

# Wind Developers Perspective on Policy Issues

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# Overview

- Background to IWEA
- Picture in 2020
  - Can it be done?
  - How do we do it?
  - What are the benefits?
- Conclusion

# IWEA Aims

- IWEA believes that Ireland can be a world leader in renewable energy
  - Reduce CO<sub>2</sub> emissions
  - Create investment and jobs
  - Increase energy security
  - Create a thriving export industry
- IWEA is committed to responsible and sensitive wind energy development
- IWEA promotes the development of onshore and offshore wind
- IWEA supports the development of other renewables particularly marine energy

# IWEA Members

- Largest national network with members from various sectors
  - Wind farm developers
  - Turbine manufacturers
  - Construction companies
  - Supply companies
  - Accountants
  - Insurance
  - Consultancy
  - Legal firms
  - Banks
  - Small local businesses

# Picture at 2020

## 20-20-20 EU Policy

By 2020

EU

**-20%**



GREENHOUSE  
GAS LEVELS

**-20%**



ENERGY  
CONSUMPTION

**+20%**



RENEWABLES IN  
ENERGY MIX

Ireland

**-20%**

**+16%**

# National Policy Target

By 2020

By 2010



10%  
10% Electric

3% Biofuel



12%

5%



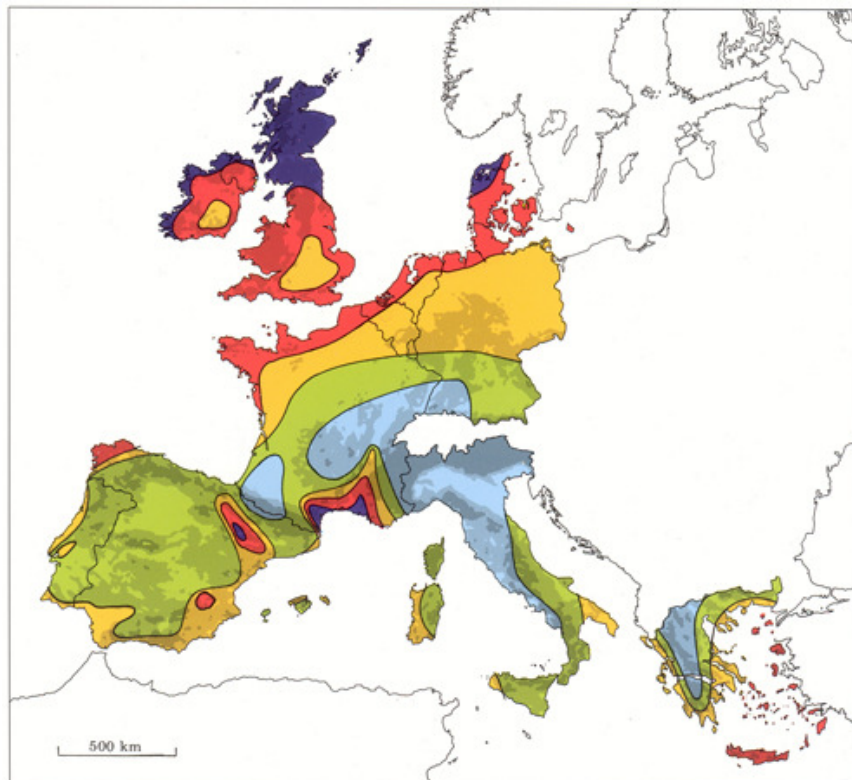
40%  
500MW Ocean  
400MW Biomass

15%

