Offshore Wind – Grid Delivery Models

IWEA Offshore Wind Conference

12th September 2019

Robbie Aherne

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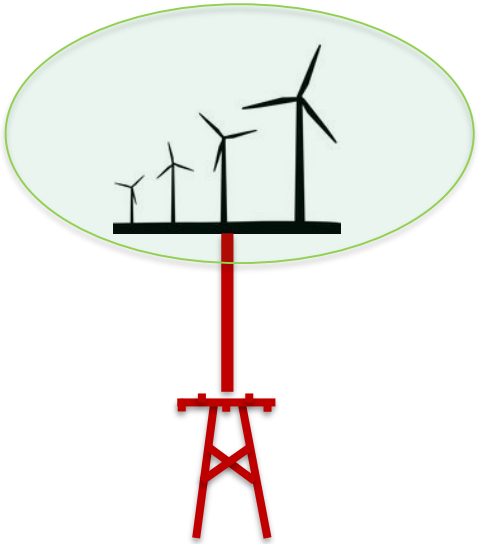
Types of Grid Delivery Models

1. Centralised model – Denmark & Netherlands
   - TSO/TAO builds transmission and carries out permitting; developer builds windfarm

2. Hybrid model – Germany:
   - TSO/TAO builds transmission; developer carries out permitting and builds windfarm

3. Decentralised model – Great Britain, US
   - Developer builds transmission, carries out permitting and builds windfarm



Models are Evolving

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Options Paper – Offshore Grid Models

- ***March 2020:*** *Objective assessment of different offshore grid models*

Options Paper for Offshore Grid Models

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Roinn Cumarsáide, Gníomhaithe ar son na hAeráide & Comhshaoil
Department of Communications, Climate Action & Environment

Policy Framework

An Coimisiún um Rialáil Fóntais
CRU
Commission for Regulation of Utilities

Regulatory Framework

Options Papers

- High Level Scope
  - Analysis and explanation of the models that either currently apply or are being considered for application by other countries
  - Describe the potential implications of each model for the various parties….generators, network owners/operators, consumers etc.
  - Assessment of the relative costs, benefits, opportunities and risks of development under each model

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Options Paper - Considerations

- Advantages / Disadvantages of Models
- Speed of Delivery
- Economic Assessment re Consumers
- Capacity to Deliver
- Future Scalability / Synergies
- Emerging Technologies
- Compatibility with EU/Ireland Policy
- Social Acceptance
- Etc.

Context: Applicability to Ireland

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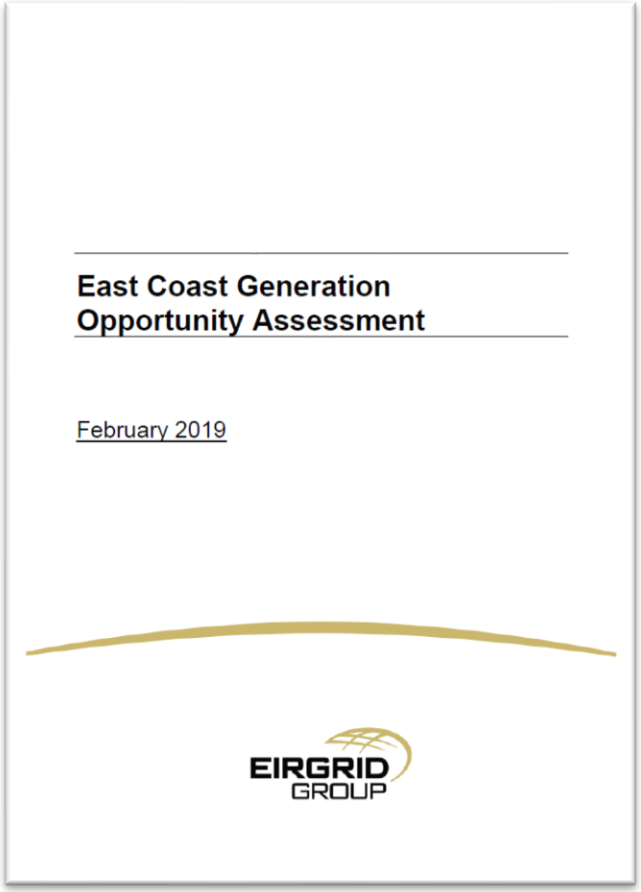
East Coast Study

