EirGrid: SECURING IRELAND'S ENERGY SUPPLY

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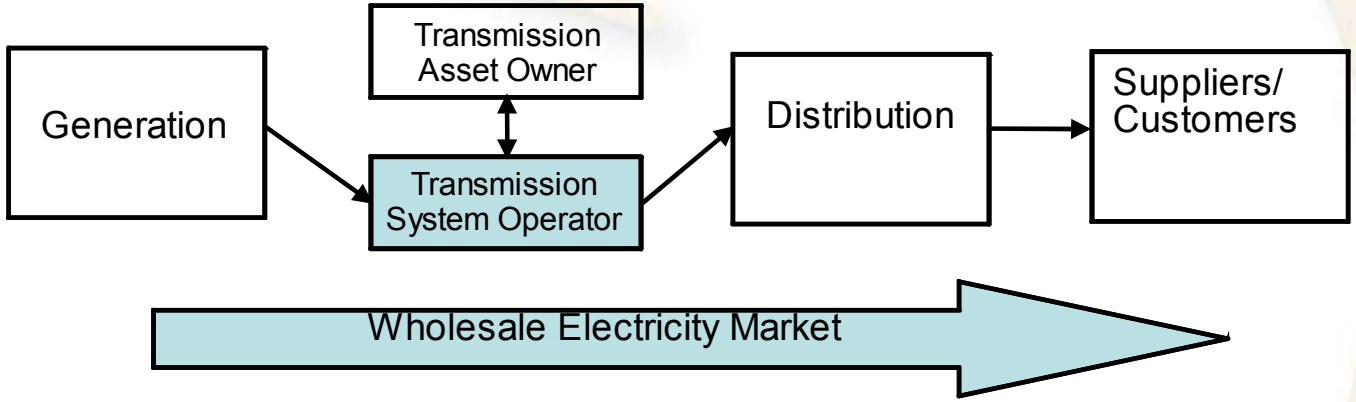
EirGrid

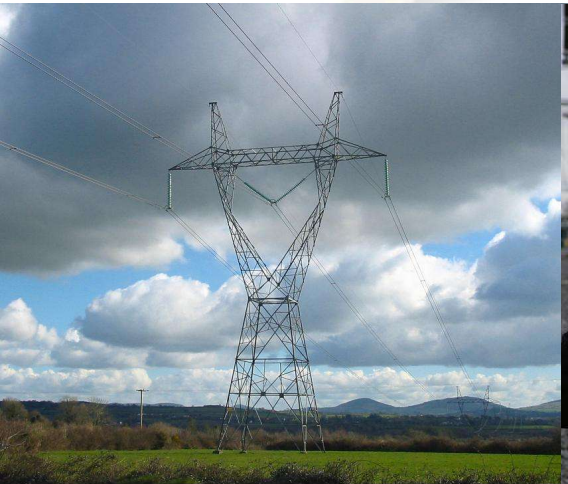
Introduction to EirGrid

- Ireland's Independent Transmission System Operator and Operator of the Wholesale Power Market
- Commercial State owned Company
- Separate from all parties in the electricity market
- Established by statute as TSO and licensed by Commission for Energy Regulation
- Separate from all parties in the electricity market



