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Key Fundamentals Remain:

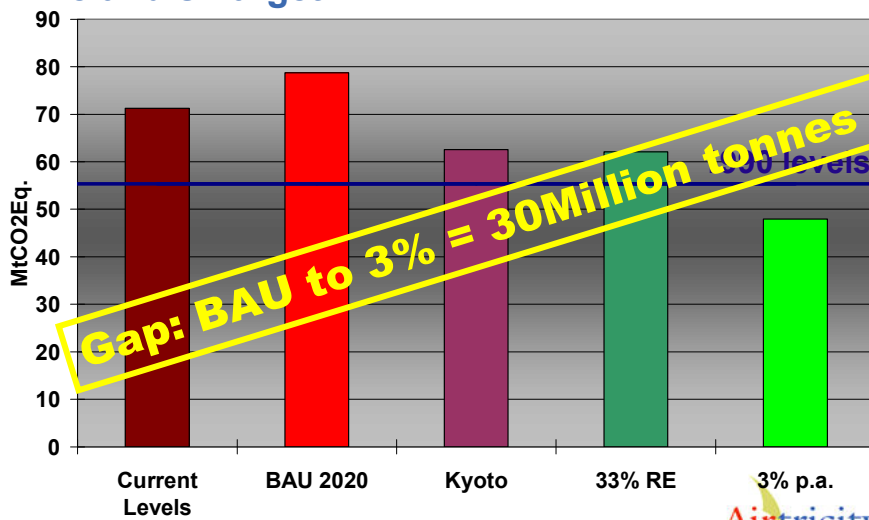
- Security of Supply
- Environmental obligation
- Sustainable Energy
- Competitive Advantage

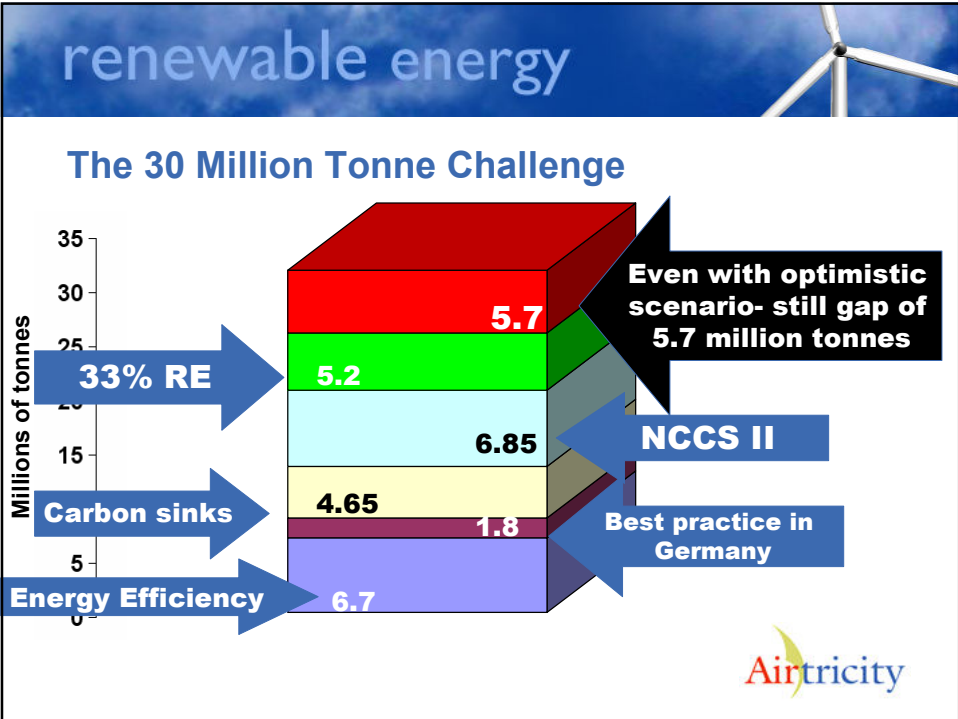
Offshore wind and the Supergrid can deliver an Irish solution



