Wind Energy Project Development and Risk

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SEAI Regional Wind Energy Workshop
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Castlebar

RPS

Client Portfolio

verda
SUSTAINABLE ENERGY

sei

EIRGRID

aa
Airport Authority

e-on UK

SCOTTISHPOWER

renewables

Shell WindEnergy

national consumer agency

one 51

OPW
The Office of Public Works
Oifig na nOibreacha Poiblí

DONG
energy

GE Energy

HYDRO

Cosgrave

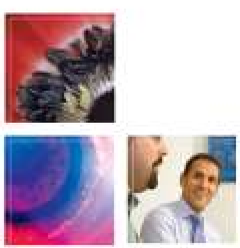
Wind Developr

GRAHAM

THE CROWN ESTATE

farm ENERGY

Vestas



RES-E Market and Project Challenges

- Resource
- Planning
- Environmental
- Technological
- Engineering
- Market and Regulatory
- Finance & Contractual

Summary

Site	Issue	Liability	Recommend-ation	Risk	Estimated Cost
Operating Site A	The site is located on upland blanket bog adjacent and upslope from a protected habitat designated as a Special Area of Protection (SAC). There are signs of recent peat erosion in the area along the access routes to the site.	If a significant land slippage occurs it will have the potential to damage the adjoining down slope SAC which is protected under the Environmental Liability Regulations and Habitats Directive.	Geotechnical and environmental assessment of erosion and preventative measure to prevent further erosion.	**High**	Investigation & assessment costs **€15k** Preventative remedial stabilisation work along access route **€50-75k** Remedial damages under the Environmental Liability Regulations if a slip were to occur **€1-2m**
Development Site C	Further information has been requested by the Planning Authority in relation to the visual impact and the geotechnical stability of the soils.	Additional information request, delay in planning process and risk of refusal. Delay in process and grid connection	Conduct additional studies to satisfy planning request.	**Moderate**	Visual impact assessment **€15k** Geotechnical investigation **€40k** Project delay **€1m**

Risk & Liability Register

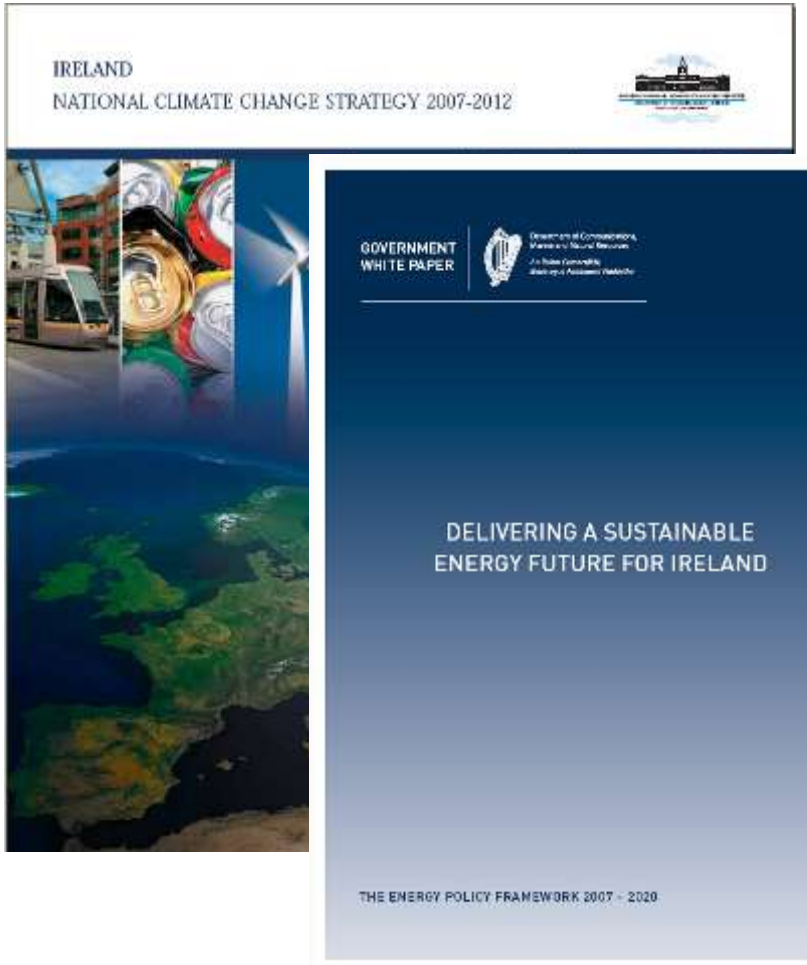
Risk ID	Project	Potential Hazards	Occur-rence	Basis of Occurrence	Seve-rity	Basis of Severity	Risk Score
10	Construction stage	Runoff / erosion during construction stage	**4**	Steep slopes, high rainfall and exposed soils during construction	**2**	Low sensitivity environment and adequate controls in place	**8**
11	NI Planning submitted Q3	Planning refused for 75 MW capacity (currently at EIA stage)	**3**	Site is located in very sensitive location with many potential "pitfalls"	**5**	Loss of revenue of €15m per year (assuming 30% operating utilisation)	**15**