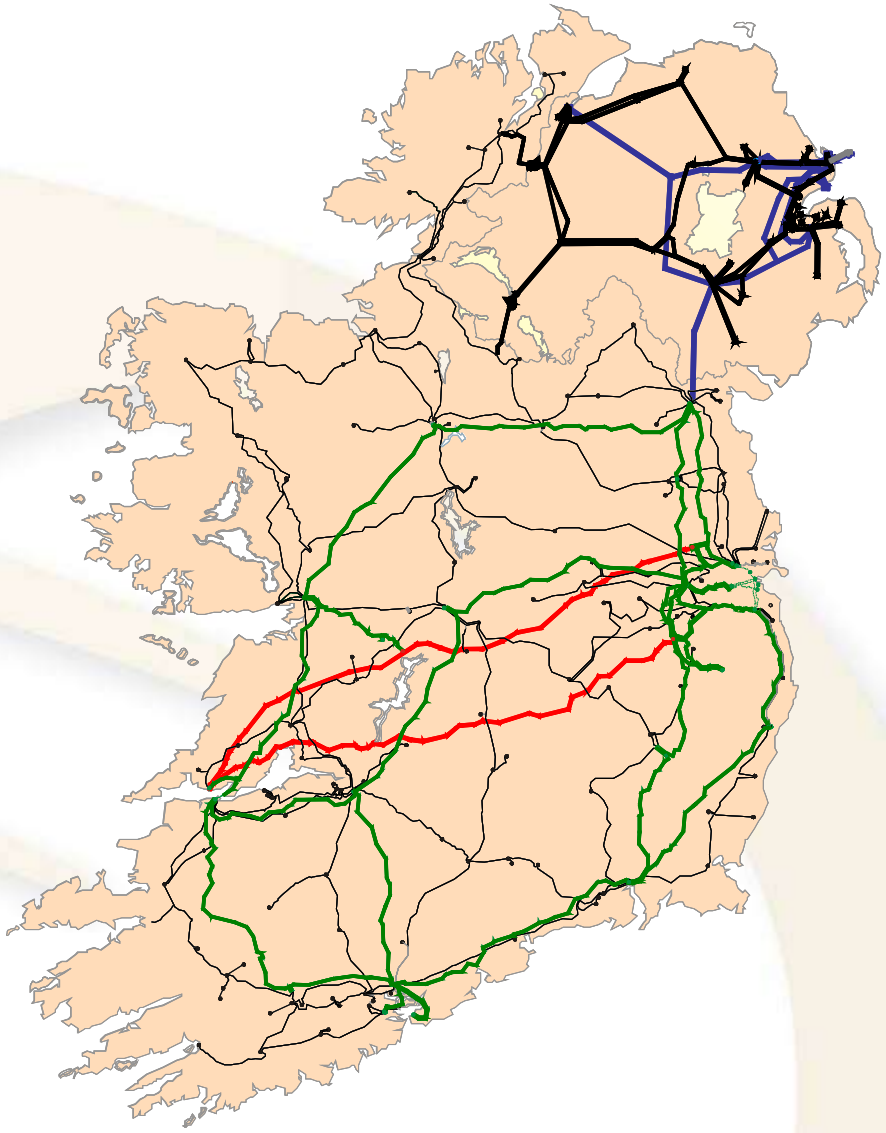
Role of EirGrid

- Operate the real-time system – keeping the lights on!
- Plan and develop the transmission grid
- Connect renewable and conventional generators
- Manage the day to day operations of the market



Transmission Grid

- High capacity, efficient, reliable link between
  - Generation
  - Demand centres
  - Interconnections to other systems
- Grid needs to be developed when any of these change



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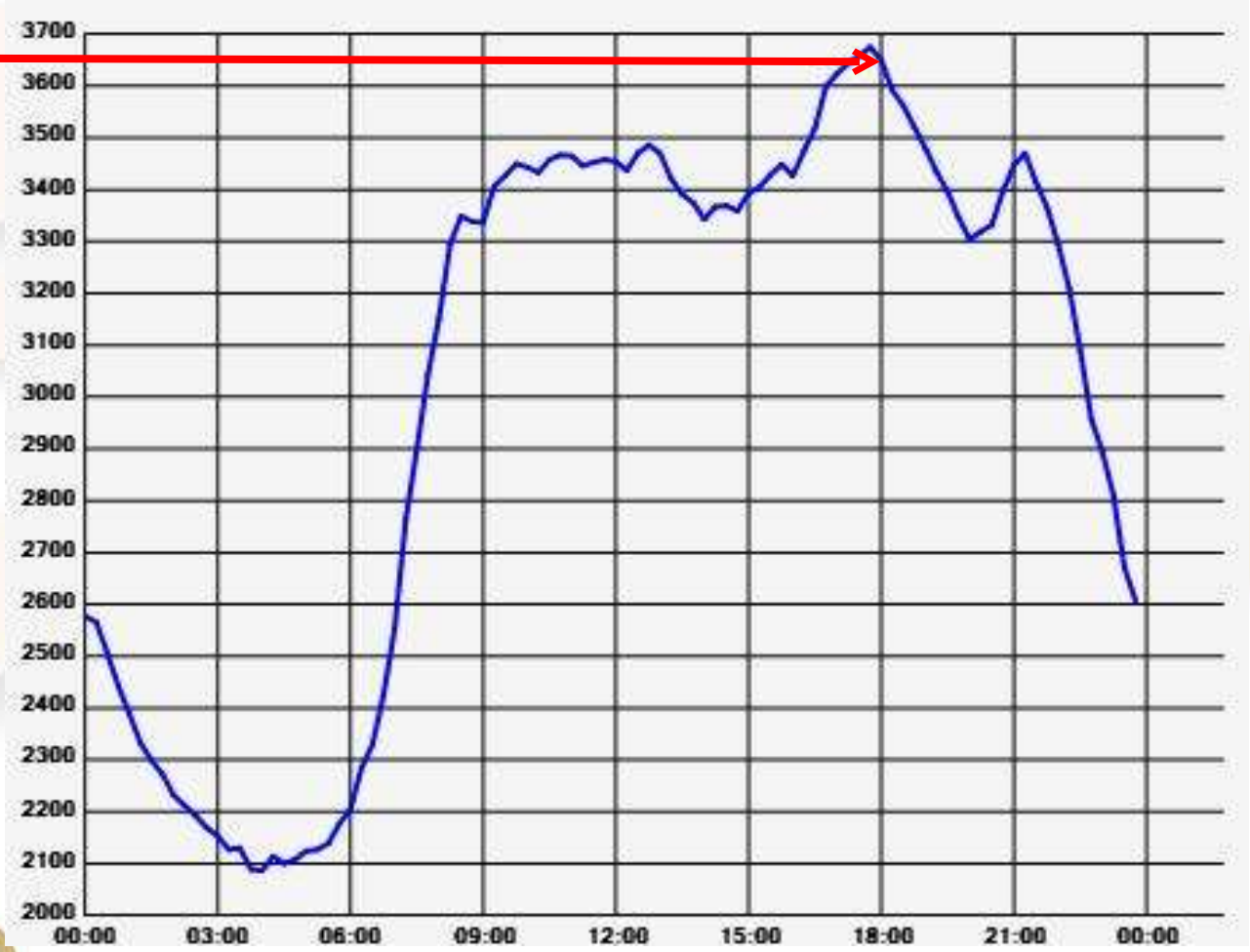
400 kV 440 km 220 kV 1830 km 110 kV 4000 km

System Demand 27th April 2010

6pm
3650MW of
Demand



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Wind Generation 27th April 2010

6pm 700MW Wind Generation (19% of demand)

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Challenge

The biggest challenge facing the Transmission System Operator today is the development of the high voltage transmission grid to meet the country's demand for more economical, reliable and environmentally friendly electric power.