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Ireland's Target





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Filling the gap

5,700,000 tonnes CO2
=
4000MW offshore

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Onshore Target

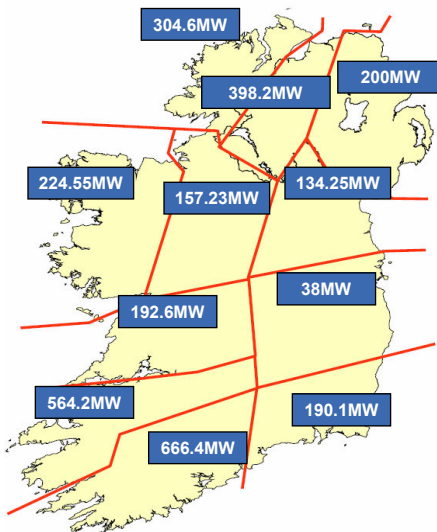
Gap assumes 33% Renewable Target
– 6000MWs Onshore Met!!

Still significant challenges



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Current Position + Highly Likely to be built before 2012



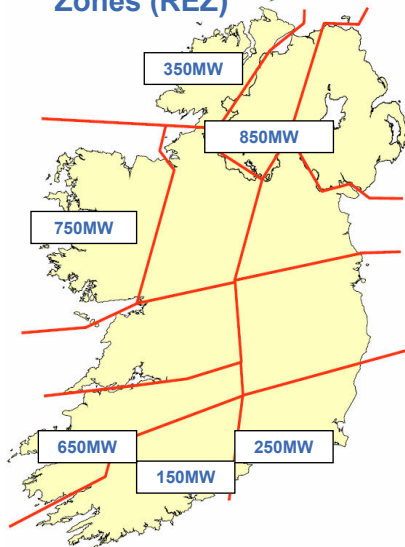
	RoI	NI
Wind	2,500	600
Total	3,100MWs	

Impossible to go beyond 3100MW without serious upgrades to grid and a different approach to planning.



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6000MWs – Requires the Creation of Renewable Energy Zones (REZ)



Develop five strategic zones:

1. West NI
2. Donegal
3. Mayo
4. South West
5. East Coast (offshore)

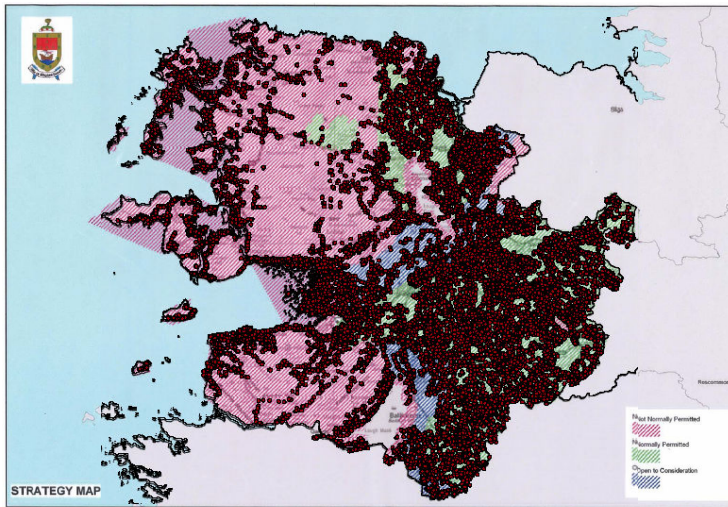
Total Onshore:

	Roi	NI
Wind	4600	1450
Total	6,100MWs	



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Example : Mayo Draft Wind Energy Strategy

