Moving ahead of the energy curve
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The exciting growth of the wind industry has been accompanied by an increasing number of related events. Whenever you consider education, networking or company visibility, be sure to make the right choices.

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WELCOME MESSAGE
EUROPE’S INDUSTRY GATHERS SPEED

Much of Europe, with its extensive coastlines, has always looked outwards to the rich resources and promise of the sea. Today the seas around Europe are the focus of Europe’s most promising and quickly maturing industry, offshore wind energy. Amsterdam, once a fishing village which became one of the most important ports in the world, is a fitting place for the industry to meet at the European Wind Energy Association OFFSHORE 2011 event.

The huge potential of offshore wind energy is exciting for those of us linked to the industry. It is also an exciting opportunity for investors. EWEA’s new Offshore report, available at the EWEA stand (Hall 9, stand 9130) and the EWEA Publication Point (Hall 11, stand 11680) shows that 142GW of offshore wind capacity – nearly fifty times what is currently installed – is already consented or planned in Europe’s seas, from the Baltic to the Mediterranean. The report also provides an in-depth look at every aspect of the supply chain from cables to port requirements. This is a multi-faceted industry which is gathering speed.

Indeed, the many issues and questions surrounding the sector – from the political to the financial and the scientific – will be part of the discussions between the 7,000 industry representatives, political decision-makers, technical experts and more expected to attend EWEA OFFSHORE 2011. News, photos and videos from the event will be continuously updated on the event website, www.ewea.org/offshore2011.

One of the most crucial discussions will centre on the EU’s recently published draft legislation on electricity infrastructure. In this context EWEA, alongside Europacable and Eurelectric and 15 supporting associations, has launched a statement (see page 62) highlighting the need for a European power grid and functioning single electricity market so that the massive amounts of power that can be produced offshore can be transported to consumers. You can find out more on www.freedomforelectricity.eu and support the statement at the EWEA stand.

EWEA’s new report shows that by 2030, Europe could have 150GW of offshore wind energy capacity, meeting 14% of our power demand, representing €17 billion of investments and providing work for nearly 300,000 people. The 142GW already planned today is proof that this is a realistic and achievable target providing we have a power grid and market which are up to the job. As the industry gathers to do business and exchange news during the next few days, we must bear in mind both the tremendous possibility at our fingertips, and the steps that must be taken so that we can seize it.

I wish you a very successful and stimulating EWEA OFFSHORE 2011.

Arthouros Zervos
President, European Wind Energy Association (EWEA)
CONFERENCE CHAIR FOREWORD

TIME FOR STRONG LEADERSHIP AND ROBUST POLICY

With a build rate of 1GW per year and 4000MW to be installed by the end of 2011, Europe leads the way on offshore wind. We now need to consolidate this leadership position and use it as a platform to drive the growth of renewables over the next decade and beyond. We must not let the current economic climate dampen our ambition. The need to drive the rate of growth was one of the reasons SSE, along with a number of industry colleagues, called for 25% internal emission reduction targets by 2020. Unlike the North Sea oil and gas industry that is in decline after 50 years, Europe’s political and business leaders have the opportunity to build a sustainable energy industry that will outlive oil and gas, providing benefits for many generations into the future.

Establishing Europe’s 2020 goals, backed up by robust national action plans, has provided the strong political leadership and confidence that the industry needs to build and invest in the supply chain. Our ambition and optimism about the transformation of energy provision across Europe must not end when these targets are met, and they certainly shouldn’t end in 2020 when the policy gap between current targets and 2050 becomes a chasm.

We need robust, transparent policy beyond 2020 that will provide the certainty for investors to commit capital to our offshore projects, and to invest in networks and supply chain. For an industry that is truly sustainable in every sense, we need the right target for the right year. I would therefore take this opportunity to challenge our political leaders to look beyond 2020 and set a legally binding target for Europe for renewable energy for 2030.

The offshore wind industry has enjoyed a 25% annual growth rate to date. If we are to maintain this, we have significant obstacles to overcome.

We need to put in place the regulatory and planning regimes that will allow us to build out the networks with confidence. There needs to be an increase in R&D expenditure to push down the cost of turbines and increase their efficiency and reliability. We need access to finance that will enable us to build our capacity to reduce bottlenecks in the supply chain, such as subsea cables and specialised vessels.

We have the technical capability to address these challenges, and European utilities and suppliers are also up for the challenge. We need the political support to establish the right binding targets in the right timeframe to provide the foundation for success.

The prize for Europe is immense. In the current economic climate, employment is moving to the top of the agenda. The offshore wind sector alone is forecast to employ over 150,000 people by 2020. With the right political framework, that could double to 300,000 by 2030. It brings with it the opportunity to develop our ports that have been in decline for years. By clustering renewable manufacturing technologies, financed through public and private initiatives, ports will be rejuvenated as new technology manufacturing centres rather than property development sites.

Most importantly, we will make a significant contribution to one of this century’s key challenges – the provision of clean sustainable energy that will provide energy security to Europe for decades to come. I challenge all attending this conference to provide the leadership necessary to make this happen.

Ian Marchant
Chief Executive Officer, SSE Renewables, United Kingdom and EWEA OFFSHORE 2011 Conference Chair
Don’t miss out at EWEA OFFSHORE 2011

The ‘Free Movement of Electricity’ campaign
As the European Union debates the ‘infrastructure package’ on financing and permitting Europe’s grids in the next few months, EWEA and the other supporters of the ‘Free Movement of Electricity’ statement (opposite) are highlighting the urgent need for a single internal power market and a network infrastructure to facilitate it.

Support the campaign at EWEA OFFSHORE 2011 at the EWEA stand, 9130, in Hall 9.
More information: www.freedomforelectricity.eu

New publications at EWEA OFFSHORE 2011 – discover the latest research
On the first day of EWEA OFFSHORE 2011, EWEA is launching its major new offshore report. The report shows that 141 GW of offshore wind energy capacity is planned in Europe – around 50 times what is currently installed. That is huge investor interest.

On the second day of EWEA OFFSHORE 2011, the latest issue of EWEA’s magazine, Wind Directions, will be published. It contains a special feature on offshore wind energy and on substructures. It also features interviews with the Dutch Energy Minister and EU Climate Commissioner Hedegaard.

Pick up a copy of the report on Tuesday, and of Wind Directions on Wednesday, at the EWEA stand (Stand 9130 in Hall 9) and the EWEA Publication Point (Stand 11680 in Hall 11).

Keep up at EWEA OFFSHORE 2011
There’s a lot going on at EWEA OFFSHORE 2011 and it’s impossible to be in two places at once! Keep up to speed with the latest news, blog posts, photos and videos from the sessions and the exhibition on www.ewea.org/offshore2011

You can also follow what’s going on – and who’s commenting on what – on EWEA’s Facebook page – go to www.ewea.org/fb
CONFERENCE
Conference sessions, Quick Fire session, poster presentations, pre-event seminar and workshops
CONFERENCE PROGRAMME
TUESDAY 29 NOVEMBER

08:00 – 10:00 REGISTRATION + WELCOME COFFEE
Welcome coffee will be served in the Poster Area

10:00 – 12:00 OPENING SESSION
PLENARY AND PANEL SESSIONS
ROOM: AUDITORIUM

Leading political and industry figures will address the question of whether the European offshore wind power industry will replicate the success of onshore wind technology, in terms of market deployment, cost-competitiveness and technology maturity? Through keynote speeches and moderated debates, speakers will consider the prospects for growth and discuss which facilitators are needed from Governments, the European Union, industry itself and the financial sector.

WELCOME MESSAGE
Jaap Bond
Vice-Governor of the Province of Noord Holland

INTRODUCTION TO EWEA OFFSHORE 2011
Ian Marchant
Chief Executive Officer, SSE Renewables, United Kingdom and EWEA OFFSHORE 2011 Conference Chair

KEYNOTE SPEECHES
Gunther Oettinger
European Commissioner for Energy (video message)

Arthouros Zervos
President, European Wind Energy Association

Fergus Ewing
Minister for Energy, Enterprise and Tourism, Scotland

PANEL DEBATE – SPEAKERS
MODERATOR
Alex Puissant
Journalist and independent conference moderator

Jean Huby
Chief Executive Officer, AREVA Wind, Germany

Christian Kjaer
Chief Executive Officer, European Wind Energy Association

Jan Kjaersgaard
Chief Executive Officer (EMEA), Siemens Wind Power, Denmark

Poul Nyrup Rasmussen
President, Lindoe Offshore Renewable Centre, Denmark

Eddie O’Connor
Chief Executive Officer, Mainstream Renewable Power, Ireland

Anders Søe-Jensen
President, Vestas Offshore, Denmark

Mike Winkel
Chief Executive Officer, E.ON Climate and Renewables, Germany

JOIN IN! SMS Q&A available during all sessions.
12:00 – 14:00 PRESS CONFERENCE + LUNCH
Lunch will be served in catering areas, Halls 8 and 11

14:00 – 15:30 TECHNOLOGY CHOICES (PANEL)
ROOM: AUDITORIUM

A key issue for many in the offshore sector is which technologies will enable the European offshore wind power industry to replicate the success of onshore wind energy over the coming decade? Several concepts currently exist, but how do they compare in terms of quality, reliability, supply and cost? This panel session will focus on a major issue for the offshore industry, namely the use of direct drive technology versus gearboxes, and the bearing this choice has upon turbine weight, cost and maintenance.