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Challenge

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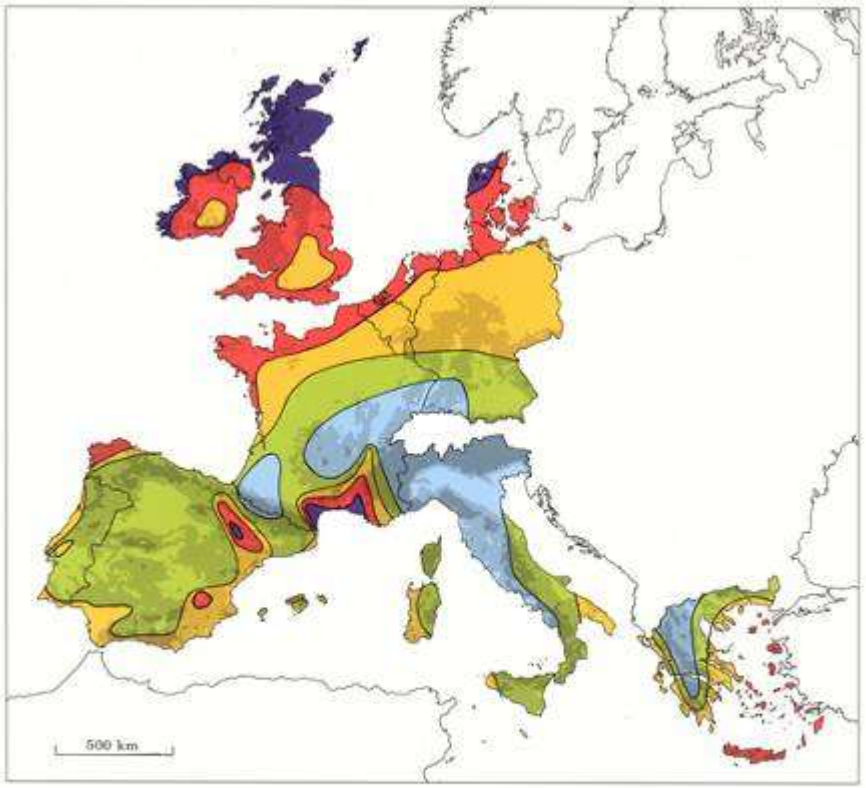
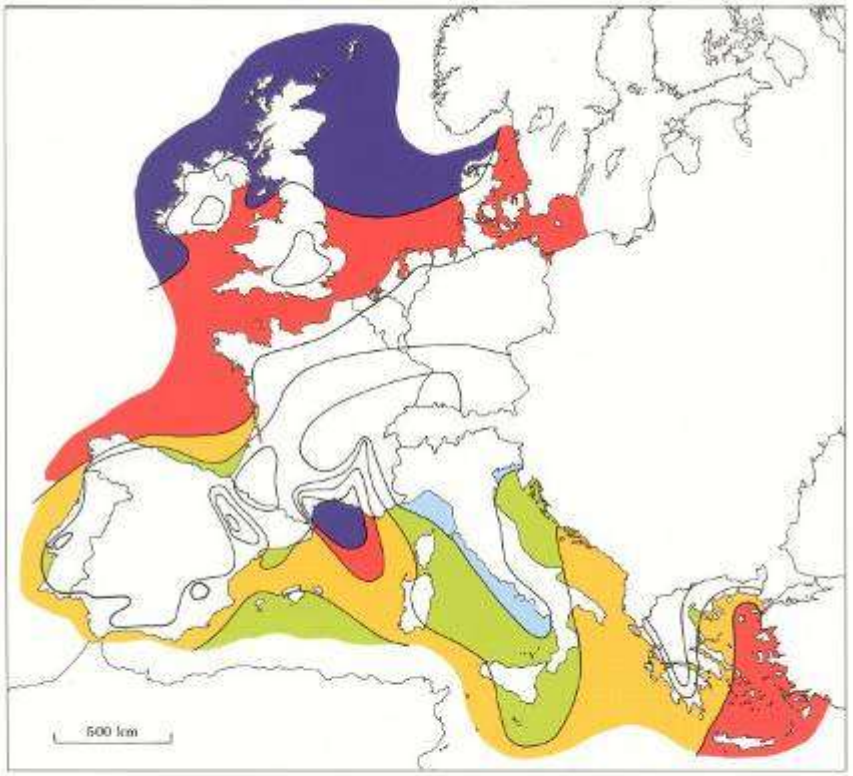
Irelands Renewable Resources



Wind resources[1] at 50 metres above ground level for five different topographic conditions

	Sheltered terrain[2]		Open plain[3]		At a sea coast[4]		Open sea[5]		Hills and ridges[6]	
	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}
	> 6.0	> 250	> 7.5	> 500	> 8.5	> 700	> 9.0	> 800	> 11.5	> 1800
	5.0-6.0	150-250	6.5-7.5	300-500	7.0-8.5	400-700	8.0-9.0	600-800	10.0-11.5	1200-1800
	4.5-5.0	100-150	5.5-6.5	200-300	6.0-7.0	250-400	7.0-8.0	400-600	8.5-10.0	700-1200
	3.5-4.5	50-100	4.5-5.5	100-200	5.0-6.0	150-250	5.5-7.0	200-400	7.0- 8.5	400- 700
	< 3.5	< 50	< 4.5	< 100	< 5.0	< 150	< 5.5	< 200	< 7.0	< 400