Risk & Liability Matrix

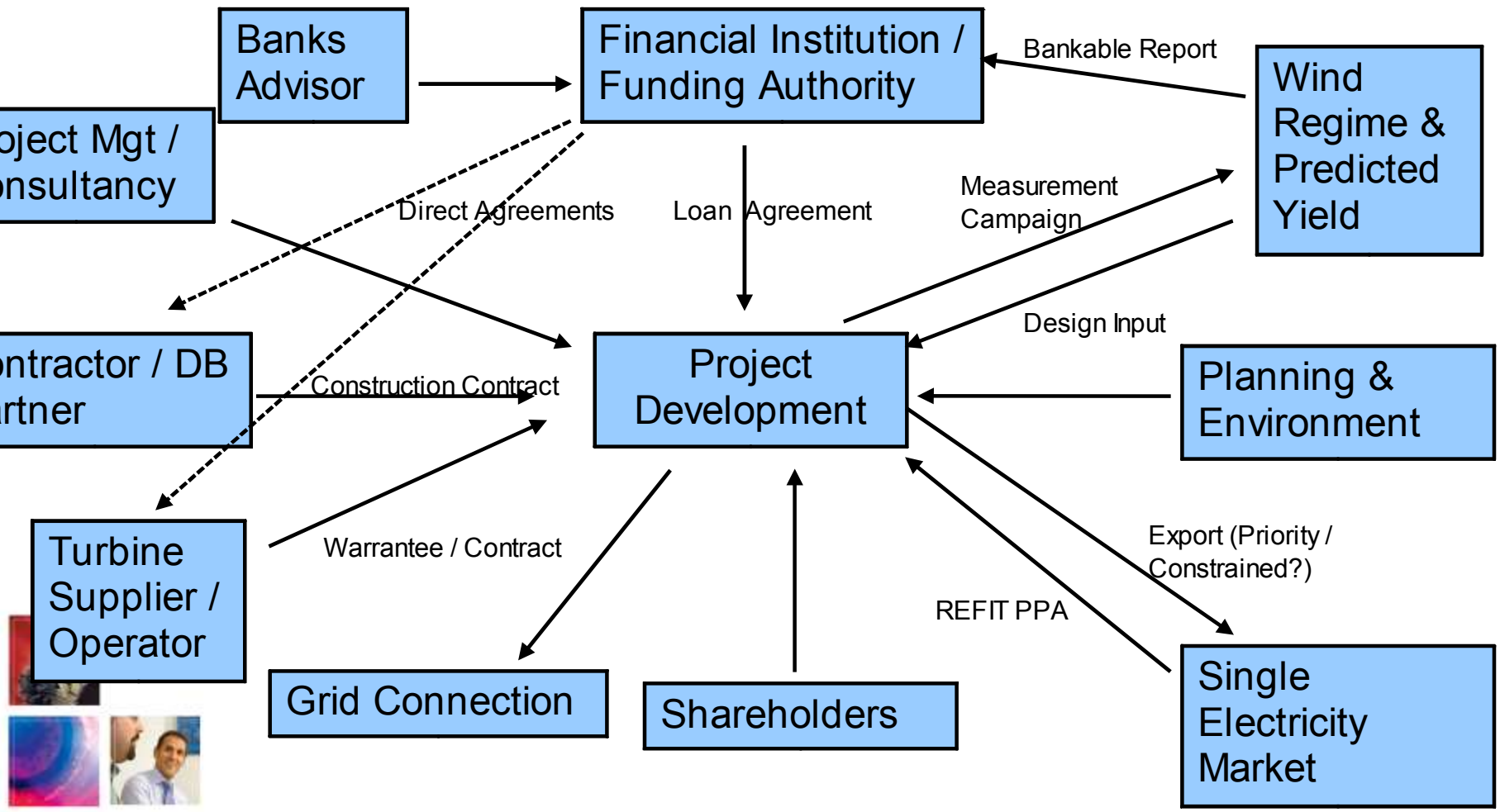
Occurrence							
	V. High	5	1,17,18, 41	39,40			
	High	4	38, 6, 22			36,37	
	Medium	3	10,34,42	2,7,11		33	
	Low	2	4,5,25	29,35		24,32,30	28
	V. Low	1	8,13,20,21, 23, 26	9,12,15,16, 19,27	3,14	31	
			Trivial	Minor	Moderate	Major	Massive
			1	2	3	4	5
			Severity				