PANEL DEBATE – SPEAKERS

MODERATOR
Hanne May
Editor in Chief, new energy magazine

Stefan Lammens
Chief Sales and Marketing Officer, Hansen Transmissions, Belgium

Henrik Stiesdal
Chief Technology Officer, Siemens Wind Power, Denmark

Antonio de la Torre Quiralte
Product Development Director, Gamesa, Spain

Finn Strøm Madsen
President, Vestas Technology R&D, Denmark

Frank Zimmermann
President Offshore, REpower, Germany

15:30 – 16:00 COFFEE BREAK
Coffee break areas, Halls 9, 10 and 11
CONFERENCE PROGRAMME
TUESDAY 29 NOVEMBER

16:00 – 17:30 BREAKING DOWN THE BARRIERS TO AN OFFSHORE SUPERGRID

ROOM: FORUM

LEAD CHAIR
Adam Bruce
Mainstream Renewable Power, United Kingdom

CO-CHAIR
Ana Aguado
Friends of the Supergrid (FOSG), Belgium

In this session a panel of industry experts will identify the main barriers to the delivery of a large-scale meshed electricity network in the EU, looking at the regulatory and market structures that will be needed to deliver multilateral interconnection. With significant recent advances in the technology and supply chain to deliver the Supergrid, this session will concentrate on the political and regulatory developments that are planned or required for delivery.

OPENING PRESENTATIONS

OPTIONS FOR EUROPE: EU POWER MARKET DESIGN TO SUPPORT OFFSHORE GRID PLANNING AND OPERATIONS
Karsten Neuhoff
Climate Policy Initiative/DIW Berlin, Germany

DEVELOPING A NEW EUROPEAN REGULATORY REGIME FOR OFFSHORE TRANSMISSION INFRASTRUCTURE
Olivia Woolley
University of Groningen, The Netherlands

PANEL DEBATE

Alison Kay
National Grid, United Kingdom

Teun Van Bier
ENTSO E WG North Sea, The Netherlands

Fay Geitona
Agency for the Cooperation of Energy Regulators (ACER)

Gus Schellekens
PricewaterhouseCoopers, United Kingdom

16:00 – 17:30 SUPPORT STRUCTURE CONCEPTS

ROOM: AUDITORIUM

LEAD CHAIR
Christian Nath
GL Renewables Certification, Germany

CO-CHAIR
Allan MacAskill
MacAskill Associates, United Kingdom

This session will offer insights into the different support structure concepts for deep water. The session will provide an in-depth view into various concepts for deep water offshore substructures and the comparison of results for a tripod structure in 30m water depth. There will be three presentations on foundation designs: one for a floating solution, one on gravity foundations and a third on jackets and monopiles, all for deep water. The fourth presentation will be on the comparison of design analysis and measured data for the tripod foundation at the German test site Alpha Ventus.

SPEAKERS

FLOATING WIND TURBINES AND THEIR ASSOCIATED RISKS
Charles Briggs
SgurrEnergy Ltd, United Kingdom

CONCRETE GRAVITY FOUNDATIONS FOR DEEPER WATER: GIVING THE INDUSTRY MORE CHOICE
Gordon Jackson
Arup, United Kingdom

FIRST EVALUATION AND VERIFICATION OF MEASUREMENT DATA, OF THE TRIPOD SUPPORT STRUCTURE AT THE ‘ALPHA VENTUS’ WIND FARM
Jan Quappen
University of Stuttgart, Germany

ADVANCED DESIGN METHODS FOR MONOPILES OF LARGE WIND TURBINES IN DEEPER WATERS
Marc Seidel
REpower Systems SE, Germany
Understanding the impact of external conditions, i.e. wind and waves, in offshore conditions requires a different approach to those applied to onshore sites. However, in recent years, tremendous progress has been made in the development and application of remote sensing techniques. Ranges have been extended and ground-based systems have been modified for installation on nacelles and buoys. A large-scale integration of such systems and techniques could lead to a quantum leap when it comes to quantifying and qualifying the overall wind picture. Presentations within this session will share the latest developments and findings relating to the development and use of such technologies.

**SPEAKERS**

**OCEAN RADAR FOR REAL-TIME CURRENT AND WAVE MEASUREMENTS AND IMPROVED FORECASTS**

Cédric Taillandier  
Actimar, France

**NACELLE LIDAR POWER PERFORMANCE MEASUREMENT IN THE CONTEXT OF THE IEC 61400-12-1 STANDARD**

Rozenn Wagner  
Risø DTU, Denmark

**VERTICAL WIND SHEAR MEASURED WITH A NACELLE-BASED LIDAR SYSTEM AND ITS IMPACT ON MECHANICAL LOADS**

Oliver Bischoff  
University of Stuttgart, Germany

**VALIDATED MEASUREMENTS OF A FLOATING LIDAR DEVICE BASED ON MECHANICAL STABILIZATION AND SOFTWARE CORRECTION**

Thomas Duffey  
3E, Belgium

**NORSEWIND: THE STORY SO FAR**

Andrew Oldroyd  
Oldbaum Services Limited, United Kingdom

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**17:00 – 18:00 SIEMENS STAND PARTY**

Siemens stand (Hall 10, stand 10111)  
See page 52 for details

**19:00 – 21:30 OPENING RECEPTION**

Beurs Van Berlage, Damrak 243, 1012 ZJ Amsterdam  
See page 52 for details
CONFERENCE PROGRAMME
WEDNESDAY 30 NOVEMBER

08:00 – 09:00 REGISTRATION + WELCOME COFFEE
Welcome coffee will be served in the Poster Area

09:00 – 10:30 OFFSHORE GRID TECHNOLOGY
ROOM: FORUM

LEAD CHAIR
Michael Nørtoft Frydensbjerg
Siemens Wind Power, Denmark

CO-CHAIR
Peter Jørgensen
Energinet.dk, Denmark

This session will examine the technical aspects and methods related to the offshore grid and the connection of offshore wind power plants. Presentations will deal with the connection of wind turbines to an oil platform in a small isolated offshore system and also focus on the connection of a large-scale offshore wind power plant to the grid. The session will also examine HV/DC and offshore cabling technologies, and consider how they can be used for wind power plant connections. Finally, the session will look at the grid code requirements for offshore wind power plants and discuss how they differ from onshore requirements.

SPEAKERS
THREE CASE STUDIES OF OFFSHORE WIND FARMS RATED AT 20MW, 100MW AND 1000MW INTEGRATION WITH OIL AND GAS PLATFORMS
Wei He and Jorun Marvik
Statoil ASA & SINTEF Energy Research, Norway

NETWORK CODE REQUIREMENTS FOR CONNECTION OF OFFSHORE WIND FARMS
Torsten Haase
50Hertz Transmission, Germany

DC GRIDS FOR INTEGRATION OF LARGE SCALE WIND POWER
Nicolaos Cutululis
Risø DTU, Denmark

OUT OF TROUBLED WATERS – GETTING A GRIP ON OFFSHORE CABELING
Thomas Boehme
Det Norske Veritas (DNV), United Kingdom

09:00 – 10:30 NEW BIG TURBINE CONCEPTS
ROOM: AUDITORIUM

LEAD CHAIR
Jan van der Tempel
TU Delft, The Netherlands

CO-CHAIR
Athanasia Arapogianni
European Wind Energy Association (EWEA), Belgium

Offshore wind developments tend to choose the newest, biggest turbines. Now that 5MW is the standard, turbine manufacturers are preparing the launch of larger systems, aiming to reach 10MW and beyond. In this session, 5 turbine manufacturers will give an insight on their most daring plans. In a short, 7 minute pitch, each manufacturer will promote their concept, with a focus on technical detail.

An expert panel of developers, scientists, designers and certifiers will use a first round of questions to clarify issues and unearth further details. In the second half of the session, the chairs will moderate a discussion between the manufacturers, the expert panel and the audience. Before and after this discussion, the audience will be asked to vote for their most promising turbine solution.

SPEAKERS
BIG IS BEAUTIFUL ... WHY LARGER WIND TURBINES IMPROVE COST OF ENERGY FOR OFFSHORE WIND
Anders Bach Andersen
Vestas Wind Systems, Denmark

EXTRA LIGHT ROTORS WITH HIGH AERODYNAMIC EFFICIENCY
Mario Jimenez de Lago
Gamesa Innovation & Technology, Spain

PERMANENT MAGNET GENERATOR DESIGN FOR OFFSHORE APPLICATIONS
César Muñiz-Casais
Alstom Wind, Spain

NEW 6.0MW DIRECT DRIVE OFFSHORE WIND TURBINE ESPECIALLY SUITABLE FOR LARGE OFFSHORE WIND FARMS
Jesper Moeller
Siemens Wind Power, Denmark

FROM 1ST TO EFFICIENCY GENERATION: DEMANDS AND EXPECTATIONS ON OFFSHORE WIND TURBINES
Morten Schaap-Kristensen
Nordex Energy GmbH, Germany

JOIN IN! SMS Q&A available during all sessions.
09:00 – 10:30 HEALTH AND SAFETY

ROOM: ELICIUM

CO-CHAIRS

Johannes Schiel
Verband Deutscher Maschinen- und Anlagenbau (VDMA), Germany

Garth Greyling
Siemens Wind Power, Denmark

This session will seek to answer the main health and safety concerns associated with offshore wind deployment as the market grows and spreads to diverse locations across Europe. Best practices, lessons learned and transfer of knowledge from the mature markets will be discussed with the aim of ensuring prevention of environmental damage, tackling safety challenges and anticipating accidents.

