

The European Wind Energy Technology Platform

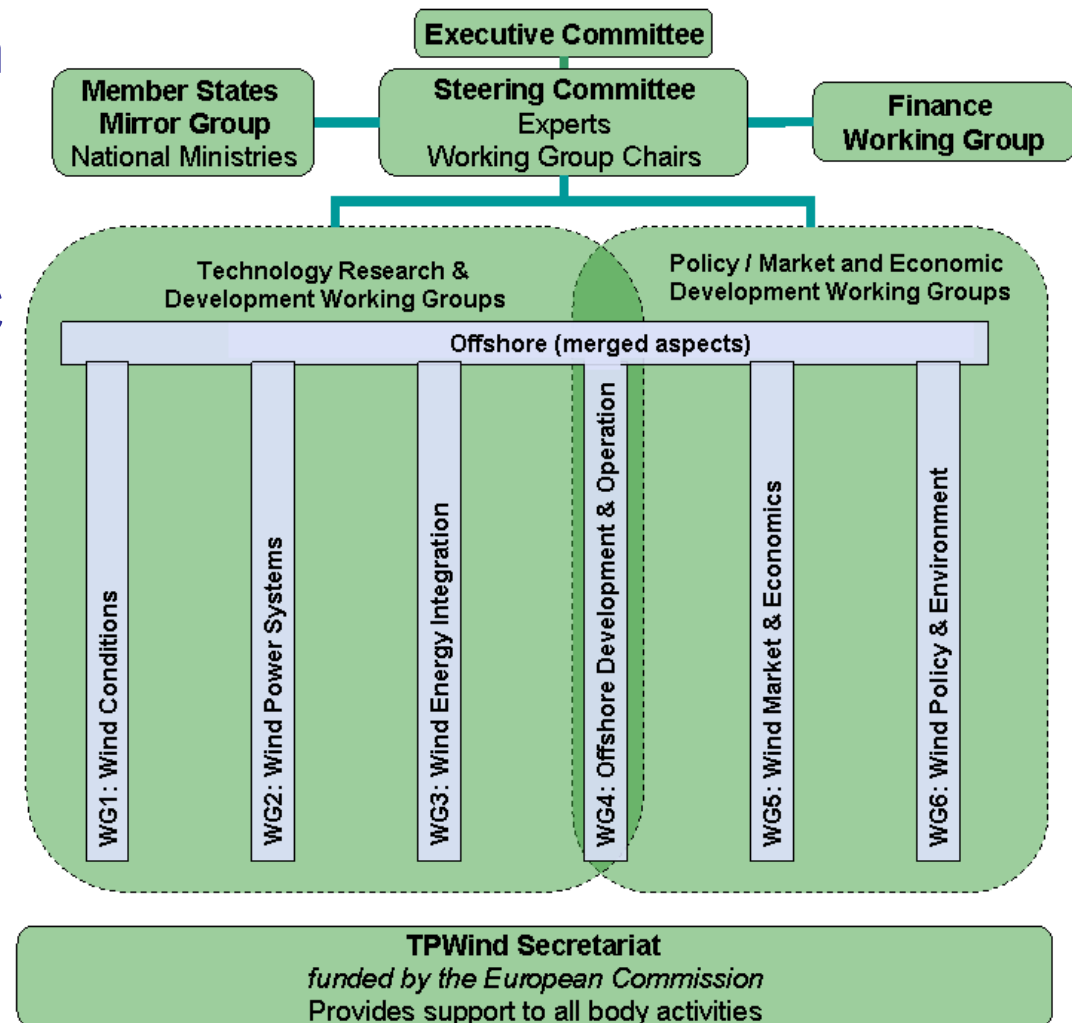
Synopsis

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What is TPWind?