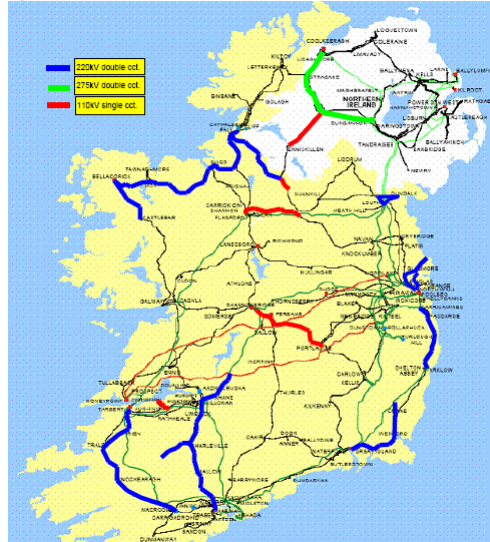


•County Development Plans contrary to Government Targets



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Grid – Upgrades required to deliver REZ



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Onshore Challenge of + 6000MWs

Maximum Achievable in Current System – 3100 by 2012

Additional 3000MWs requires:

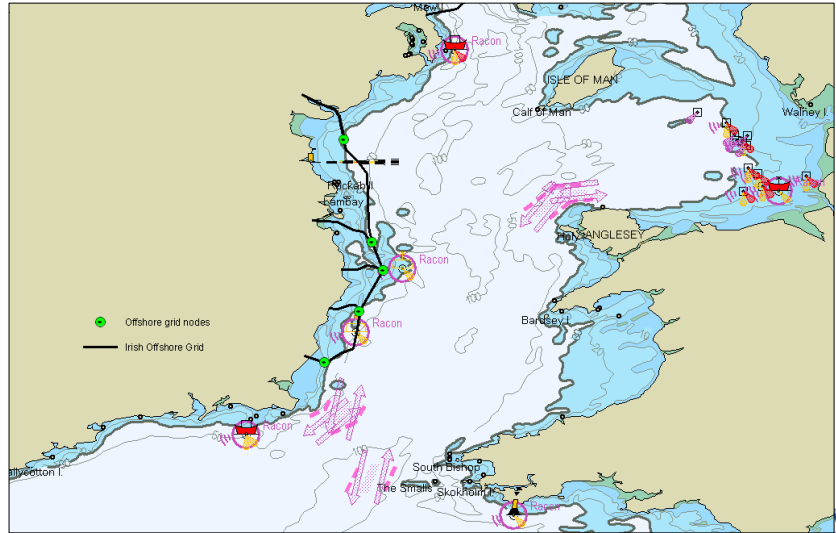
- Co-ordinated National Planning – Creation of renewable energy zones
- Major Upgrades to Grid

Delivery by 2020 needs action now



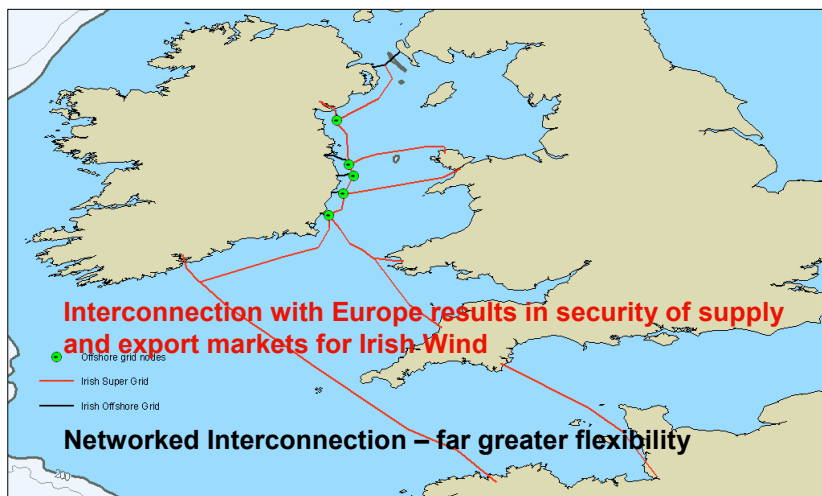
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Delivering 4000MW Offshore