Renewable Energy Drivers and Policy

- EU Energy and Carbon Targets and Commitments
- White Paper – Delivering a Sustainable Energy Future for Ireland
- National Climate Change Strategy
- Bioenergy Action Plan for Ireland
  - South-East Region Strategy
  - Western Development Commission



Project Delivery – Points to Consider



Project Delivery – Planning and Environment

- Local Authority County Development Plan
- Regional and National Energy and Planning Objectives
- History of Industry in Locale, Relationship with Local Community

- Strategic Infrastructure Act
  - Justification Required
  - By-pass local planning regime
  - National targets and imperatives more relevant

Planning: Local or National ?

- EU Directive, National Policy, Regional Strategy, Local Delivery
- Developing National Policy vs. Periodic County Development Plans
- Divergence between Local and National Policy
- Divergence of Local Planning Regimes
- Legacy of Energy, Industry and Local Activity
- Technical Support Required – e.g. Wind Strategies, Specific Planning Applications

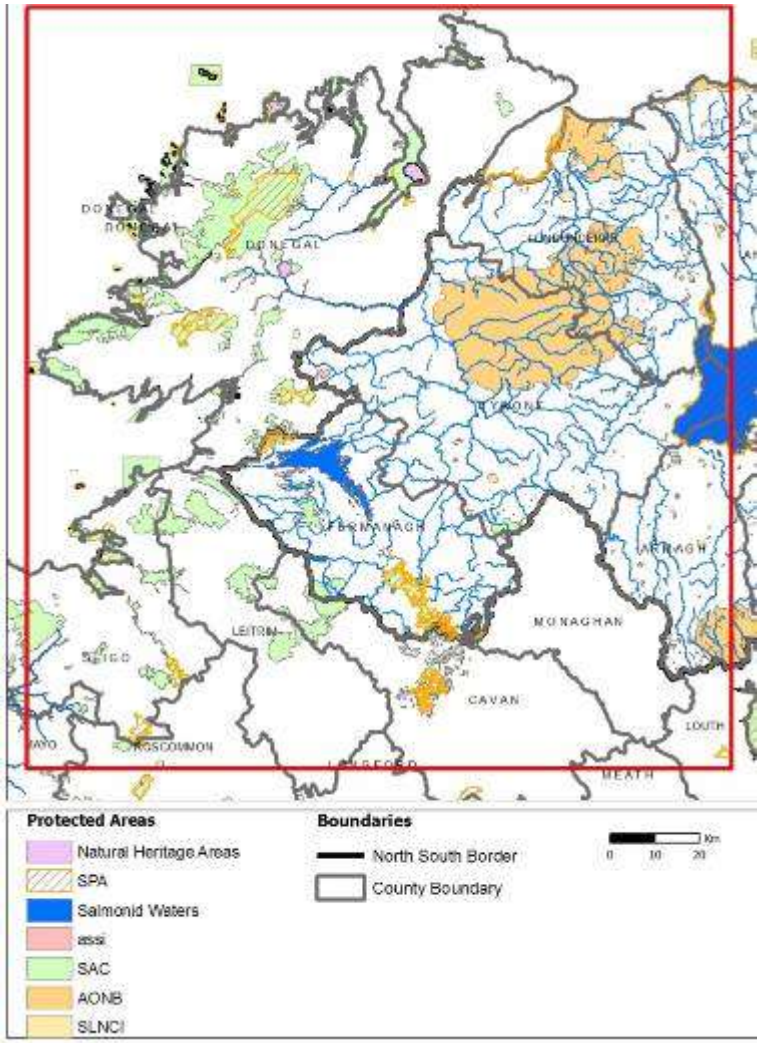
Planning: Local or National ?