This session will also inform developers about the need for marine coordination systems: management of vessels and personnel, and finding effective solutions to meet increasing demand whilst ensuring sufficient safety requirements are in place. Finally, historical key performance indicators will form the basis of learning points relating to risk management throughout an offshore project’s lifetime (namely during design, construction and O&M stages).

SPEAKERS

PRESENTATION OF GLOBAL WIND ORGANISATION (GWO)
Lars Odby
Vestas Wind Systems A/S, Denmark

SAFETY MANAGEMENT IN OFFSHORE WIND FARM PROJECTS
Gundula Fischer
GL Garrad Hassan Deutschland GmbH, Germany

OFFSHORE WINDPARK EGMOND AAN ZEE: 6 YEARS ACCIDENT-FREE
Alan Chivers
Project Management Support Services Limited (PMSS), United Kingdom

MARINE COORDINATION – MARITIME SAFETY AND HEALTH AND SAFETY
Peter Eade
VisSim AS, Norway

RISK BASED HEALTH AND SAFETY SYSTEM FOR OFFSHORE WIND FARMS, LESSONS LEARNED
Charlotte Norén
ABS Consulting, United Kingdom

SAFETY IN OFFSHORE ENGINEERING – AN ACADEMIC COURSE COVERING SAFETY IN OFFSHORE WIND
David Cerda Salzmann
Delft University of Technology, The Netherlands

10:30 – 11:00 COFFEE BREAK

Coffee break areas, Halls 9, 10 and 11

THEIR PRESENTATION IN YOUR HANDS! The new Quick Fire session gives delegates the power to vote for what they want to hear about.

Turn over to find out more...
The Quick Fire session is a new kind of session for EWEA OFFSHORE 2011 which is designed to give delegates the opportunity to preview a number of ideas and choose those they want to hear more about. Each presenter will give a brief one-minute, one-slide summary of their presentation, and the audience will then vote for the four they would like to hear in full. The 17 presentations are drawn from the Hardware, Logistics and Wind Farm Experience tracks, where many high quality abstracts were received that we were not able to accommodate in the main programme. This session gives those presenters an opportunity to get their subject on stage and compete for a full presentation slot, and will provide an opportunity for networking between the speakers and delegates.
CONFERENCE PROGRAMME
WEDNESDAY 30 NOVEMBER

MODERATORS
Jan van de Tempel
Ampelmann/TU Delft, The Netherlands
Bruce Douglas
3E, Belgium

SPEAKERS
POWER PERFORMANCE ASSESSMENT USING LIDAR
Charles Briggs
SgurrEnergy Ltd, United Kingdom

OPTIMISED DESIGN OF MULTI-MEMBER SUPPORT
STRUCTURES FOR OFFSHORE WIND TURBINES
Tim Camp
GL Garrad Hassan, United Kingdom

AN INDUSTRY PERSPECTIVE ON FOUNDATION
DESIGN FOR THE OFFSHORE WIND SECTOR
Lisa Kirwan
University College Dublin, Ireland

MEASURING AND MODELLING PITCH BEARING
DEFORMATION
Wouter Engels
ECN, The Netherlands

TILT: SMART LOGISTICS TOOL FOR OFFSHORE
WIND FARM INSTALLATION
Jelte Kymmel
KCI, The Netherlands

ARTIFICIAL NEURAL NETWORKS FOR SCADA
DATA BASED LOAD RECONSTRUCTION
Claudia Hofemann
TU Delft, The Netherlands

STATISTICAL ANALYSIS AND COMPARISON
OF HARMONICS MEASURED IN OFFSHORE
WIND FARMS
Łukasz Kocewiak
DONG Energy, Denmark

CONCEPTUAL DESIGN OF A DOT GENERATOR STATION
Dimitris Michailidis
TU Delft, The Netherlands

ANALYSIS OF PITCH GEAR DETERIORATION
USING INDICATORS
Jannie Nielsen
Aalborg University, Denmark

THE SELF INSTALLING WIND TURBINE (SIWT):
COMPLETE WIND TURBINE INSTALLATION USING
STANDARD MARINE EQUIPMENT
Mark Riemers
SPT Offshore, The Netherlands

SIMULATION SOFTWARE ADDS A BIG BOOST IN
ACCURACY TO WIND FARM LOGISTICS PLANNING
Erica Simmons
Siemens PLM Software, United States

of America

ENERGY CONSIDERATIONS FOR WIND TURBINES
WITH HYDRAULIC TRANSMISSION SYSTEMS
Bjørn Skaare
Statoil ASA, Norway

INVESTIGATIONS ON SCOUR AT TRIPOD FOUNDATION
STRUCTURES IN THE GERMAN OFFSHORE TEST SITE
ALPHA VENTUS
Arne Stahlmann
Leibniz University Hanover, Germany

IMPROVED PLANNING FOR OFFSHORE WIND
FARM CONSTRUCTION
Nico Stolk
Ecofys, The Netherlands

FUTURE OFFSHORE WIND INSTALLATION TECHNIQUES
WITHOUT UNDER WATER NOISE
Sytske van den Akker
Stichting De Noordzee, The Netherlands

RESOURCE OPTIMIZATION TOOL FOR OPERATIONS
AND MAINTENANCE FOR OFFSHORE WIND FARMS
Cassandra van den Berg
Siemens Wind Power, Denmark

FEA OF GROUTED CONNECTIONS – STATUS REPORT
ON THE TECHNICAL APPROVAL PROCEDURE FOR
CERTIFICATION OF GROUTED CONNECTIONS
Marc Mittelstaedt
Germanischer Lloyd Industrial Services GmbH, Germany

More details on page 47.
In recent years, wind turbine technology has developed towards a real offshore wind power penetration. Major engineering obstacles have been overcome, and now a more specific and detailed spatial planning of the offshore resource is required to support the anticipated increase of offshore wind power production. This session will address current trends in offshore resource assessment on a variety of scales, from mesoscale modelling being used to assess the resource of large offshore areas to site-specific remote measurement technologies.

Speakers will provide their experiences of the extent to which the offshore resource can be estimated using atmospheric modelling downscaling, and how the influence of complex phenomena like wakes or waves upon future wind production is being estimate using cutting-edge techniques. This session should appeal to a technical audience with any interest in current resource and siting challenges.

**SPEAKERS**

- **WINDS IN THE SOUTH BALTIC SEA – WORKING TOWARDS A WIND ATLAS**
  - Alfredo Peña
  - Risø DTU, Denmark

- **OCEAN WAVE EFFECTS ON WIND POWER PRODUCTION**
  - Alastair Jenkins
  - Uni Research, Norway

- **EVALUATION OF TWO NOVEL WAKE MODELS FOR INTRA- AND INTER-WINDFARM WAKE EFFECTS OFFSHORE**
  - Jorge Garza
  - DONG Energy, Denmark

- **FLUX-PROFILE CHARACTERIZATION OF THE OFFSHORE ABL FOR THE PARAMETERIZATION OF CFD MODELS**
  - Javier Sanz Rodrigo
  - National Renewable Energy Centre of Spain (CENER), Spain
Connecting Europe’s huge offshore wind power potential in a timely and cost-effective manner to the onshore power system is a major precondition for meeting Europe’s energy policy goals. Expected benefits such as improved interconnections between different electricity markets and connecting to the Norwegian hydro reservoirs reinforce the business case for a European offshore grid. How this can contribute to making an EU offshore grid a reality is introduced by 4 presentations.

The session brings together the results of two different techno-economic study approaches to a staged offshore grid development: the IEE OffshoreGrid project and the Friends of the Supergrid Feasibility Study Phase 1. Furthermore, the possibilities and limitations of better integrating the Norwegian hydro storage in the European power supply are investigated. The case of the South is highlighted in a presentation that explores needs, options and challenges for offshore transmission and connection of wind power in the Mediterranean area.

12:30 – 14:00 LUNCH
Catering areas, Halls 8 and 11
14:00 – 15:30 EU OFFSHORE WIND: RACE OR HARMONY?

**ROOM: FORUM**

**LEAD CHAIR**
Stephanie Ropenus  
German Wind Energy Association (BWE), Germany

**CO-CHAIR**
Jacopo Moccia  
European Wind Energy Association (EWEA), Belgium

Offshore wind energy has the potential to significantly contribute to the objectives of European energy policy, namely competitiveness, sustainability and security of supply. EU Member States apply different support schemes to promote the deployment of offshore wind in their waters. The type of support scheme and the level of support are crucial for investment certainty and for the attractiveness of national offshore wind markets for project developers.

