

## **EWEA OFFSHORE 2015 CONFERENCE**

### **Call for abstracts topics**

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Topics included in the call for abstracts:

- Turbine technology:
- Science & research
- Supply chain, logistics & O&M
- Resource assessment
- Planning & environmental impacts
- Health & safety
- Grids
- Cost & finance

### **Topic descriptions**

#### **Turbine technology:**

**“Which turbine technologies will bring costs down by 2020?”**

Topics include:

- Increasing power output with turbine & rotor improvements
- Foundations: cost reduction from fixed foundations, and new concepts ‘float & sink, suction buckets, etc
- Optimising wind power plant design

Of special interest are:

- Optimisation of aerodynamic designs to withstand wakes and their cost optimisation
- Design of modular components – Lego approach for wind turbines?
- Scaling up wind turbine components – how big can we get?
- Performance of existing substructures and possibilities to extend life time – corrosion protection methods
- Tools for integrated met-ocean design of wind turbines

#### **Science & research:**

**“Savings from science: how will science & research continue to lower costs after 2020?”**

Topics include:

- Beyond-state-of-the-art 10-20MW offshore wind turbines
- Floating wind energy
- Innovative and experimental turbine concepts (e.g. two-bladed, downwind, vertical axis or multiple rotor systems)
- Novel developments and experiments in aerodynamics, monitoring and wind turbine control
- Geotechnical investigations and models
- Robust and reliable analysis and design tools

#### **PROGRAMME QUESTIONS?**

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Of special interest are:

- Experimental, numerical and theoretical studies investigating novel concepts and approaches in offshore wind energy, and which preferably also address the potential for cost reductions
- Contributions that consider the relevant uncertainties and risks are especially welcome

### **Supply chain, logistics & O&M:**

**“Where in the supply chain and operations & maintenance can cost reductions be found?”**

Topics include:

- Vessels for construction, cabling and operation
- Cranes, ports
- O&M as a growing industry: do bigger turbines mean increased O&M budget?
- How to avoid mistakes: good and bad practices
- Issues relating to multi-contracting

Of special interest are:

- Risk based maintenance approaches
- New logistic planning tools for optimised installation and maintenance
- How design of wind turbines can help optimise installation, maintenance and decommissioning
- New techniques for onsite assembly vs. port assembly
- Innovative designs of multi-purpose vessels
- Subsea cabling installation and handling
- Looking to the future – the logistics of decommissioning

### **Resource assessment:**

**“How can better resource assessment make offshore wind farm development cheaper?”**

Topics include:

- Forecasting
- Floating LiDARS
- Reducing uncertainty and removing bias in yield assessments
- Actual versus prediction
- Wake effects within and between farms
- Impact of large scale wind farm development on the earth's boundary layer

Of special interest are papers which present real operational data in a form which will promote advances in our knowledge of the offshore wind resource.

One of the sessions will include a presentation of the results of Offshore CREYAP Comparison Exercise Part II.

## **Planning & environmental impacts:**

### **“How can the industry improve spatial planning and reduce environmental impacts?”**

Topics include:

- Assessment of cumulative effects from offshore wind developments and Strategic Environmental Assessment requirements
- Evidence of positive environmental impacts arising from offshore wind farms
- Achieving the co-existence of commercial fisheries and offshore renewables industries
- Improved seabed survey techniques
- Impacts during construction including noise: evidence of behavioural responses to anthropogenic noise by marine mammals and fish, assessment techniques and mitigation options
- Effects during operation (on marine life & birds): evidence of collision risk and displacement effects on birds from operational wind farms, assessment techniques and reduction in uncertainty in assessments
- Cost reduction in monitoring and survey techniques
- Assessing the socio-economic impacts of offshore wind
- Managing risks to construction programme from the unexpected including UXO and archaeology discoveries
- How will the Maritime Spatial Planning EU Directive affect the development of offshore wind projects?

Of special interest are new methods to mitigate installation noise with tools that do not affect schedule or cost

## **Health & safety:**

### **“Health & safety: protecting the human factor”**

Topics include:

- Installing an effective health & safety culture across an organisation's various markets and different projects
- Cost reduction through standardisation
- Training & best practices
- Comparisons to other industries and between offshore and onshore wind
- Reducing risk at source by minimising human intervention: ways to reduce diving hours, using of drones for inspection, remote inspection of safety-critical systems, etc.
- Safety by design

Of special interest are real-life examples of what has gone wrong and successful application of lessons learned.

## **Grids:**

**“Bringing the power to the people: what grid development is needed to deliver wind energy to consumers?”**

Topics include:

- Squeezing more out of your grid connection
- Onshore grid infrastructure required for integration of more offshore wind energy
- Cabling and wind turbine clustering
- Best practises in cross-border cooperation – is there anything yet?
- Successful storm regulation

Of special interest are: ...

- Wind farm collection grids for offshore applications – DC MV inter-array cabling, MV AC collection grids and their impact on cost
- System services from offshore wind farms? – The impact of HVDC on grid support services: reactive power compensation, frequency support, islanding
- Dynamic cables for floating foundations
- Multi-terminal HVDC grid – where are we?
- Offshore storage in substations?

## **Cost & finance:**

**“What are the costs and what does the industry need to do to secure finance?”**

Topic suggestions:

- What does the industry need to do to secure finance from pension funds & mainstream banks?
- PPAs: other industries investing in wind energy for their power supply
- Private investors
- Financing grid connections
- Input from EWEA/EIB working group on financing offshore wind
- Risk sharing

Of special interest are: Mergers and acquisitions (M&A) – what competitive advantages has the industry gained from recent consolidation?