Capacity for offshore wind
Up to 800MW tested

Spare Bays / Space for bays

Capacity for large thermal
Up to 450MW tested



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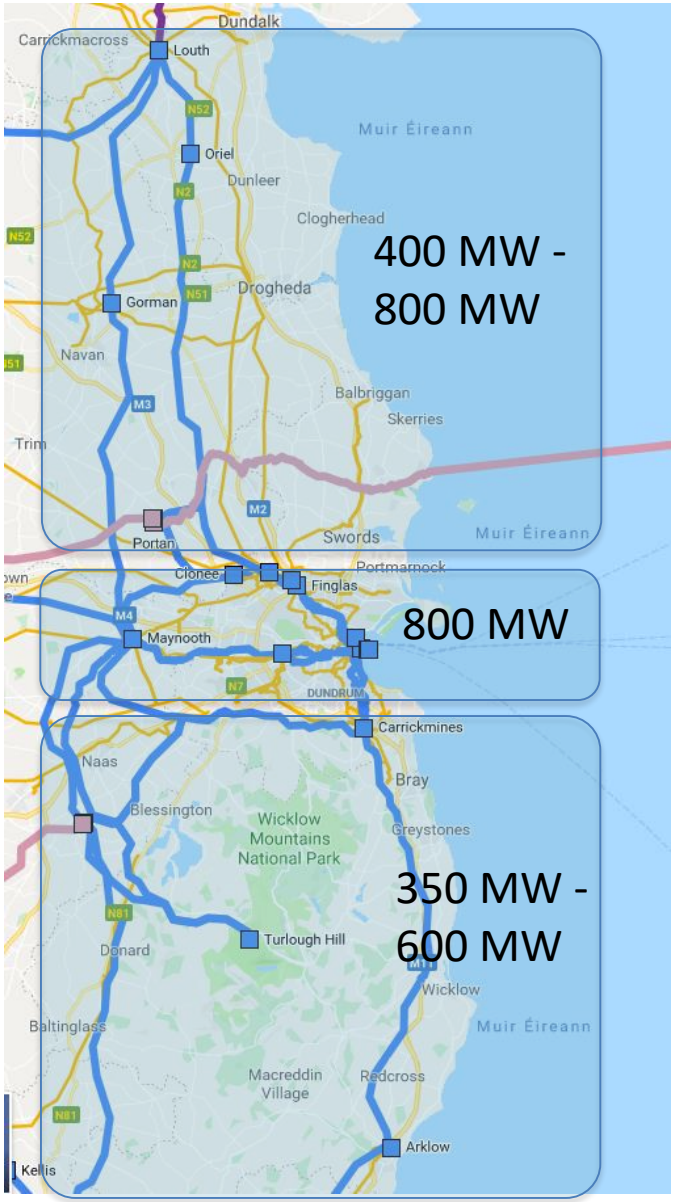
East Coast Study – Capacity Available



Should not be taken as cumulative

- Up to 800 MW tested at nine stations along east coast

Station	Existing Network
Louth 220 kV	450 MW
“Oriel 220 kV”	400 MW
Woodland 400 kV	800 MW
Finglas 220 kV	800 MW
Poolbeg North 220 kV	600 MW
Poolbeg South 220 kV	800 MW
Carrickmines 220 kV	650 MW
“Ballybeg 220 kV”	500 MW
Arklow	350 MW

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Conclusion

- Significant increase in renewable energy sources required to meet 2030 targets…..at least 3.5 GW of offshore wind
- Spectrum of offshore delivery models in operation in Europe / US
- Options Paper on Grid Delivery Models in March 2020
- East Coast Generation Opportunity Assessment
  - Significant grid capacity is available for off-shore wind generation along the east coast; better closer to Dublin

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