The Irish Offshore Grid



Potential for 4000MW offshore

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Introducing the European Offshore Supergrid:

- The Supergrid is a high voltage sub sea transmission network.
- It could ultimately cover the Baltic Sea, North Sea, Irish Sea, English Channel, the Bay of Biscay and the Mediterranean.
- The Supergrid treats wind as a continental resource and enables EU member states to share in this enormous energy source, to their mutual advantage.
- This will be achieved by the member states co-operating in the capture of their common wind resources and the conversion of this free energy into a reliable and predictable supply of electricity.

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Introducing the European Offshore Supergrid:

- As power is always being generated on the Supergrid it can be fed into the national grids to meet electricity demand.
- The Supergrid also acts as an interconnector between national markets and thereby helps to create a properly functioning internal market in electricity.
- This will bring additional benefits for European consumers in terms of greater competition, lower prices and increased security of supply.



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The main obstacle to offshore wind is the lack of an appropriate support mechanism.



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The Value of Wind

Market **Price** of Wind 6.5c/kWh

Versus

System **Value** of Wind 14.1c/Kw



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MARGINAL ELECTRICITY PRICE

AS WIND REPLACES PEAKING PLANT

*Value of Wind
Reduction in use of
Higher Cost plant
8.5c/Kwh*

Total 8.5c

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REDUCTION IN SPOT PRICE OF FOSSIL FUELS

WIND BLOWS OVER SUSTAINED PERIOD



Value of Wind
Reduction in use of
higher cost plant
8.5c/Kwh

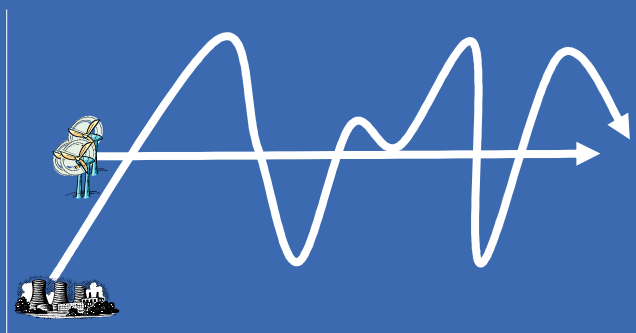
**Reduction in fossil
fuels prices due to
Substitute by
renewables
4c/Kwh**

Total 12.5c

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RISK

PRICE VOLATILITY OF
FOSSIL FUELS PRICES



- Wind reduces use of higher cost generation.
- Reduction in fossil fuel prices due to wind depressing demand.
- Wind in portfolio stabilises volatile fossil fuel prices.

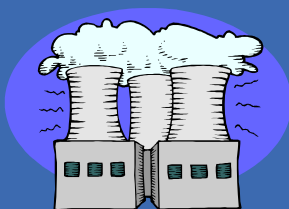
Total 13c

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Pollutions Cost

Fossil fuels = €16 per MW Emissions Cost

Wind = €0 per MW Emissions Cost



Value of Wind
Reduction in use of
Low merit plant
8.5c/Kwh

Reduction in fossil
fuels prices
4c/Kwh

Wind reduces Portfolio Risk
0.5c/KwC

Co2 Savings
1.10c/KwC

Total 14.1c

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Value of wind to the System

Summary	
Reduction in use of low merit plant	8.50
Reduction in Fossil fuels prices	4.00
Portfolio risk reduction effect	0.50
Carbon dioxide foregone	1.10
Total	14.1



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Supergrid – What it means for Ireland:

- Security of supply
- Delivers competitive advantage to Ireland
- Ireland leads Europe in carbon reduction
- Meet 3% p.a. carbon reduction target
- Export market for Irish electricity

• **DELIVERS A SUSTAINABLE FUTURE FOR IRELAND**