- q Official Technology Platform
- q Launched in 2006 by Commissioner Piebalgs
- q Secretariat supported by EC

- q 25 Steering committee
- q 17 Member States
- q 12 Finance group
- q Technical groups (SRA)
- q Market/Pol groups (MDS)



Synopsis

- q Extract of the upcoming SRA&MDS documents
- q Result of 2 General Assemblies and members contributions

- q Presents:
 - § The global Vision for the Wind Energy Sector
 - § Research priorities at Short/Medium/Long term
 - § Market / Policy recommendations
 - § Human Resources
 - § Research Financing

Research action plan

300 GW – 21 to 28% of EU electricity consumption

GLOBAL VISION	Thematic priority to achieve the global vision	2030 vision in the thematic priority
STRATEGIC RESEARCH AGENDA	WIND CONDITIONS	3% vision
	WIND TURBINE TECHNOLOGY	Maximising reliability and realising technology breakthrough to meet ambitious objectives
	WIND ENERGY INTEGRATION	High penetration levels ensuring system reliability, reduced integration costs
	OFFSHORE DEPLOYMENT AND OPERATION	10% of EU electricity
MARKET DEPLOYMENT STRATEGY	MARKET RECOMMENDATIONS	A major modern energy source, reliable and cost competitive
	POLICY RECOMMENDATIONS	A vision for the wind energy sector

Thematic priority to achieve the global vision	WIND CONDITIONS										
Priority topics to achieve the 2030 vision	Siting in complex terrain and forested areas	Wakes	Offshore	Extreme wind speeds	Wind profiles at greater heights	Short-term Forecasting					
Implementation of priority topics: research priorities	Admission II 1	Data analysis 2	Design conditions for offshore sites 2	Data analysis 1	Data Analysis 1	Data Analysis 1	Data Analysis 1	New Measurement Techniques 1			
	New measurement techniques 1	Advanced Models 1	Improvement of meteorological models 6	Advanced models 1	Advanced Models 3	Advanced Models 1	New Measurement Techniques 1				
	Standards 3		Dedicated offshore short-term forecasting models 3	Extreme Wind Atlas 3	New Measurement Techniques 5		Advanced Models 6				
	Advanced models 6		Fully integrated wind-wave-current interaction models 3								
			Basic knowledge of marine atmosphere 3								
			Standard models for resource assessment 6								
			Ground-based remote sensing techniques 6								
			Satellite-based remote sensing techniques 6								

Thematic priority to achieve the global vision	WIND TURBINE TECHNOLOGY								
Priority topics to achieve the 2030 vision	Wind turbine as a flow device	Wind turbine as a mechanical structure / materials	Wind turbine as an electricity plant	Wind turbine as a controlled system	Operation and Maintenance, Condition Monitoring, Installation	Concepts and Integration	New concepts	Standards	R&D facilities
Implementation of priority topics: research priorities	Final strategy under development								

Thematic priority to achieve the global vision	WIND ENERGY INTEGRATION					
Priority topics to achieve the 2030 vision	Wind power plant capabilities	Grid planning and operation	Energy and power management	Energy markets		
Implementation of priority topics: research priorities	Grid code requirements 2	Improved operation, interoperability 2	Long term planning 2	Market modelling 4	Market rules 3	Market access 6
	Means of verification 2	Models, simulation tools 2	System Operation 2			
	Opportunities for meeting requirements 4	Accelerated attention and reinforcement 3	Transition studies for offshore 5			

Thematic priority to achieve the global vision	OFFSHORE DEPLOYMENT AND OPERATION			
Priority topics to achieve the 2030 vision	Market deployment actions	Research actions		
Implementation of priority topics: research priorities	Installation, Assembly, Decommissioning 1	Environment 5		
	Environment 1	Electrical Infrastructure 5		
	Safety 6	Safety 6		
	Education 6	Substructure 6		
	Substructure 6	Installation, Assembly, Decommissioning 6		
	Electrical Infrastructure 6	Turbines 6		
	Turbines 6	Operation and Maintenance 6		
	Operation and Maintenance 6			

Legend	
1	Short term
2	Short and medium term
3	Medium term
4	Medium and long term
5	Long term
6	Short to including long term

Conclusion

q 3 phases in deployment of Technology Platforms:

§ 1 - Emergence and Setting up (2006 – 2007)

§ 2 - Definition of a Strategic Research Agenda (2007 – 2008)

§ 3 - Implementation phase (2008 – 2009 and beyond)

- *Framework Programme, other sources of European funding, national research programmes, industry funding and third-party private finance...*

q The European Wind Initiative is a strong opportunity for the implementation phase