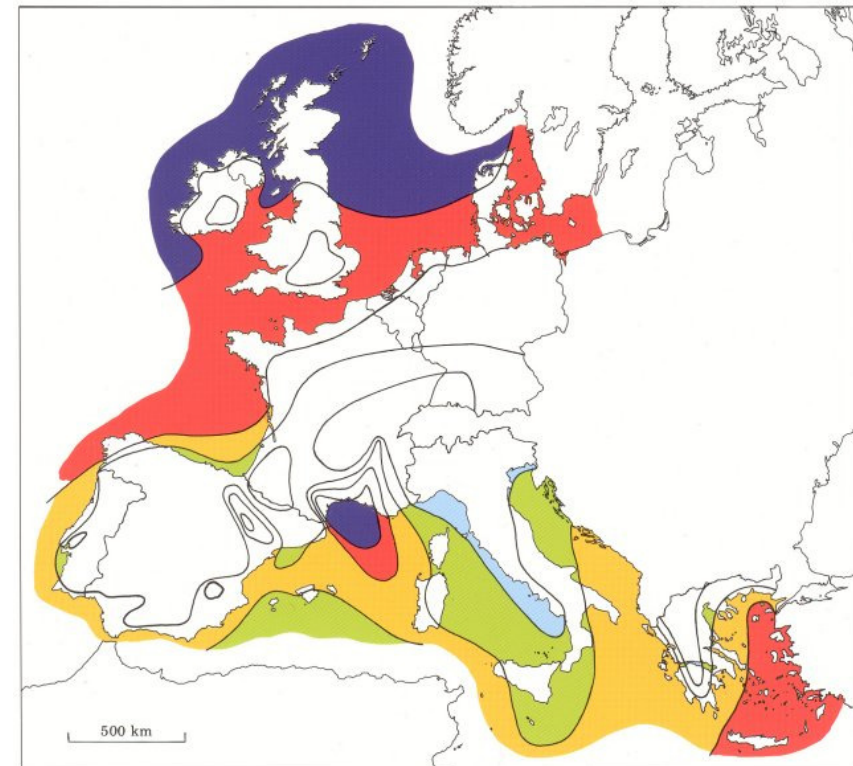
**Can this be done?**



# Resources & Capabilities



	Sheltered terrain <sup>2</sup>		Open plain <sup>3</sup>		At a sea coast <sup>4</sup>		Open sea <sup>5</sup>		Hills and ridges <sup>6</sup>	
	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$
Dark Blue	> 6.0	> 250	> 7.5	> 500	> 8.5	> 700	> 9.0	> 800	> 11.5	> 1800
Red	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
Orange	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
Yellow	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
Light Blue	< 3.5	< 50	< 4.5	< 100	< 5.0	< 150	< 5.5	< 200	< 7.0	< 400



	10 m		25 m		50 m		100 m		200 m	
	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$	$\text{m s}^{-1}$	$\text{Wm}^{-2}$
Dark Blue	> 8.0	> 600	> 8.5	> 700	> 9.0	> 800	> 10.0	> 1100	> 11.0	> 1500
Red	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
Orange	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
Yellow	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
Light Blue	< 4.5	< 100	< 5.0	< 150	< 5.5	< 200	< 6.0	< 250	< 6.5	< 300



# All-Island Grid Study

Results of the “***ALL-ISLAND GRID STUDY***”, published on 10th January 2008 show that:

- Renewable penetration levels of up to 42% demand are technically feasible
- Principal form of renewable generation will be wind