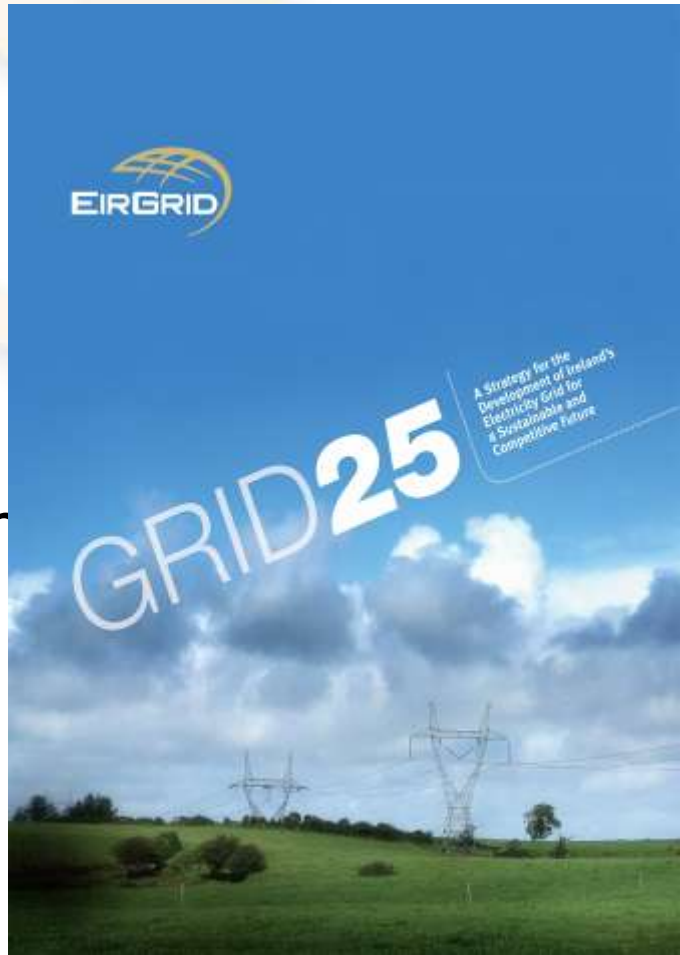


Wind resources over open sea (more than 10 km offshore) for five standard heights

	10 m		25 m		50 m		100 m		200 m	
	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}	ms^{-1}	Wm^{-2}
	> 8.0	> 600	> 8.5	> 700	> 9.0	> 800	> 10.0	> 1100	> 11.0	> 1500
	7.0-8.0	350-600	7.5-8.5	450-700	8.0-9.0	600-800	8.5-10.0	650-1100	9.5-11.0	900-1500
	6.0-7.0	250-300	6.5-7.5	300-450	7.0-8.0	400-600	7.5- 8.5	450- 650	8.0- 9.5	600- 900
	4.5-6.0	100-250	5.0-6.5	150-300	5.5-7.0	200-400	6.0- 7.5	250- 450	6.5- 8.0	300- 600
	< 4.5	< 100	< 5.0	< 150	< 5.5	< 200	< 6.0	< 250	< 6.5	< 300

Objectives of GRID25

- Balanced Regional Development
- Renewable and Conventional Generation
- Competitive Market
- Interconnection
- Sustainable Economic Developm