This session seeks to explore competing offshore wind programmes and support policies, ranging from feed-in tariffs and tender schemes to green certificate markets. Presentations of practical country examples from France, Germany and the United Kingdom will illustrate lessons learned and examine the current situation. An overall discussion will evolve around whether we are striving for harmony or running a race in the development of offshore wind policies across Europe.

**SPEAKERS**
- **THE FRENCH CALL FOR TENDER: A WAY TO FACILITATE THE DEVELOPMENT OF OFFSHORE WIND FARMS?**  
  Fabrice Cassin  
  CGR LEGAL, France

- **JOINT SUPPORT SCHEMES AND EFFICIENT OFFSHORE INVESTMENT: MARKET AND TRANSMISSION CONNECTION BARRIERS AND SOLUTIONS**  
  Sascha Thorsten Schroeder  
  Risø DTU, Denmark

- **HOW IS GOVERNMENT POLICY GOING TO ENSURE FUTURE OFFSHORE WIND ENERGY TARGETS ARE ACHIEVED?**  
  Laure Kaelble  
  Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany

- **FINANCIAL AND NON-FINANCIAL SUPPORT POLICIES FOR OFFSHORE WIND DEPLOYMENT IN THE UK**  
  Duarte Figueira  
  The Department of Energy and Climate Change (DECC), United Kingdom

14:00 – 15:30 HOT TOPICS IN OFFSHORE TURBINES

**ROOM: AUDITORIUM**

**LEAD CHAIR**
Thomas Buhl  
Risø DTU, Denmark

**CO-CHAIR**
Vincent Schellings  
GE Power & Water, Germany

This session will cover the newest trends in offshore wind turbines. Bringing down the cost of energy for offshore wind turbine installations is an aim for the entire wind industry. This can be achieved through a variety of means, including upscaling, improved reliability and new concepts – all of which are covered in this session. Speakers will investigate flutter of large wind turbines, an instability that can become critical in upscaling. They will also examine improvements in drive train reliability and introduce innovative new concepts to the industry, by looking at a two bladed concept with partial pitch.

**SPEAKERS**
- **DESIGN OF RELIABLE DRIVE TRAINS FOR LARGE OFFSHORE WIND TURBINES**  
  Andreas Vath  
  Bosch Rexroth, Germany

- **LOAD REDUCTIONS FOR A TWO-BLADED UPWIND TURBINE WITH PARTIAL PITCH**  
  Taeseong Kim  
  Risø DTU, Denmark

- **POWER SYSTEM ARCHITECTURE: FINDING THE BEST SOLUTION FOR A 5MW OFFSHORE WIND TURBINE**  
  Rain Byars  
  Nextwind Inc., United States of America

- **PREDICTION OF FLUTTER SPEED ON A 10MW WIND TURBINE**  
  Lars Freyd  
  Norwegian University of Science and Technology, Norway
14:00 – 15:30 KEY LOGISTICS CHALLENGES AND INNOVATIVE SOLUTIONS

ROOM: ELICUIUM

LEAD CHAIR
Morten B. Keller
MAKE Consulting, Denmark

CO-CHAIR
Kaj Lindvig
A2SEA, Denmark

This session will discuss the key logistics challenges related to offshore wind project installations and aim to provide the audience with suggestions on how to overcome them. As the offshore industry grows, new challenges will appear, such as port availability and the installation of both wind turbines and foundations. The session will include a 360-degree view on the logistics challenges that the industry will meet in the coming 3-5 years. This will be followed by a discussion of each key issue by leading industry professionals.

SPEAKERS

THE CHALLENGES PRESENTED TO SUPPLY CHAIN TO MEET FUTURE DEMAND OF OFFSHORE WIND POWER PLANT DEVELOPMENT ACROSS EUROPE
Thomas Karst
MAKE Consulting, Denmark

INNOVATIVE LOGISTICAL CONCEPTS FOR OFFSHORE WIND PARKS BY NETWORKING OF PORT LOCATIONS
Frank Schnabel
Brunsbüttel Ports GmbH, Germany

MATURING THE INSTALLATION SETUP FOR THE EUROPEAN OFFSHORE MARKET
Henrik Fomsgaard Lynderup
Siemens Wind Power, Denmark

ACCELERATING FOUNDATION INSTALLATION, THE REAL FOCUS POINT FOR OFFSHORE WIND LOGISTICS
Edwin van de Brug
Ballast Nedam Offshore, The Netherlands

15:30 – 16:00 COFFEE BREAK

Coffee break areas, Halls 9, 10 and 11

SPECIAL FILM PREVIEW – CAPE SPIN: AN AMERICAN POWER STRUGGLE

Join the producers of Cape Spin: An American Power Struggle (www.capespin.com), for a special EWEA OFFSHORE 2011 sneak preview on Wednesday 30 November 2011 at 17:30 in the Forum Room. A true game-changer for the offshore wind industry, Cape Spin chronicles the saga of the Cape Wind Project, America’s first proposed offshore wind farm and one of the decade’s most confounding political battles.

Before the screening, Neil Jeffery from Renewable World will give a brief talk on Mapping out successful corporate responsibility for the renewable energy industry. The renewable energy industry is quickly developing, growing and maturing – but success also brings new challenges. As stakeholders hold the industry to account in increasingly stringent ways, it is crucial for the wind industry to develop a professional approach and manage the social dimension of running a successful business.

After the screening the filmmakers will hold court with Jim Gordon, the president of Cape Wind Associates, and several other experts to explore the lessons of Cape Wind and what it takes to develop large-scale offshore wind along America’s densely populated coastlines.

This special screening takes place right after the session “Not in my back water!: Public planning and social acceptance” in the Forum Room (see overleaf for session details).

More details on page 47.
CONFERENCE PROGRAMME
WEDNESDAY 30 NOVEMBER

16:00 – 17:30 NOT IN MY BACK WATER!: PUBLIC PLANNING AND SOCIAL ACCEPTANCE
ROOM: FORUM

LEAD CHAIR
Anne-Bénédicte Genachte
European Wind Energy Association (EWEA)

Successful deployment of large-scale offshore wind in the coming years requires additional preparation and adaptation of the current planning framework, in order to ensure an optimum integration of projects in the marine environment. Successful management of the sea space – ensuring that offshore wind energy proposals are properly considered within the context of the many other interests and claims of space, including environmental concerns – will be crucial to ensuring broad social acceptance and removing barriers to offshore wind development. This session will exchange best practices in marine spatial planning, explore the interactions with other sea users, and make the link with public acceptance of offshore wind farms and consequent risk mitigation.

SPEAKERS
IMPROVING THE PLANNING FRAMEWORK FOR OFFSHORE WIND ENERGY IN EUROPE – RESULTS FROM THE SEANERGY 2020 PROJECT
Karina Veum
Energy Research Center of the Netherlands (ECN), The Netherlands

MAKING BLUE ENERGY GREEN – BIODIVERSITY RISKS AND OPPORTUNITIES OF OFFSHORE WIND FARMS
Sabrina Luijten
E.ON, Germany

PUBLIC ACCEPTANCE: DOES PERCEIVED FAIRNESS PLAY A ROLE?
Jeremy Firestone
University of Delaware, United States of America

EFFECTIVE MARITIME SPATIAL PLANNING – CASE STUDY OF GERMANY
Andreas Wagner
Stiftung Offshore-Windenergie, Germany

MARITIME SPATIAL PLANNING IN THE EU
Haltze Siemers
European Commission, Belgium

16:00 – 17:30 OPERATION-BASED LESSONS LEARNED TO BRING DOWN COSTS OF ENERGY
ROOM: AUDITORIUM

LEAD CHAIR
Heiko Ross
Windreich, Germany

CO-CHAIR
Erwin Coolen
OutSmart, The Netherlands

After the realisation of offshore wind projects in Denmark, Ireland, UK, Belgium, the Netherlands and Germany, it is a timely moment to discuss the operational experience gained within those projects and elaborate on how to reduce the cost of developing offshore wind.

Leading experts in the sector will provide delegates with an insight into how the design of turbines and foundations, grid layouts, logistics, installation and operation influence the total cost of offshore wind, and how further projects can be improved to realise the common objective: driving down the cost of offshore wind energy. Participants will be able to voice their opinion on the results presented and share their own experiences during the session.

SPEAKERS
EXPERIENCE IS A HARD TEACHER; PAYING FOR THE SAME MISTAKE TWICE IS OPTIONAL...
Bernard van Hemert
2EQ, The Netherlands

MUST-WIN BATTLES IN OFFSHORE WIND OPERATIONS TO SUCCEED IN 2020
Lars Thaaning Pedersen
DONG Energy, Denmark

THE OFFSHORE MARKET – LEARNINGS AND CURRENT CHALLENGES
Georg Friedrichs
Vattenfall Europe Windkraft GmbH, Germany

LESSONS LEARNT OF 5 YEARS OPERATION 108MW OFF SHORE WINDFARM EGMOND AAN ZEE
Bart Hoefakker
NoordzeeWind, The Netherlands
### 16:00 – 17:30 HOT TOPICS IN SUPPORT STRUCTURE DESIGN

**LEAD CHAIR**
Henrik Carstens  
Ramboll, Denmark

**CO-CHAIR**
Marc Seidel  
REpower Systems SE, Germany

This session will focus on some of the “hot” technical issues in relation to support structure design and how to deal with them. There will be two presentations related to the recent challenges with grouted connections, one describing how a developer of a major offshore wind farm dealt with the challenge in an ongoing project when the problem surfaced and one presentation offering an alternative connection method instead of the grouted connection. Likewise, there will be two soil centric presentations, one focusing on the cyclic behaviour of axially loaded piles and one focusing on quantification of the soil damping for a monopile foundation from actual measurements. An increase in the actual damping compared to the value allowed by the standards today might help to push the monopile into deeper waters or make it feasible for the next generation of multi-megawatt turbines.