- Strategic Infrastructure Act
  - Justification Required – e.g. 100MW (50MW)
  - 'By-pass' local planning regime
  - National policy targets and imperatives
- Long-term Impacts and Challenges:
  - What is Strategic?
  - Capability Gap Local vs. National Planning
  - Competence, Responsibility and Scope



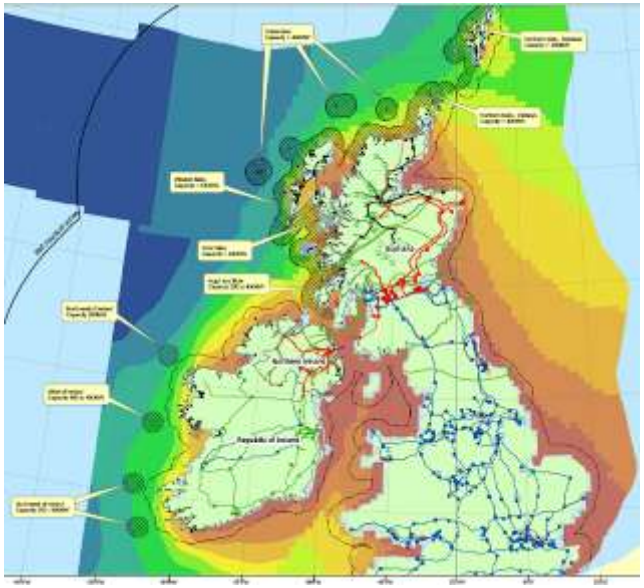
Environment: Global Targets vs. Local Delivery

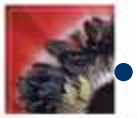
- National Environmental Policy
  - Climate Change and Conservation
- Strategic Environmental Assessment
  - Policy, Plans and Programs
  - What is strategic?
  - Evaluation Criteria and Weighting
- Communication Critical
  - National Targets have Solutions
  - Apply Combined Expertise



Environment: Responsibility and Execution

- Example: Foreshore Licence
  - Conventional Offshore Wind
  - Marine Power
- Potential for integration into a single process
  - Which Central Body – where does competency lie?
- Comparative Study (e.g. ISLES)
  - Other European Jurisdictions
  - Interconnection of Markets and Grids





Non-Technical: Consultation

- Engage Early, Honestly and Often
- Extreme Support, Extreme Objection
- Dissemination of Information can be Problematic
- Commitments Need to be Realistic and Aims Transparent

Up to 2,500 people gathered at Bective Abbey last month to protest against the pylons

Why Consult?

- Establish relationships early on
- Build trust and respect
- Concerns of stakeholders can be incorporated into the project early
- Can help deliver the project on time and within budget








Key Principles of Consultation

- Go early and keep going
- Be consistent
- Be flexible
- Be open and honest
- Follow through

Common Communications Challenges

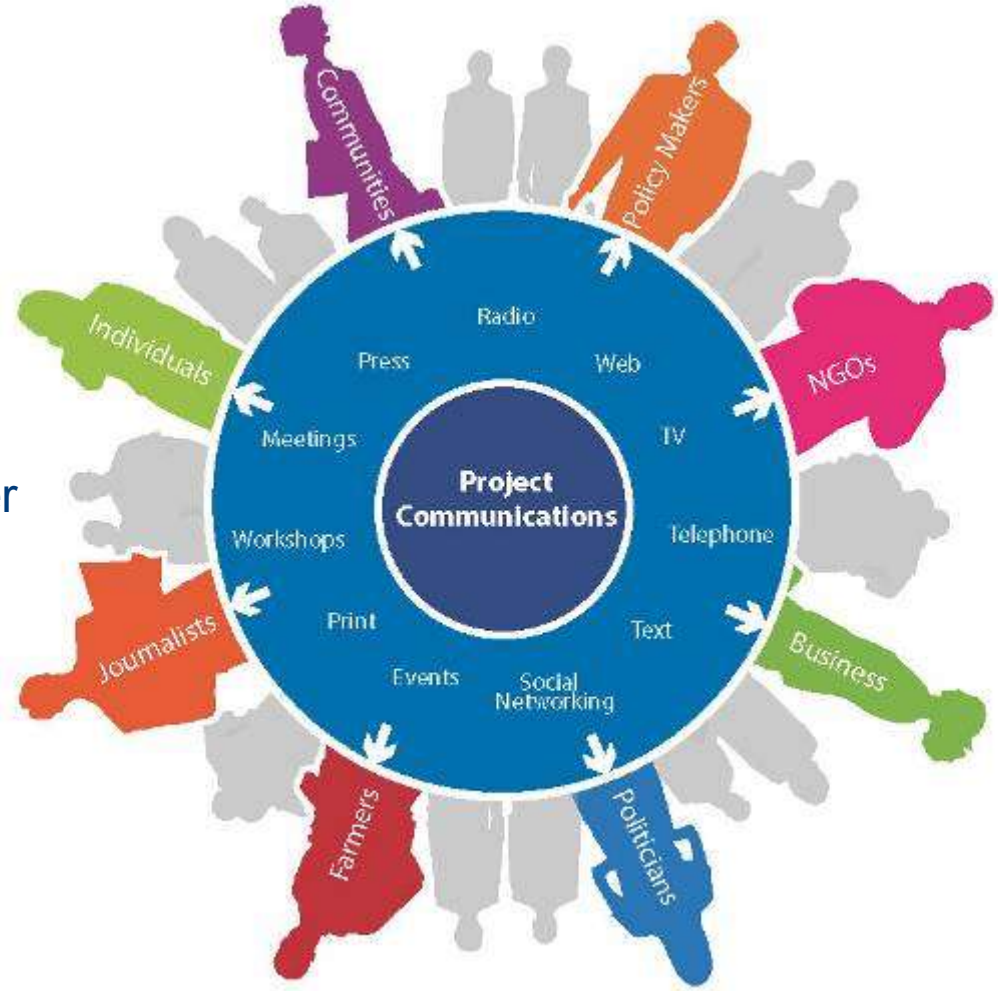
- Technical Issues
- Entrenched opposition
- Misinformed public
- Lack of understanding of any benefits
- Negative history
- No trust or respect