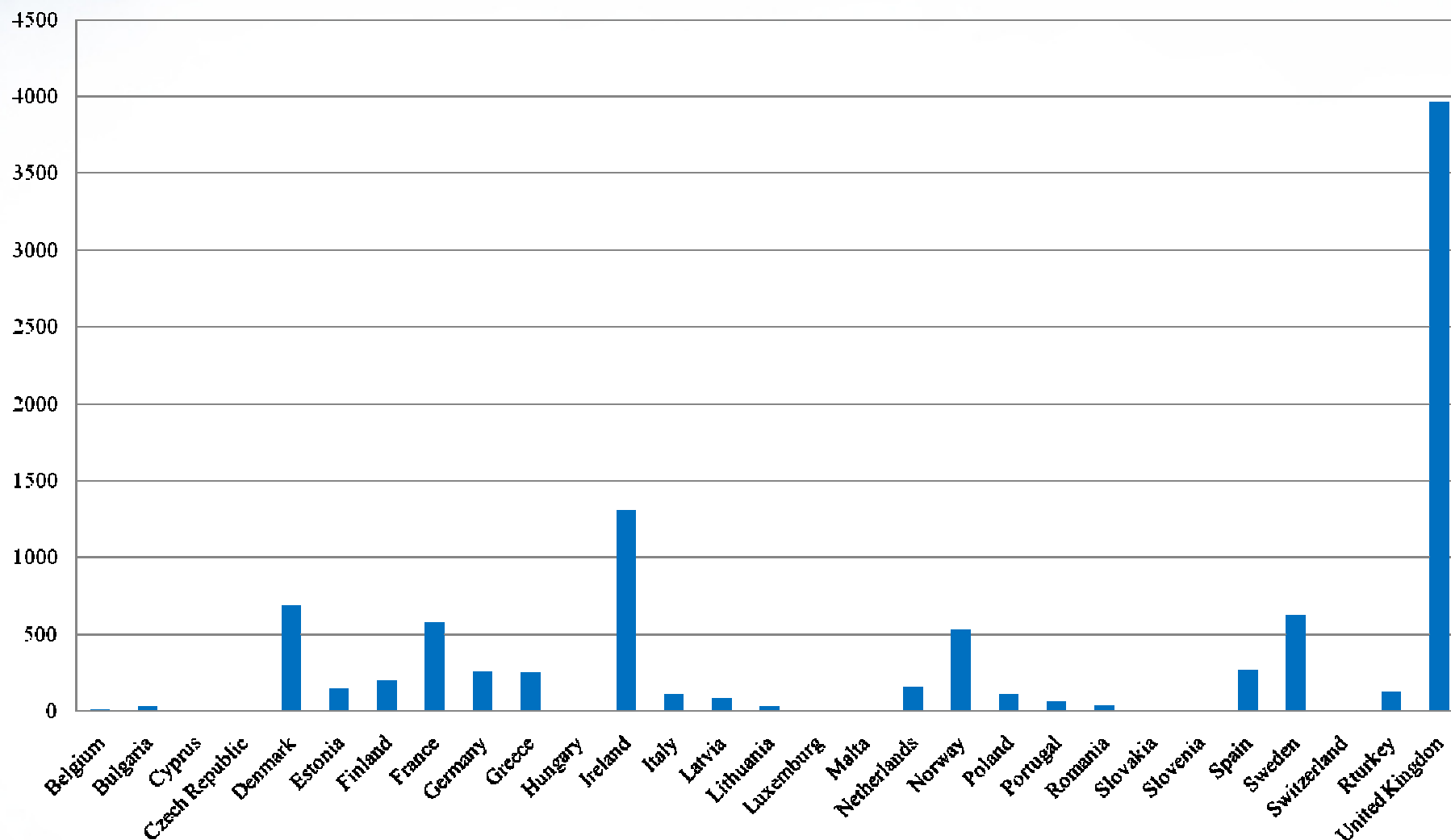


Department of Communications, Energy and Natural Resources  
Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádurtha



Department of  
**Enterprise, Trade  
and Investment**  
[www.detini.gov.uk](http://www.detini.gov.uk)