**SPEAKERS**

**THE FUTURE OF MONOPILE GROUTED CONNECTIONS IN OFFSHORE WIND FARMS – A CLIENT’S PERSPECTIVE**  
Julian Garnsey  
RWE Innogy, United Kingdom

**SLIP JOINT, SOLVING THE GROUT PROBLEM**  
Jan van der Tempel  
TU Delft, The Netherlands

**ANALYSIS OF AXIAL-CYCLIC LOADED PILES FROM THE CERTIFIER’S VIEW**  
Marc Mittelstaedt  
Germanischer Lloyd Industrial Services GmbH, Germany

**SOIL EFFECT ON THE VIBRATIONAL DAMPING OF A MONOPILE BASED OFFSHORE WIND TURBINE**  
Willem Geert Versteijlen  
TU Delft & Siemens Wind Power, The Netherlands

### 17:30 – 19:00 POSTER SESSION

**Poster Area**

Hundreds of poster presentations are available for viewing throughout the event in the poster area. This dedicated poster session is an opportunity for all delegates to meet with the poster presenters and discuss the presentations in more detail.

See page 24 for details

### 17:30 – 19:00 EXHIBITION RECEPTION

**Exhibition Halls 9, 10 and 11**

See page 53 for details

### 17:30 – 19:00 SPECIAL FILM PREVIEW: Cape Spin: An American Power Struggle

**Forum**

See page 17 for details

### 19:30 – 23:00 CONFERENCE DINNER

Het Scheepvaartmuseum, Kattenburgerplein 1, 1018 KK Amsterdam

See page 53 for details

More details on page 47.
CONFERENCE PROGRAMME
THURSDAY 1 DECEMBER

08:00 – 09:00 REGISTRATION + WELCOME COFFEE
Welcome coffee will be served in the Poster Area

09:00 – 10:30 SHOW ME THE MONEY – HOW TO RAISE CAPITAL FOR OFFSHORE WIND
THE SOFT SECTOR AND HARD CASH
ROOM: FORUM
LEAD CHAIR
Mortimer Menzel
Augusta & Co, United Kingdom

CO-CHAIR
Justin Wilkes
European Wind Energy Association (EWEA), Belgium

How do the private capital markets view offshore wind in these turbulent times? This session will provide a detailed look at both debt and equity for offshore projects in Europe – how to get it, who is lending, who is investing and at what price, and how to put the capital together to achieve success.

SPEAKERS
IS FINANCING OFFSHORE WIND ON A NON-RECOUPABLE BASIS SIMPLY TOO RISKY?
Marc Schmitz
Rabobank International, The Netherlands

Frank Coenen
Belwind, Belgium

DEVELOPMENT IN EKF OFFSHORE WIND POWER FINANCING
Jorgen Kragh
Eksport Kredit Fonden (EKF), Denmark

Sean Klimczak
Blackstone, United Kingdom

PROJECT FINANCE IN OFFSHORE WIND – WHAT ROUTE WILL THE MARKET TAKE?
Jérôme Guillet
Green Giraffe Energy Bankers, France

09:00 – 10:30 NEXT GENERATION OF DEMONSTRATION SITES
WIND FARM EXPERIENCE, LESSONS LEARNED AND WHAT NOT TO DO
ROOM: AUDITORIUM
LEAD CHAIR
Jos Beurskens
Energy Research Center of the Netherlands (ECN), The Netherlands

CO-CHAIR
Steffen Schleicher
WAB Windenergie Agentur Bremerhaven/ Bremen e.V., Germany

Offshore wind energy projects are not without risks, and the most important risks are technology-related. The conditions of the extremely hostile environment in which offshore wind turbines have to operate cannot be simulated in the laboratory or on land-based test sites. Operational verification can also be performed to reduce the technical risks, testing turbines under representative external conditions on demonstration sites before deployment on a large scale. During this session a number of offshore test sites will be presented and the usefulness of these facilities will be critically reviewed.

SPEAKERS
FLOW: DUTCH R&D FOR OFFSHORE WIND COST PRICE REDUCTION
Ernst van Zuijlen
FLOW, The Netherlands

Gareth Craft
Crown Estate, United Kingdom

NAREC: THE UK’S TRANSLATIONAL RESEARCH AND DEMONSTRATION FACILITY
Andrew Mill
National Renewable Energy Centre (NAREC), United Kingdom

RAVE AND BEYOND: TEST SITES OR TESTING AT SITES?
Bernhard Lange
Fraunhofer IWES, Germany

JOIN IN! SMS Q&A available during all sessions.
09:00 – 10:30 OPTIMISING RELIABILITY AND O&M AND KEEPING THEM RUNNING

ROOM: ELICIUIM

LEAD CHAIR
Dolf Elsevier van Griethuysen
Ballast Nedam Offshore, The Netherlands

CO-CHAIR
Giles Hundleby
Ricardo UK Ltd, United Kingdom

High reliability and optimal operations and maintenance are becoming a key success factor for the future development of offshore wind generation. In this session you will hear the latest developments on improving reliability, and substantially cutting the cost of O&M.

Participants will be provided with an overview based on practical experience from multiple wind farms. They will also hear about developments in refining condition monitoring to identify the most critical areas for improvement, as well as developments in design and fabrication of hardware, and for structuring information on OPEX, planning and documentation.

This session will help participants to better understand and control the critical issues in operational costs, to ensure offshore wind farms run more effectively and efficiently.

SPEAKERS

THE IMPORTANCE OF HIGH RELIABILITY AND EFFICIENT O&M AS SEEN FROM A UTILITIES PERSPECTIVE
Bent Johansen
Vattenfall Vindkraft A/S, Denmark

VALUE ADDING REFERENCE SYSTEM FOR FUTURE WIND POWER PLANTS TO THE BENEFIT OF ALL WIND PARK PARTICIPANTS
Ulrik Brandt
DONG Energy, Denmark

DESIGN FOR RELIABILITY
Vincent Schellings
GE Wind Energy, Germany

DRIVETRAIN LIFE MONITORING FOR IMPROVED O&M PLANNING
John Coultate
Romax Technology Ltd, United Kingdom

A PRACTICAL APPROACH TO THE USE OF SCADA DATA FOR OPTIMIZED WIND TURBINE CONDITION BASED MAINTENANCE
Christopher Gray
Uptime Engineering GmbH, Austria

10:30 – 11:00 COFFEE BREAK

Coffee break areas, Halls 9, 10 and 11

More details on page 47.
11:00 – 12:30 REDUCING RISK IN PROJECT DEVELOPMENT

LEAD CHAIR
Geert Palmers
3E, Belgium

CO-CHAIR
Fintan Whelan
Mainstream Renewable Power, Ireland

Developing wind farms offshore generally involves more risk than onshore. This is due to the sizeable funding requirements, extreme marine conditions, logistical and O&M complexities, and the relative immaturity of the sector. As such projects become larger, move further offshore and are deployed in ever deeper waters, the risks become even bigger. This session aims to explore the technical, resource, financial and logistical risks associated with developing offshore wind farms and highlight potential solutions.

SPEAKERS

THE “REAL” CAPITAL EXPENDITURES – HOW VARIOUS RISK EVENTS WILL CHANGE YOUR PROJECT COSTS
Wilhelm Heckmann
GL Garrad Hassan Deutschland GmbH, Germany

OFFSHORE WIND PROJECT RISKS: EXPERIENCE, ASSESSMENT AND REDUCTION
Bart Ummels
BMO Offshore, The Netherlands

OFFSHORE WIND RESOURCE ASSESSMENT TECHNIQUES: THEIR EVOLUTION AND IMPACT ON CONTRACTING AND FINANCING
Liesbet Mijlemans
3E, Belgium

Jens Goesswein
KEMA Consulting, Germany

11:00 – 12:30 LESSONS AND INNOVATIONS APPLIED IN UPCOMING WIND FARMS

LEAD CHAIR
Jakob Lau Holst
Danish Wind Industry Association, Denmark

CO-CHAIR
Gordon Edge
RenewableUK, United Kingdom

Offshore wind is on a steep learning curve to bring down costs of energy. The speakers in this session will show how lessons learned in past offshore wind power plant projects have led to new innovation, and will describe solutions to be implemented in future offshore wind projects.

