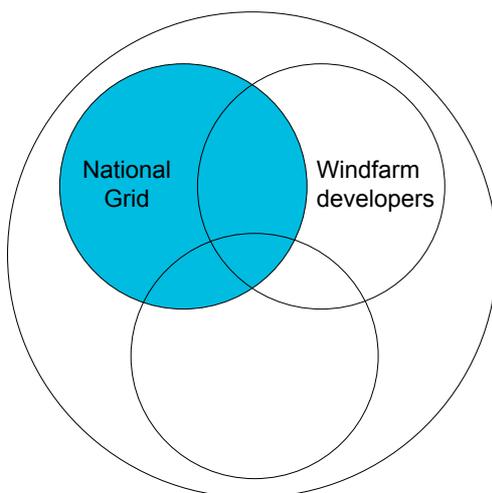


- Multiple developers
- Different programmes & timescales
- Numerous interface location options

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Offshore grids – National Grid

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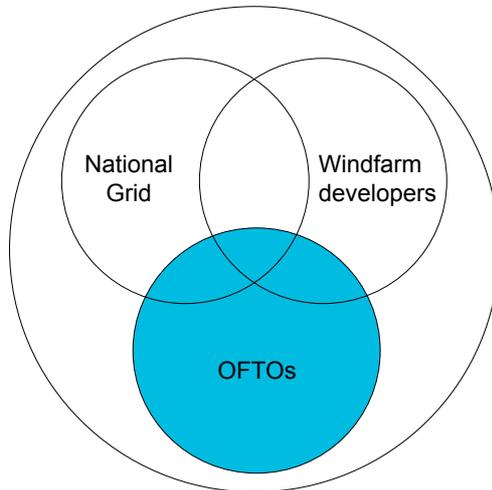


- National Electricity Transmission System Operator
- Electricity Act & Transmission Licence requirements
- Application process for new grid connections

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Offshore grids – Offshore Transmission Owners

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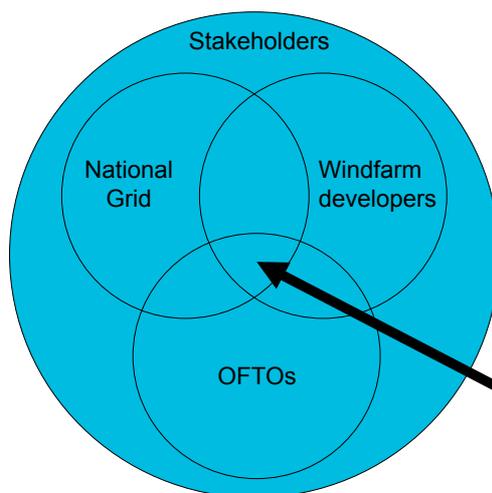


- Timing of tender rounds
- Submit bids to Ofgem to consent / build / operate & maintain transmission links
- Transmission Licence requirements

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Offshore grids – stakeholders

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- Consenting authorities
- Statutory bodies
- Interest groups
- Communities and general public

Target for most effective co-ordination and engagement

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Offshore grids – Infrastructure & consenting



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Offshore windfarm	Marine cable	Onshore converter station	Onshore grid substation	Grid reinforcements
Planning Act 2008	MCAA 2009	Town & Country Planning Act 1990		Planning Act 2008
Infra-structure Planning EIA Regs 2009	Marine Works EIA Regs 2007*	Town & Country Planning (EIA) Regs 1999*		Infra-structure Planning EIA Regs 2009*

* EIA Regulations do not refer to cables, converter stations or substations in Schedule 1 or 2.

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Thank you