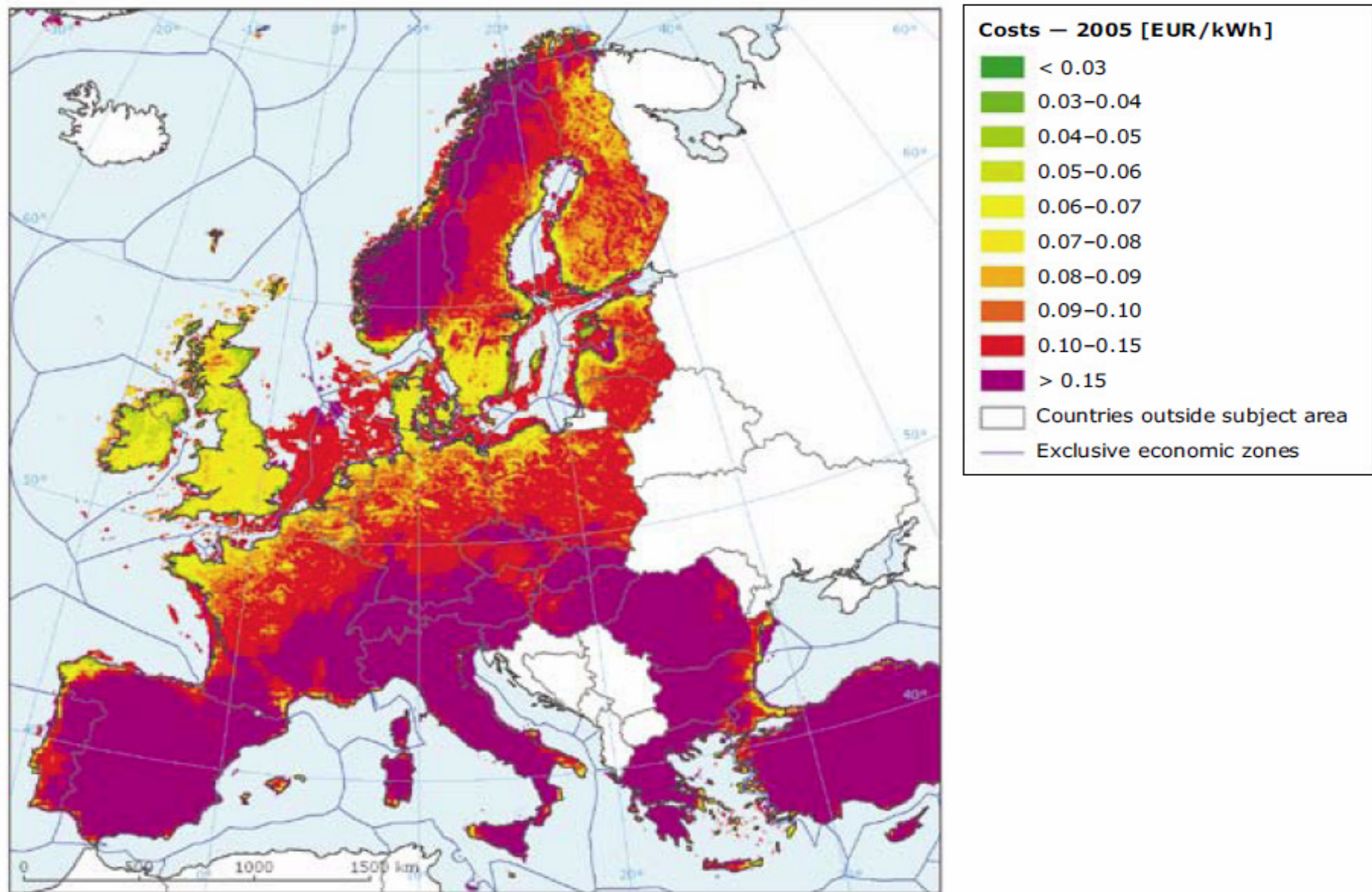
# Cost Competitive Wind Energy (TWh)



Source EEA 2008

Map 6.2

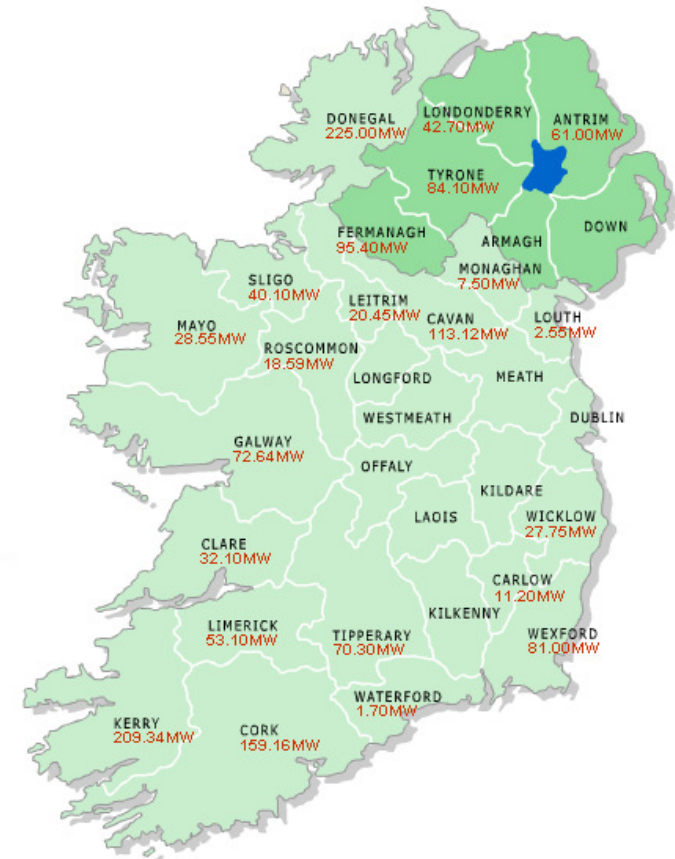
Generation costs for wind energy in Europe, 2005



Source: EEA, 2008.