SPEAKERS

20 YEARS OF EXPERIENCE – WHEN YESTERDAY’S CHALLENGES MAKE WAY FOR TOMORROW’S SOLUTIONS...
Michael Hannibal
Siemens Offshore, Denmark

HOW LESSONS LEARNED IN ABB TURNED INTO ORGANISATIONAL CHANGES, CAPACITY INCREASE AND INNOATIVE DESIGNS FOR LARGE OFFSHORE WIND PROJECTS
Peter Sandeberg
ABB, Sweden

BUILDING BUITENZEE THE CHALLENGES TO OVERCOME REALISING THE NETHERLANDS NEXT AND PERHAPS LAST OFFSHORE WIND FARM
Daniel Brickwell
BARD Holding GmbH, Germany

CONCEPT AND REALIZATION OF GWYNT Y MôR – ONE OF EUROPE’S LARGEST OFFSHORE WIND FARMS
Toby Edmonds
RWE Innogy, United Kingdom
CONFERENCE PROGRAMME  
THURSDAY 1 DECEMBER

11:00 – 12:30 OPTIMISATION OF OPEX, CAPEX AND SAFETY BY LIFE CYCLE LOGISTICS
ROOM: ELICIUM

SPEAKERS
LIFE CYCLE COST AND PROFIT ANALYSIS FOR OPTIMIZATION OF OPERATION AND MAINTENANCE STRATEGIES FOR OFFSHORE WIND FARMS
Francois Besnard  
Chalmers University of Technology, Sweden

UK OFFSHORE WIND EXPERIENCE: PREPARING FOR THE CHALLENGE OF GOING FURTHER OFFSHORE
Donald Brown  
Det Norske Veritas Ltd, United Kingdom

OFFSHORE ACCOMMODATION PLATFORMS – THE SOLUTION FOR OPTIMAL OPERATION AND MAINTENANCE PERFORMANCE?
Michael Andersen  
DONG Energy, Denmark

RISK-BASED OPERATION AND MAINTENANCE FOR OFFSHORE WIND TURBINES
John Dalsgaard Sørensen  
Aalborg University, Denmark

For offshore wind turbines, operation and maintenance costs are substantial, and can be expected to increase when wind farms are placed at deeper water depths and in harsher environments. Wind turbine availability is critically dependent on their inherent reliability and the ability for technicians to quickly, safely and cost-effectively service them in severe environments.

This session will address challenges associated with offshore wind energy development, focusing on maintaining turbine availability at a reasonable cost via innovative marine access, transportation and logistics technologies. Speakers will present and discuss state-of-the-art techniques to optimise OPEX, CAPEX and safety through life cycle logistics, based upon and compared with operator experiences.

12:30 – 14:00 LUNCH
Catering areas, Halls 8 and 11

14:00 EXHIBITION CLOSES
POSTER PRESENTATIONS

POSTER SESSION

Wednesday 30 November  
17:30 – 19:00  
Location: Poster Area

Hundreds of poster presentations are available for viewing throughout the event in the poster area. This dedicated poster session is an opportunity for all delegates to meet with the poster presenters and discuss the presentations in more detail.

Drinks and canapes will be served throughout the poster session.

P0.15 LESSONS LEARNED: HOW TO AVOID COSTLY PROBLEMS WITH YOUR SUBSEA CABLE INSTALLATION AND MAINTENANCE  
Andy Readyhough, Global Marine Systems Limited, United Kingdom

P0.16 MARINE ORDNANCE – A NEW TOOL TO AVOID AN EXPLOSIVE SITUATION  
Huw Powell, Emu Limited, United Kingdom

WIND FARM EXPERIENCE, LESSONS LEARNED AND WHAT NOT TO DO

LESSONS LEARNED I (FROM THE FIRST “DEMO FARMS” 1990-2006)

P0.1 THE OFFSHORE WIND INSTALLATION CHALLENGE AND LESSONS LEARNED  
Tom Verhoeven, Seaway Heavy Lifting, The Netherlands

P0.2 RISING TO THE OFFSHORE CHALLENGE  
Michael Hannibal, Siemens Wind Power, Denmark

P0.3 RISK MANAGEMENT TECHNIQUES FOR OFFSHORE WIND SAFETY CHALLENGES – LESSONS LEARNT FROM OIL AND GAS  
David Fagan, DNV, United Kingdom

LESSONS LEARNED II (THE NEW WIND FARMS, BRILLIANT SOLUTIONS AND STUPID IDEAS 2007-2011)

P0.6 VALIDITY OF INTEGRATED SIMULATION MODELS OF OFFSHORE WIND TURBINES VERIFIED BY “ALPHA VENTUS” MEASUREMENTS  
Jan Quuppen, University Stuttgart, Germany

P0.8 UNITING AGAINST SOLIDARITY: FAST TRACKING CABLE REPAIRS  
James Hunt, Intertek METOC, United Kingdom

P0.9 CONCEPT AND REALIZATION OF NORDSEE OST – GERMANY’S FIRST LARGE-SCALE COMMERCIAL OFFSHORE WIND FARM  
Thierry Aelens, RWE Innogy, Germany

P0.12 LEARNING FROM EXPERIENCES OF THE GERMAN OFFSHORE WIND INDUSTRY  
Johannes Schiel, VDMA, Germany

P0.14 OVER ONE YEAR GERMAN OFFSHORE WIND PARK ALPHA VENTUS – RAVE INSTRUMENTATION AND SENSOR DATA PROCESSING OF AV07  
Thomas Neumann, DEWI GmbH, Germany

P0.17 AVAILABLE, OR NOT AVAILABLE: HOW TO DEFINE, MEASURE AND GUARANTEE THE PERFORMANCE OF OFFSHORE WIND TURBINES  
Jens Goesswein, KEMA Consulting GmbH, Germany

P0.18 WHAT DOES AVAILABILITY REALLY MEAN?  
Frank Wiersma, Ecofys, The Netherlands

RESULTS OF MEASUREMENT CAMPAIGNS

P0.19 MEASURING THE OFFSHORE WIND RESOURCE USING A GROUND-BASED WIND LIDAR  
Wei He, Statoil ASA, Norway

P0.20 FATIGUE LOAD MONITORING FOR A TRIPOD SUPPORT STRUCTURE BASED ON STANDARD WIND TURBINE SIGNALS  
Jan Quuppen, University of Stuttgart, Germany

P0.21 ARTIFICIAL NEURAL NETWORKS FOR SCADA DATA BASED LOAD RECONSTRUCTION  
Claudia Hofemann, TU Delft, The Netherlands

P0.22 APPLICATION OF OPERATIONAL MODAL ANALYSIS METHODS TO MEASURED DATA FROM AN OFFSHORE WIND TURBINE  
Philipp Brosche, Fraunhofer IWES, Germany

P0.23 INVESTIGATIONS ON SCOUR AT TRIPOD FOUNDATION STRUCTURES IN THE GERMAN OFFSHORE TEST SITE ALPHA VENTUS  
Arne Stahlmann, Leibniz University Hanover, Germany
PO.24 STATISTICAL ANALYSIS AND COMPARISON OF HARMONICS MEASURED IN OFFSHORE WIND FARMS
Łukasz Kocowiak, DONG Energy, Denmark

PO.26 VERIFICATION OF OFFSHORE WIND TURBINES AT ALPHA VENTUS – OVERVIEW ON FIRST MEASUREMENT ANALYSES
Martin Kuehn, ForWind – Center for Wind Energy Research, Germany

PO.27 GEOPHYSICAL AND ENVIRONMENTAL OFFSHORE WIND FARM SURVEY FROM A SURVEY CONTRACTORS POINT OF VIEW
Nils Ingvarson, MMT Group, Sweden

PO.28 COMBINING OFFSHORE WIND AND MARINE (WAVE/TIDAL) CONVERTERS – THE ANSWER TO COST REDUCTIONS?
Fiona Buckley, Tractebel Engineering, Belgium

PO.29 DENMARK – SUPPLIER OF COMPETITIVE OFFSHORE WIND SOLUTIONS
Jakob Lau Holst, Danish Wind Industry Association, Denmark

PO.30 ID STAT: INNOVATIVE TECHNOLOGY FOR ASSESSING WILDLIFE COLLISIONS WITH WIND TURBINES
Bertrand Delprat, Calidris, France

PO.31 WIND FARM STUDY
Ryo Amano, University of Wisconsin, United States of America

PO.32 HIGH RESOLUTION DIGITAL PHOTOGRAPHY FOR OFFSHORE AERIAL BIRD SURVEYS
Kate Lee, APEM Ltd, United Kingdom

PO.33 WAKE LOADS AND FATIGUE LOAD CERTIFICATION IN OFFSHORE WIND FARMS
Björn Schmidt, Germanischer Lloyd Renewables Certification, Germany

PO.34 RAVE – A MILESTONE IN OFFSHORE WIND ENERGY RESEARCH
Michael Durstewitz, Fraunhofer IWES, Germany

PO.35 INTEGRATED OPERATIONS – A SUCCESS STORY FROM THE OIL AND GAS INDUSTRY
Anders Valland, MARINTEK, Norway

PO.36 DEVELOPMENT AND SIMULATION OF SONAR TRANSPONDERS TO PREVENT SUBMARINES FROM COLLISIONS WITH OFFSHORE WIND FARMS
Moritz Frick, Leibniz Universität Hannover, Germany