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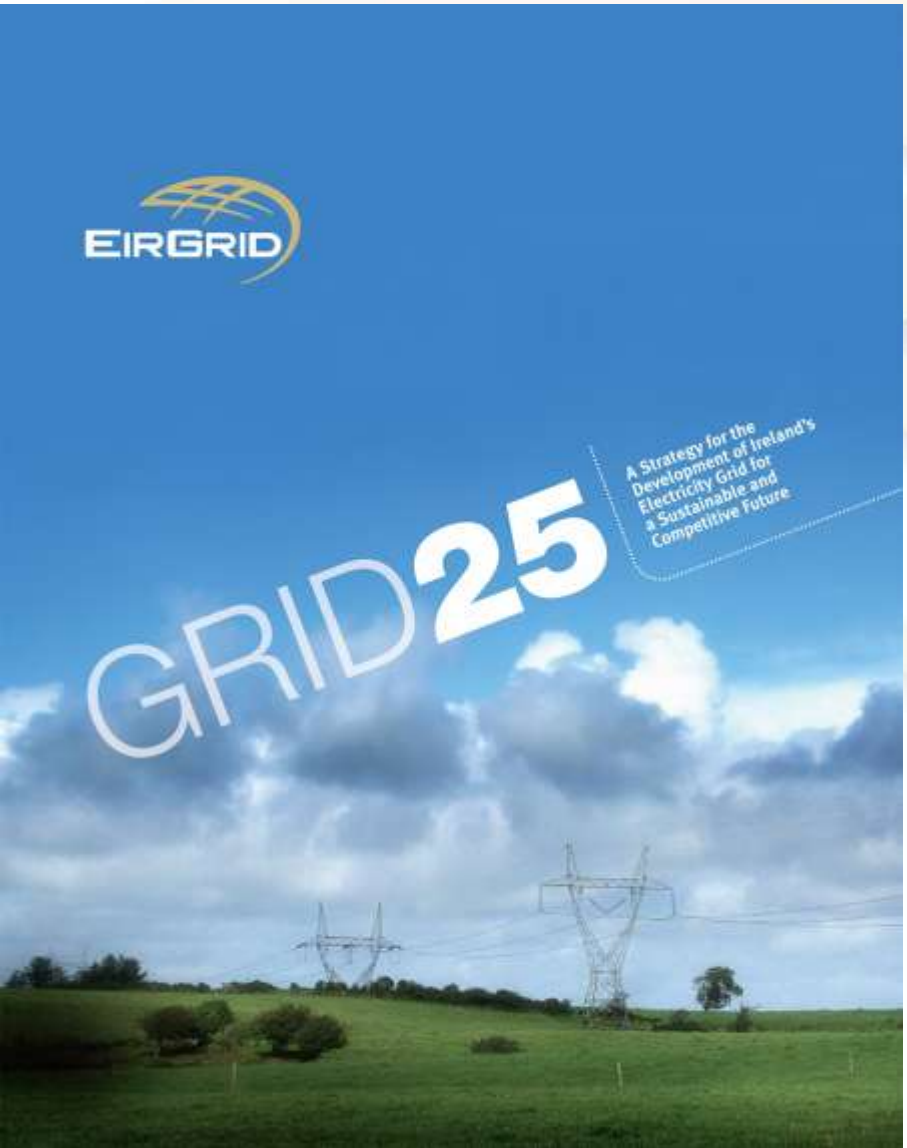
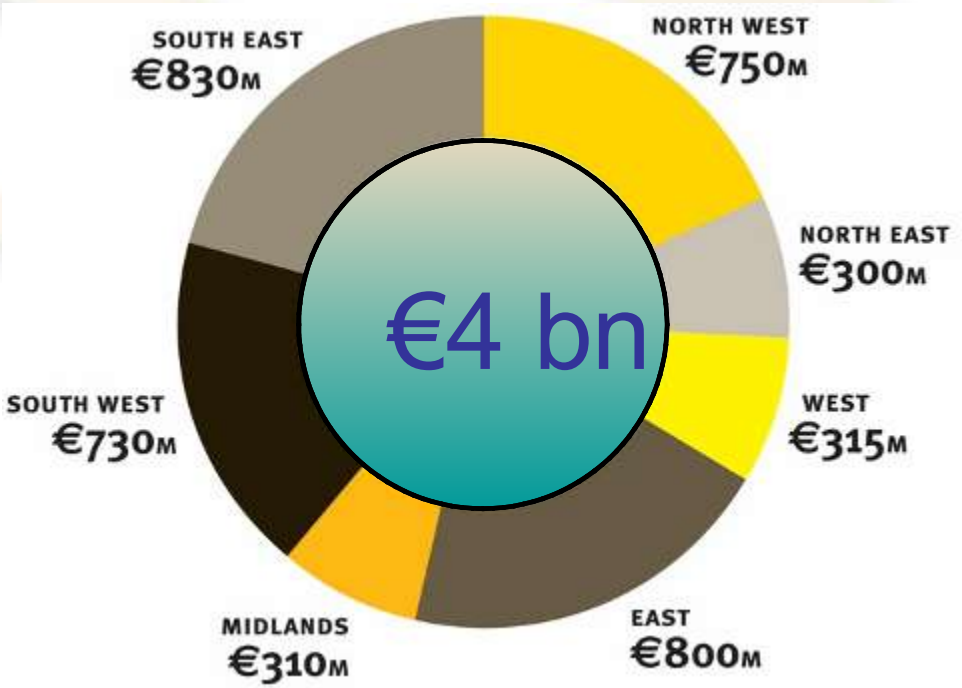
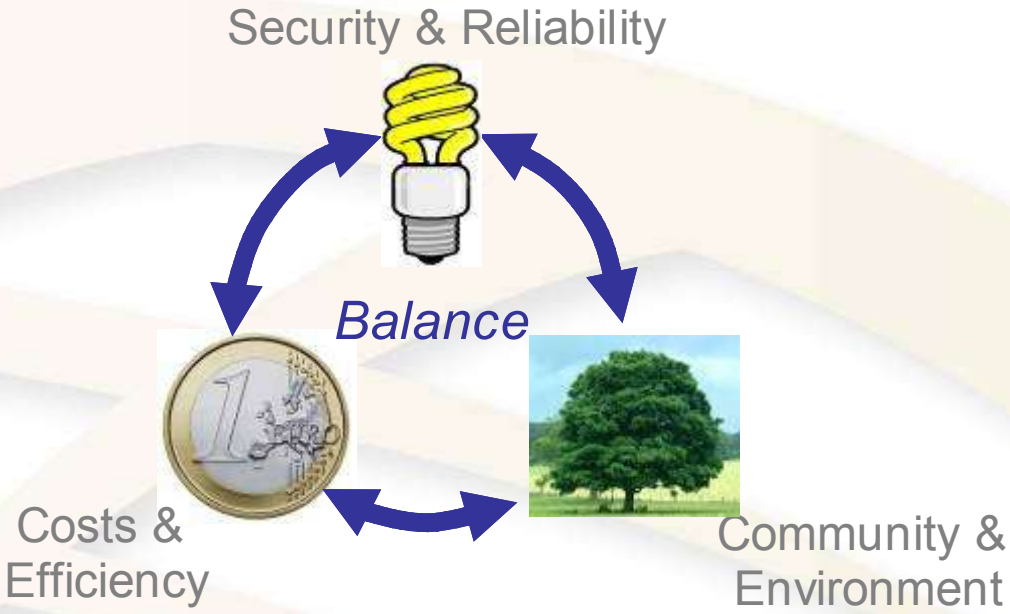
Grid25