# Wind Generation in Ireland

- Installed 1459MW
- Gate 2 1300MW
- Gate 3 3900MW
- Other Applications >11000MW



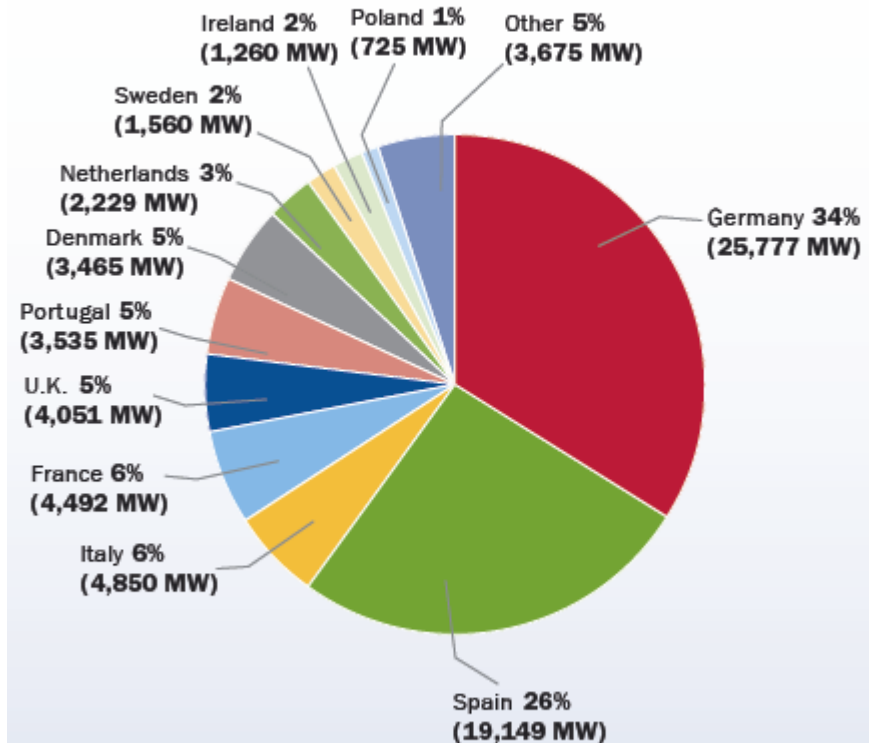
# Wind Energy in Ireland Today and IWEA projections for 2020