PO.38 MITIGATING TECHNICAL RISKS IN OFFSHORE WIND FARMS BY IMPROVED SYSTEM INTEGRATION
Johannes Rosen, RWE Innogy, Germany

PO.39 MOTIONS OF FLOATING OFFSHORE WIND TURBINES IN AN ARRAY, CONSIDERING THE INFLUENCE OF WIND AND WAVES
Maxime Philippe, Laboratoire de Mécanique des Fluides CNRS UMR 6598, France

PO.40 DEMONSTRATING KEYSTONE ENGINEERING’S INNOVATIVE OFFSHORE FOUNDATION CONCEPT
Phil De Villiers, Carbon Trust, United Kingdom

PO.41 THE GERMAN OFFSHORE WIND ENERGY MONITORING PROGRAM – OFFSHORE–WMEP
Paul Kühn, Fraunhofer IWES, Germany

PO.42 BUCKET FOUNDATION DEMONSTRATION ACTIVITIES
Søren Andreas Nielsen, Universal Foundation A/S, Denmark

PO.44 KEY LEARNING FROM A 6MW DIRECT DRIVE WIND TURBINE Prototype Project
Daniel Castell, Alstom Wind, Spain

THE SOFT SECTOR AND HARD CASH

FINANCE AND INVESTMENT

PUBLIC FUNDING

PO.46 THE PATH OF OFFSHORE WIND POWER PRICES
Andrew Levitt, University of Delaware, United States of America

PO.47 OFFSHORE WIND ENERGY DEPLOYMENT – IT’S THE COST THAT COUNTS
Stefan Faulstich, Fraunhofer IWES, Germany

PROJECT FINANCE

PO.53 ROLE OF OPERATIONS AND MAINTENANCE IN SECURING FINANCING AND PROJECT BANKABILITY
Christoph Hellwig, Siemens Wind Power, Denmark

INSURANCE

PO.57 EUROPEAN WINTER STORM RISK
Jan Pedersen, DONG Energy, Denmark

PO.58 EUROPEAN OFFSHORE WIND PROJECTS – WHAT ROLE DO INSURANCE AND RISK MITIGATION PLAY?
Jatin Sharma, GCube, United Kingdom
POSTER PRESENTATIONS

PLANNING AND ENVIRONMENT
Environnement (Birds, Sea Life, Sub-Sea Noise, Visual Intrusion and Coastal Impacts)

PO.61 Evaluation of Environmental Conditions for the Development of an Offshore Wind Farm Off Alexandroupolis, Greece
Michail Tsintsinis, University of the Aegean, Greece

Bertrand Delprat, Calidris, France

PO.63 Offshore Wind Farms Acting as Artificial Reefs, Fish Aggregation Devices and/or Marine Protected Areas
Cibrán Camba Rey, Acciona Energía, Spain

PO.64 Advances in Avian Radars for Surveying Birds at Offshore Wind Energy Developments
Edward Zakrzaksej, DeTect, Inc., United States of America

PO.65 Research on Birds at the OWEZ Dutch Offshore Wind Farm: Overview of Methods and Results
Karen Krijgsvoeld, Bureau Waardenburg, The Netherlands

PO.66 Underwater Acoustic Monitoring in the German Offshore Wind Farm Area
Thomas Neumann, DEWI GmbH, Germany

PO.67 Indicators for Environmental and Social Assessment of Steel Support Structures for Offshore Wind Turbines
Anne Bechtel, Leibniz Universität Hannover, Germany

PO.68 Strengthening Environmental Studies in Offshore Areas by Application of Ecological and Habitat Modelling
Stefan Heinänen, DHI, Denmark

PO.70 A Common Framework for Assessing Cumulative Effects: Meeting Round 3 Consent Requirements for Site and Zone
Steven Freeman, PMSS, United Kingdom

PO.71 Prolonged Piling Can Reduce Underwater Noise Impact on Marine Mammals
Tanja Pangerc, Gardline Marine Sciences Limited, United Kingdom

SOCIAL ACCEPTANCE

PO.73 Recent Views on the Public Acceptance of Offshore Wind Parks in Greece
Konstantinos Gkarakis, Technological Educational Institution of Athens (TEI Athens), Greece

PO.74 Touring Exhibition – Fascination Offshore
Christina Albrecht, Stiftung Offshore-Windenergie, Germany

NATIONAL AND INTERNATIONAL PLANNING METHODS (SPATIAL PLANNING, SITING, CONCESSION TENDERING, PERMITS AND REQUIREMENTS)

PO.75 Poland – New Offshore Wind Energy Market in Europe
Maciej Stryjecki, Foundation for Sustainable Energy, Poland

PO.76 Is There a Need for Standard Guidelines for Pre-Consenting Survey Activities?
John Morse, Gardline Marine Sciences Limited, United Kingdom

PO.77 Web GIS Support for ICZM and Marine Spatial Planning
Cristina Cavicchioli, RSE S.p.A., Italy

PO.79 Use of Marine Spatial Planning to Identify Offshore Wind Locations in the United States
Alison Bates, University of Delaware, United States of America

PO.80 The EIA Process for Offshore Wind in the Context of UK Regulatory Reform and Delivery of Renewables Targets
Beverley Walker, WSP Future Energy, United Kingdom

MARKETS (INCLUDING TRENDS)

PO.81 Offshore Wind Markets and Trends
Per Krogsgaard, BTM Consult – a part of Navigant Consulting, Denmark

PO.82 Offshore Wind Development in Germany: The New Gold-Rush?
Anne Bräutigam, Germany Trade & Invest, Germany

PO.84 Offshore Wind Costs: The Past, the Present, the Future
Marios Papalexandrou, Mott MacDonald, United Kingdom
PO.98  CONCEPTUAL DESIGN OF A DOT GENERATOR STATION
       Dimitris Michailidis, TU Delft, The Netherlands

PO.100  A METHOD AND TOOL TO OPTIMISE WIND TURBINES FOR OFFSHORE APPLICATIONS
       Michiel Zaaijer, Delft University of Technology, The Netherlands

PO.101  ENERGY CONSIDERATIONS FOR WIND TURBINES WITH HYDRAULIC TRANSMISSION SYSTEMS
       Bjørn Skaare, Statoil ASA, Norway

PO.102  KEY INSIGHTS FOR SUCCESSFUL OFFSHORE WIND TURBINE DESIGN
       Henk-Jan Koolman, GE Wind Energy, Germany

PO.104  HIGH ALTITUDE WIND ENERGY AND APPLICABILITY IN OFFSHORE WIND – A MARKET STATUS
       Peter Frohboese, GL Garrad Hassan Deutschland GmbH, Germany

PO.106  THE SIMULATION OF LOADS FOR WIND TURBINE WITH TYPHOON EFFECTS
       Kun-Ru Xie, Industrial Technology Research Institute, Taiwan

PO.107  TWO-DIMENSIONAL FLUID-STRUCTURE INTERACTION
       Knut Nordanger, Norwegian University of Science and Technology, Norway

PO.108  ENHANCED APPROACH FOR SIMULATION OF ROTOR AERODYNAMIC LOADS
       Koen Boorsma, Energy Research Center of the Netherlands, The Netherlands

PO.109  CURVED VORTEX FILAMENTS IN FREE VORTEX WAKE ANALYSIS OF FLOATING WIND TURBINES
       Friedemann Beyer, Endowed Chair of Wind Energy, University of Stuttgart, Germany

PO.110  ICE ACCUMULATION AND ITS EFFECT ON THE AERODYNAMIC OF A TYPICAL 5-MW WIND TURBINE BLADE
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Simon Catmull, RES Offshore, United Kingdom

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P0.305 REFLECTIONS ON REFLEXIVITY: CRITICAL MATERIAL SUPPLY CHAIN PROBLEMS WITHIN AN ACTOR-NETWORK OF OFFSHORE WIND ENERGY
Gabriel Bonfanti, University of Amsterdam, The Netherlands

P0.316 ITALIAN OFFSHORE WIND POTENTIAL EVALUATION THROUGH GIS TOOLS AND DATA
Davide Airoldi, RSE S.p.A., Italy

HEALTH AND SAFETY ISSUES
P0.307 ZERO HARM A COMPANY WIDE INITIATIVE
Christopher Walsh, Siemens windpower, Denmark

P0.308 DESIGN RISK ANALYSIS APPLIED TO LARGE OFFSHORE WIND PROJECTS
Alan Chivers, PMSS, United Kingdom

P0.309 SAFE GUARDING SCARCE RESOURCES – TRANSFERRING TECHNICIANS IS NOT JUST A TAXI RIDE OVER WATER
Sue Crothers, Gardline Marine Sciences Limited, United Kingdom

THE GREAT OUTDOORS: ASSESSING THE RESOURCE

FORECASTING AND MODELLING

MEASURING
P0.310 MEASUREMENT OF HIGH FREQUENCY PRESSURE FLUCTUATIONS AT GERMAN OFFSHORE PLATFORM FINO3
Andreas Jeromin, Forschungs- und Entwicklungszenrum FH Kiel GmbH, Germany

P0.311 SOUNDING OUT RISK USING ACOUSTIC INVESTIGATION TECHNOLOGY
Moya Cahill, PanGeo Subsea, Denmark