- 1,150 km new build
- 2,200 km Upgrades
- €4 billion



Grid25 Strategic Options



Build New	400 kV	HV AC	Overhead
Upgrade	220 kV	HV DC	Underground

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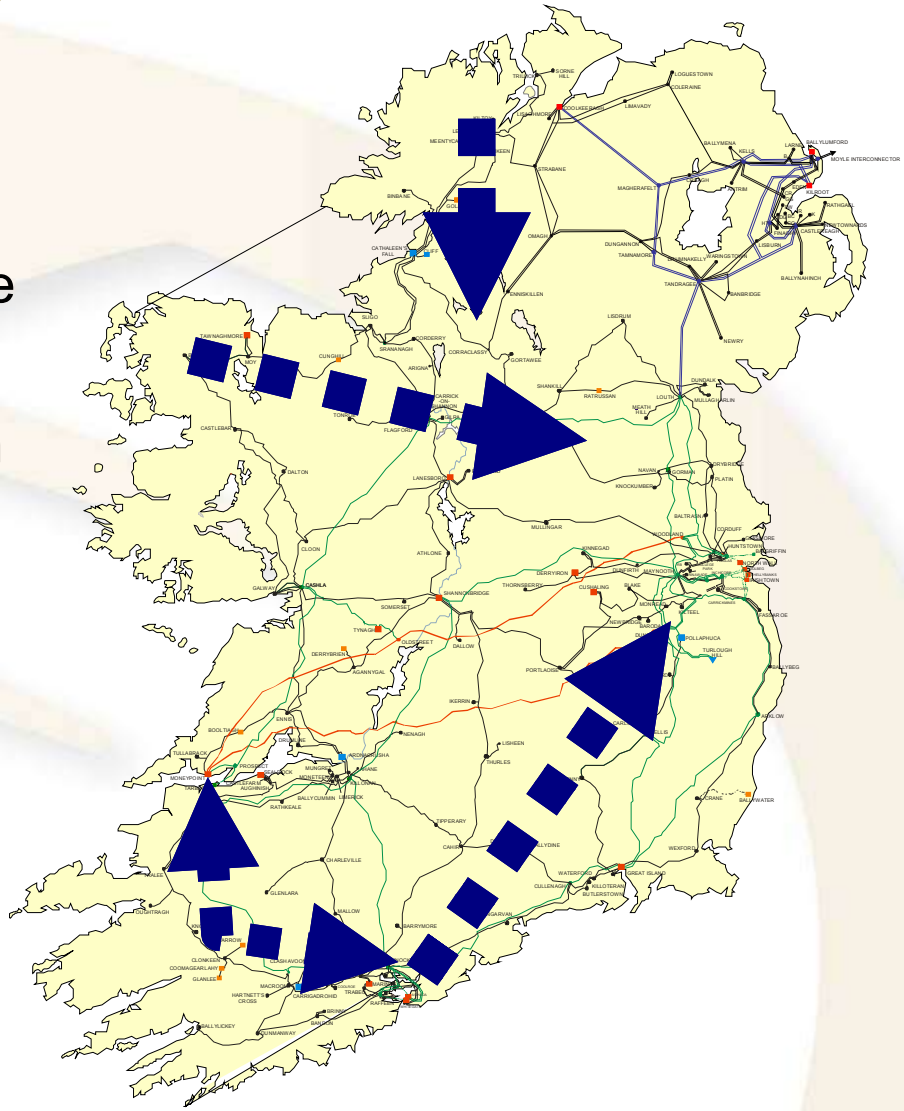
Primary Corridors for Reinforcement Investigation

- Government 40% target for renewables
- 4,000 MW of wind generation in Gate 3
- Major studies ongoing in each region to whittle down the myriad of options to preferred solutions



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What Grid25 means for South West

- Security of supply to the South West Region
- Increasing competitiveness in the region
- Enhanced connectivity with neighbouring regions
- As critical to the region as broadband

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Grid25 Developments in South West

- Additional investment of €730 million
- Upgrade of 130 km of existing network to maximise use of existing corridors
- Connection of wind and conventional generation
- Major increase in capacity from South-West to South-East