	<b>2020</b>
Installed capacity	11,000 MW *

\*5,000 MW for export to UK/Europe

EU MEMBER STATE MARKET SHARES FOR TOTAL INSTALLED CAPACITY (2009). TOTAL 74,767 MW

FIGURE 3.4



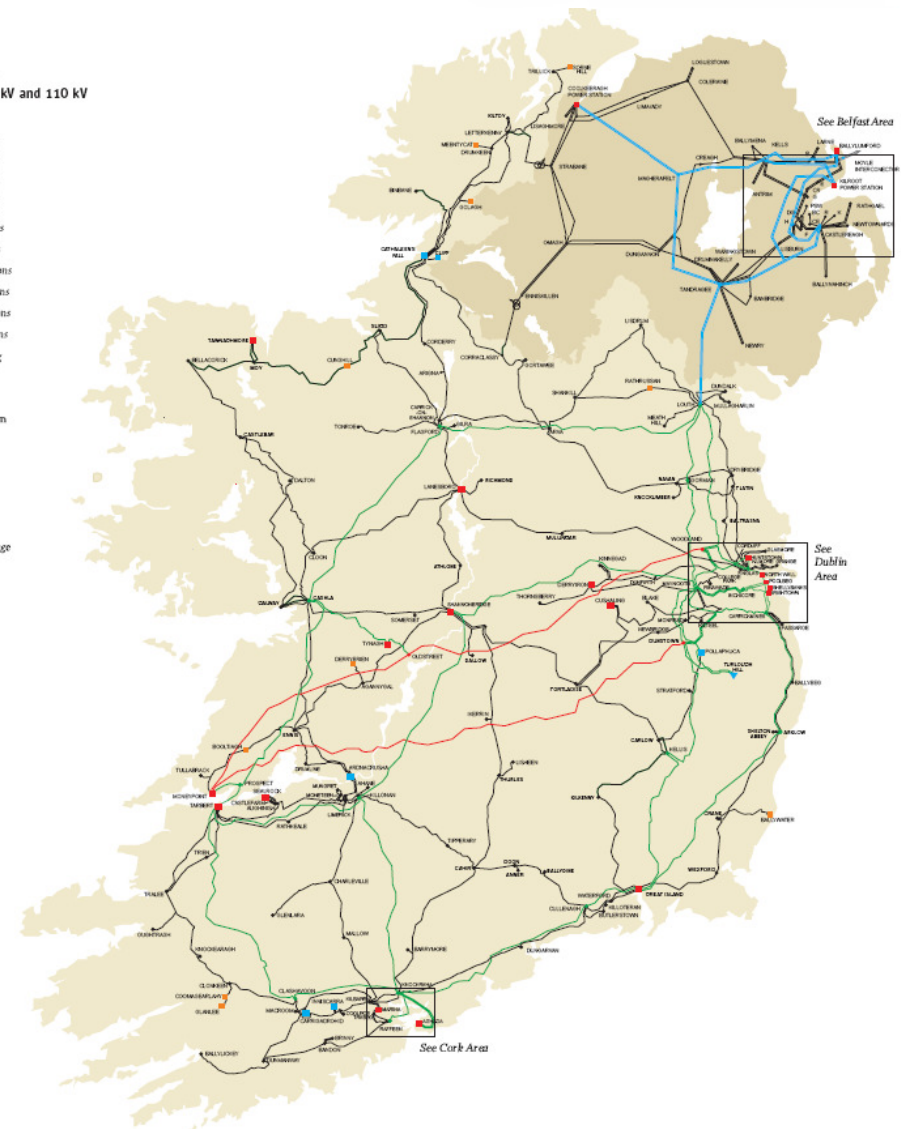
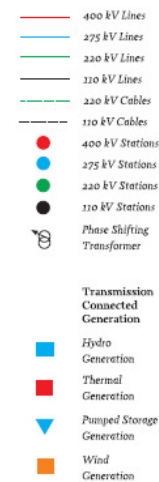
**How do we do it?**



# Grid

- Limited Capacity Available
- “Gate” allocation system
- Varying levels of Access rights provided
- Challenging environment for delivery of new infrastructure

Transmission System  
400 kV, 275 kV, 220 kV and 110 kV  
October 2007





# Financial Issues

- Feed in Tariff provides a floor of 6.6c per kWh plus some upside and balancing payments
- Interaction with energy market under review
- Some debt finance available but conditions can be onerous
- General concerns about funding availability for EU wide schemes

# Planning Consents

- Poor linkages between planning system and grid access regime
- 2010 Planning Bill clarifies framework
- EU directives impact development in sensitive areas
- Offshore licensing system is in transition
- More use of Strategic Infrastructure Provisions expected

# Social Acceptance

- Generally positive disposition to renewable energy and wind
- Paradox between global support and local resistance
- One of the key arguments used against wind: lack of direct benefits
- Vital there is an understanding of the necessity of future development
- Key role for Government, Regulators, System Operators and Developers

# **What are the benefits?**

**Deloitte.**

**IWEA**  
Irish Wind Energy Association

## Jobs and Investment in Irish Wind Energy

Powering Ireland's Economy



**IWEA**  
Irish Wind Energy Association

10 760 new jobs in Ireland

Many unexplored opportunities exist, these will contribute positively to green economy and jobs

Vital that industry stakeholders and state bodies work together

Necessary to increase investment in training

Unless the current institutional barriers to steady growth of wind energy are removed many of these jobs will be lost

# Conclusions

- Excellent resources and skills in Ireland
- Strong strategic policy framework
- More ambition to develop indigenous industry
- Focus on implementation essential
- Essential to have Communities and Stakeholders with us

# We must rethink our energy future

Renewable

Competitive

Clean



Offering energy independence





# Thank you

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