Overcoming Communications Challenges

- Information vs. consultation?
- Use the right methodology
- Define what you want to know
- Know your stakeholder – Stakeholder Mapping
- Understand their issues
- Good Records and Reporting

Methods of Communication

- Many methods - direct, intermediary, indirect
- Choose most appropriate method for your stakeholder group

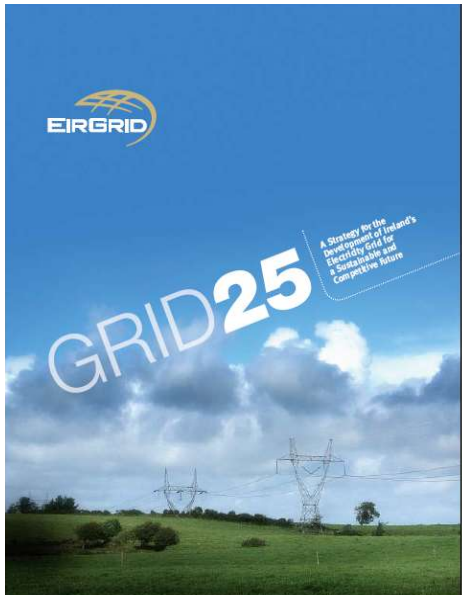


Technical: Our National Grid

- Context
  - Gate 2 & 3 Process
  - Small-scale and Low-carbon Generators
  - Conventional Generators
- Immediate Need vs. Longer-term Delivery
  - Are Short-term Policy Goals shaping long-term deliverability?
  - Evaluation Criteria and Weighting
  - Regulation and Code – Wind is Challenging Basic Design Assumption of Market and Grid

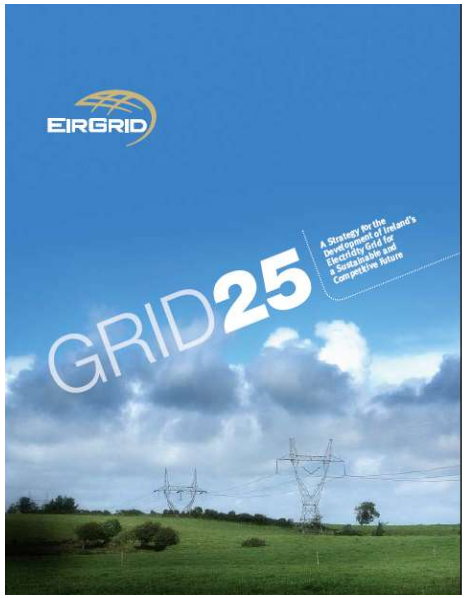
Technical: Our National Grid

- National Grid Strategy
  - Grid 25 and beyond
  - Renewables Integration Development Project – North West
  - National Constraints Study
  - Interaction with ISLES and others
- Recognition of Requirement for Flexibility and Diversity of Generation and Delivery Types



Technical: Our National Grid

- Irish Problems = Irish Solutions
  - Interconnection or Mesh
  - Storage
    - Pumped Hydro
    - Compressed Air
    - Electric Transportation
- Opportunity and Capacity can be exported
- Reality will be a combination of solutions only deliverable with a combined effort



Additional Thoughts

- Single Target - Range of Solutions – Combined Effort
- Infrastructural Solution - Medium to Long-term Delivery Horizon
- Communication Key
  - Public
  - Professional
- European and National Policy Needs Local Delivery and a Common Understanding

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