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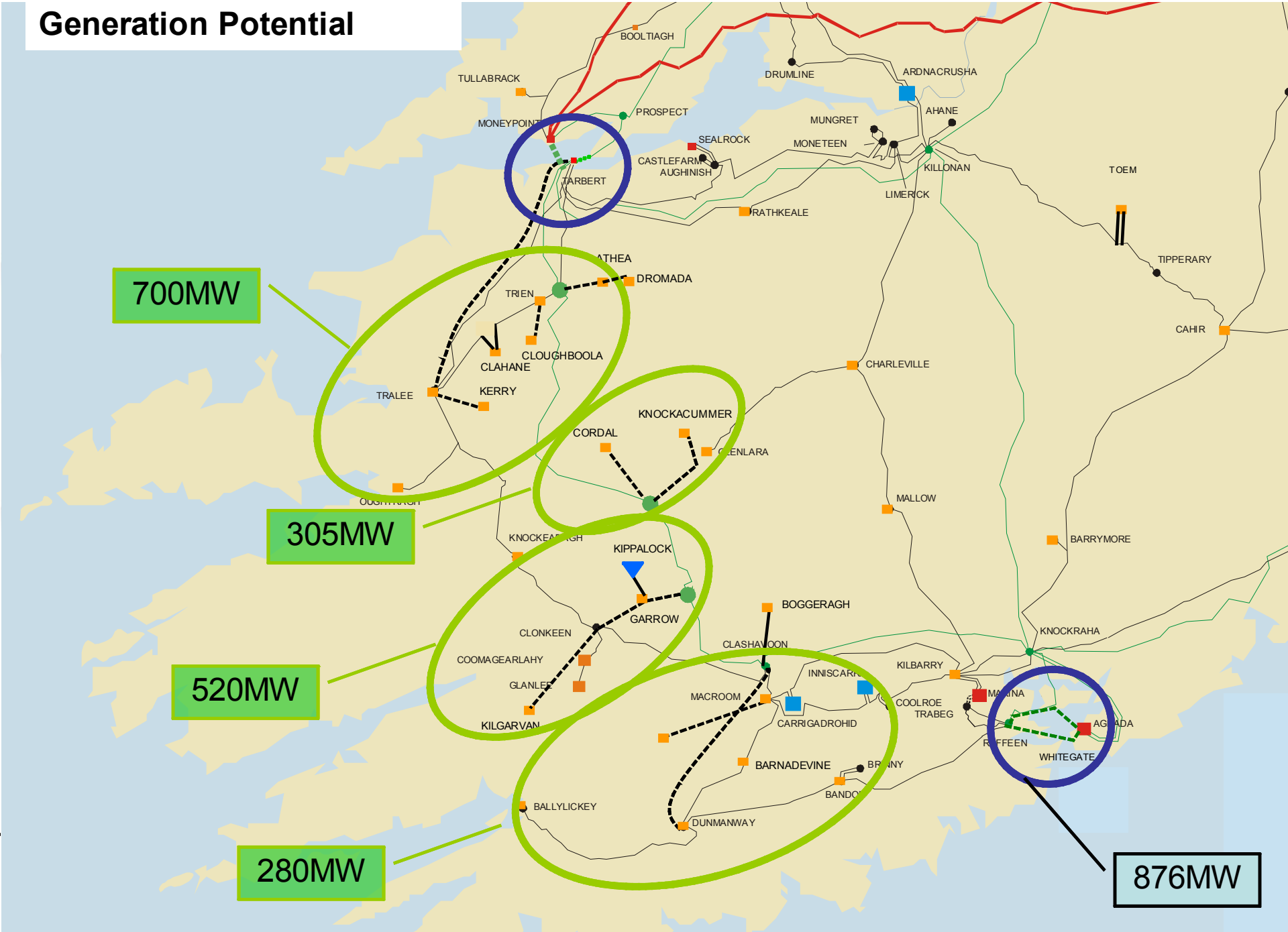
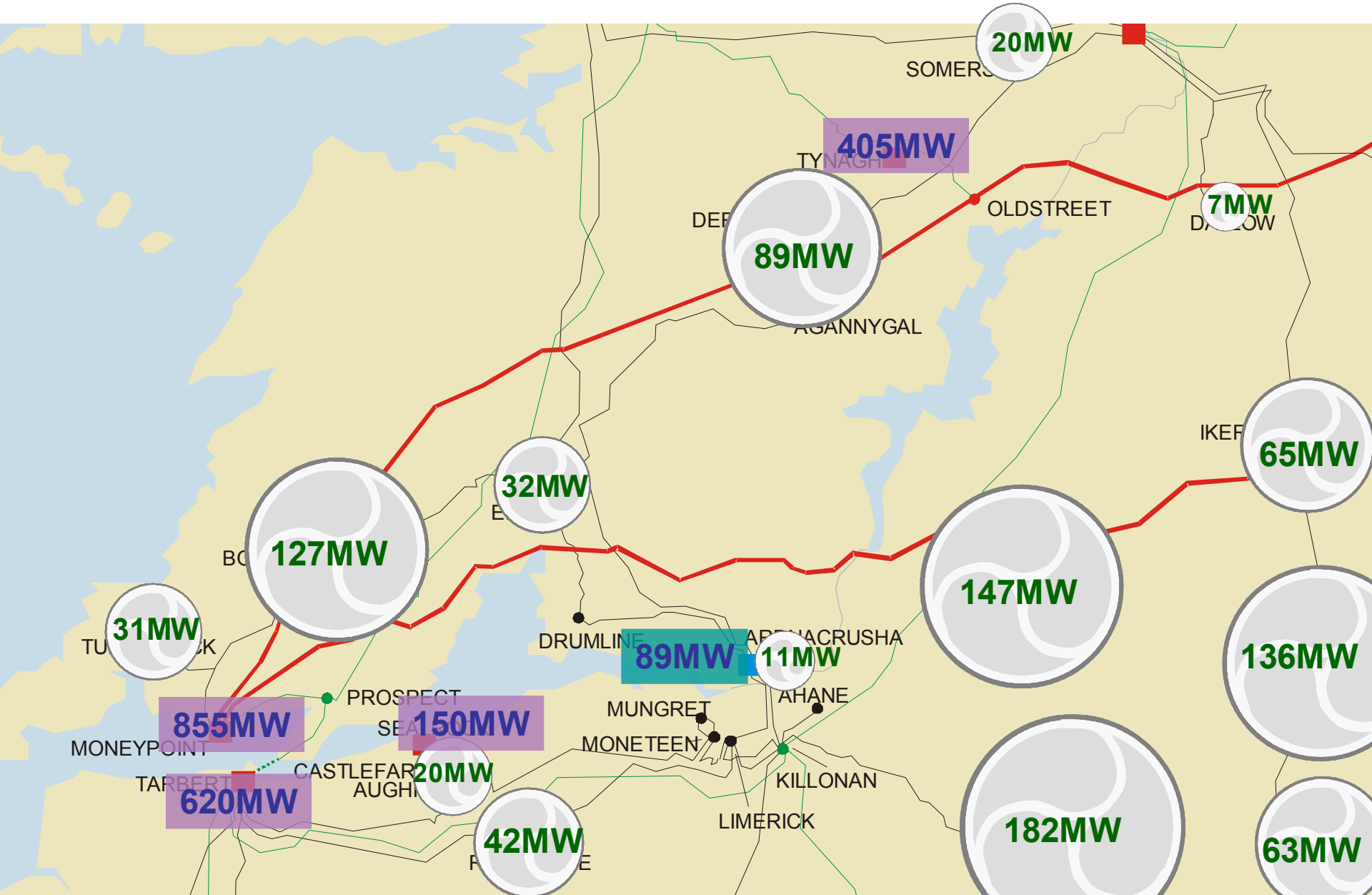
Generation Potential



Grid Developments Projects Currently Underway

Generation Potential



Progress to Planning Permission

Need Established

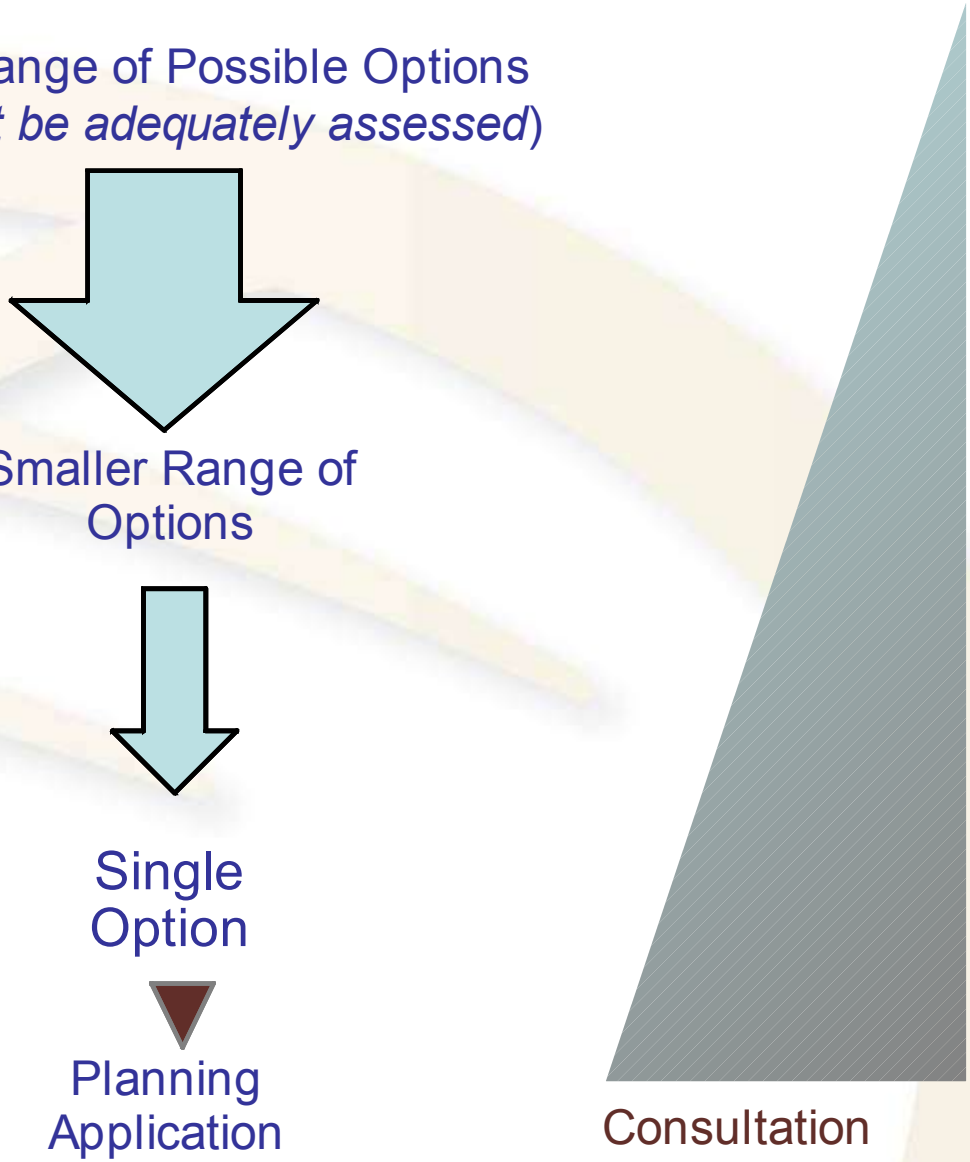
Environmental Assessment

Detailed Techno-Economic Modelling

Detailed Technical & Environmental Analysis of Alternatives

Statutory Consultation on Alternative Routes

Preparation of Environmental Impact Statement and Planning Submission



What GRID25 does …

- Delivers on Public Policy
- Incorporates Social and Environmental Responsibility
- Represents Value for Money
- Involves Use of New Technology
- Helps lower Ireland's Carbon Emissions

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Conclusion - GRID25 will provide:

- Strong platform for renewed economic growth
- Regional access to reliable and high quality power supplies
- Facilitate access to renewable resources

All these drivers evident in this Region

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Thank You

Deborah Meghen, EirGrid