P0.312 FLUXES ESTIMATION AND THE DERIVATION OF THE ATMOSPHERIC STABILITY AT THE OFFSHORE MAST FINO1
Beatriz Canadillas, DEWI GmbH, Germany

P0.313 RE-DEFINING BIOTOPES FOR OFFSHORE PARTICULATE SEDIMENTS
Peter Barfield, Emu Limited, United Kingdom

P0.314 PROPOSAL OF NEW CLASS AND CATEGORY FOR WIND CONDITIONS IN IEC 61400-1
Hiroshi Imamura, Wind Energy Institute of Tokyo, Japan

P0.315 OFFSHORE WIND PROFILES FROM MET. TOWERS COMPLEMENTED BY LIDAR MEASUREMENTS
Detlef Kindler, GL Garrad Hassan Deutschland GmbH, Germany

P0.316 ITALIAN OFFSHORE WIND POTENTIAL EVALUATION THROUGH GIS TOOLS AND DATA
Davide Airoldi, RSE S.p.A., Italy

P0.317 A FULLY INTEGRATED GROUND MODEL FOR SITE-WIDE WIND FARM GEOTECHNICAL CHARACTERISATION
Lorraine O’Leary, Fugro GeoConsulting Limited, United Kingdom

P0.318 REGIONAL GEOLOGICAL MODELLING AS A TOOL FOR ARCHAEOLOGICAL PALAEO LANDSCAPE ASSESSMENT
Dafydd Lloyd Jones, Marinespace Ltd, United Kingdom

P0.320 RESPONSE ANALYSIS OF A WIND TURBINE TOWER AT DIFFERENT OPERATING CONDITION
Francesco Poggi, University of Genova, Italy
POSTER PRESENTATIONS

PO.321 ON-SITE MEASUREMENTS FOR OFFSHORE WIND PROJECT RISK REDUCTION: CONVENTIONAL VS. INNOVATIVE SOLUTIONS
BC Ummels, BMO Offshore, The Netherlands

PO.322 REMOTE SENSING BEST PRACTICE
Charles Briggs, SgurrEnergy Ltd, United Kingdom

PO.323 INFLUENCE OF ATMOSPHERIC STABILITY ON WIND TURBINES (WT) POWER PERFORMANCE AT ALPHA VENTUS OFFSHORE WIND PARK
Thomas Neumann, DEWI GmbH, Germany

PO.324 METEROLOGICAL MEASUREMENTS AT FINO3 BEFORE AND DURING THE EXISTENCE OF THE WIND FARM ALPHA VENTUS
Thomas Neumann, DEWI GmbH, Germany

PO.325 OPTIMIZATION OF OFFSHORE WIND RESOURCE ASSESSMENT
Mark Young, DNV, United Kingdom

PO.326 USE OF GEOGRAPHIC INFORMATION SYSTEMS TO MANAGE DATA IN OFFSHORE WIND DEVELOPMENTS
David Rushton, Fugro GeoConsulting Limited, United Kingdom

PO.327 REMOTE SENSING ON MOVING OFFSHORE PLATFORMS
Mark Young, DNV, United Kingdom

PO.328 CASE STUDY: THE VALUE OF FLOATING LIDAR TECHNOLOGY DURING THE DIFFERENT PHASES OF OFFSHORE WIND FARM DEVELOPMENT
Thomas Duffey, 3E, Belgium

PO.329 INCREASING EFFICIENCY IN THE FIELD OF OFFSHORE SUBSOIL INVESTIGATIONS
Florian Meier, Fraunhofer IWES, Germany

PO.330 DESIGN AND IMPLEMENTATION OF A BUOY-BASED LIDAR VALIDATION – INITIAL RESULTS
Matthew Filippelli, AWS Truepower LLC, United States of America

PO.331 IMPLEMENTING OFFSHORE REMOTE WIND SENSING TECHNOLOGIES INCLUDING PROTOCOLS FOR THE EVALUATION, SELECTION, AND VALIDATION
T. Arnold (Am) Boezaart, Grand Valley State University, Michigan Alternative and Renewable Energy Center, United States of America

PO.332 THE CHALLENGE OF MEASURING OFFSHORE
Andrew Oldroyd, Oldbaum Services Limited, United Kingdom

PO.333 STUDY ON THE EFFECT OF FLOW FIELD DISTORTION ON MEASUREMENTS MADE BY ANEMOMETERS ON THE FINO3 METEOROLOGICAL MAST
Matthew Stickland, University of Strathclyde, United Kingdom

PO.334 FEASIBILITY STUDY OF USING A LIDAR IN THE COMPLEX FLOWFIELD OF AN OFFSHORE PLATFORM, TO MEASURE WIND SHEAR PROFILE
Matthew Stickland, University of Strathclyde, United Kingdom

PO.335 COMPARISON OF ZEPHIR AND WINDCUBE MEASUREMENTS IN THE SAME COMPLEX FLOWFIELD
Matthew Stickland, University of Strathclyde, United Kingdom

PO.336 SPATIAL CORRELATION AND COHERENCE OF ATMOSPHERIC WIND CHARACTERISTICS AT FRØYA TEST SITE
Gursu Tasar, Norwegian University of Science and Technology, Norway

PO.337 INTEGRATION OF THE 1000MW WIND FARM WITH BOTH A WAVE FARM AND AN AQUACULTURE FARM
Wei He, Statoil ASA, Norway

PO.338 IMPROVED PRACTICAL ICE LOAD DESIGN METHODS FOR OFFSHORE WIND FOUNDATIONS
Helge Gravesen, Grontmij, Denmark

PO.339 LONG-TERM WIND STATISTICS ON YELLOW SEA, SOUTH KOREA
Seunggun Hyun, Korea Institute of Energy Research, Republic of Korea

PO.340 CHARACTERISING WIND FARM YIELD FLUCTUATIONS IN THE CENTRAL MEDITERRANEAN SEA – A CASE STUDY FOR THE MALTESE ISLANDS
Robert N. Farrugia, University of Malta, Malta

PO.341 PLANNING OF AN OFFSHORE WIND FARM IN THE SOUTHWEST COASTAL REGION
Moonseon Jeong, Mokpo National University, Republic of Korea
POSTER PRESENTATIONS

PO.346 LONDON ARRAY OFFSHORE WIND FARM, UK – BEST PRACTICE OPERATIONAL METOCEAN FORECAST IN A COMPLEX ESTUARY
Mads Nistrup Madsen, DHI, Denmark

PO.347 PROVISION OF METOCEAN DATA FOR DESIGN OF OFFSHORE WIND FARMS – IS THE INDUSTRY READY FOR A PARADIGM CHANGE?
Henrik Kofod-Hansen, DHI, Denmark

PO.349 HOW FAR MODELLLED DATA SETS AND REMOTE SENSED DATA PRODUCTS CAN BE APPLIED WITHIN THE OFFSHORE RENEWABLES SECTOR
John Mitchell, Met Office, United Kingdom

PO.350 ASSEMBLING SURFACE ATMOSPHERIC-OCEAN MODELLING COMPONENTS: DO WE MODEL BETTER OFFSHORE THAN ONSHORE?
Gil Lizcano, Vortex, Spain

PO.351 WIND RESOURCE MAPPING OVER THE NORTH SEA USING SATELLITE SAR
Merete Badger, Risø DTU, Denmark

PO.352 SPATIAL AND TEMPORAL VARIABILITY OF WIND RESOURCES OFF THE COAST OF SOUTH CAROLINA, USA.
Ralph Nichols, Savannah River National Laboratory, United States of America

PO.353 PLANNING FOR SAFE MARINE OPERATIONS AND NAVIGATION WITHIN LARGE WIND FARMS
Michael Starling, BMT Group, United Kingdom

PO.354 PERFORMANCE ASSESSMENT OF OFFSHORE WIND FARMS
Frank Wiersma, Ecofys, The Netherlands

PO.355 UNCERTAINTY IN THE APPLICATION OF THE MEASURE-CORRELATE-PREDICT METHOD IN WIND RESOURCE ASSESSMENT
Sundus Cordelia Ramli, DONG Energy, Denmark

PO.356 UNDERSTANDING MARINE CONDITIONS, WORKING LIMITS AND DOWNTIME
Chris Mooij, Intertek METOC, United Kingdom

PO.357 PRELIMINARY ANALYSIS OF WIND PROFILES OFF THE EAST COAST OF ENGLAND
Rolando Soler-Bientz, Loughborough University, United Kingdom

PO.358 STUDY OF ATMOSPHERIC CHARACTERISTICS FOR WIND ENERGY APPLICATIONS OFFSHORE OF THE NORTH COAST OF THE YUCATAN PENINSULA
Rolando Soler-Bientz, Loughborough University, United Kingdom

PO.359 PRELIMINARY MESOSCALE MODELLING OF THE OFFSHORE WIND OFF THE EASTERN COAST OF ENGLAND
James Hughes, Loughborough University, United Kingdom

PO.360 ATMOSPHERIC STABILITY DEPENDENCE OF SAR WIND SPEED RETRIEVAL IN JAPANESE COASTAL AREAS
Yuko Takeyama, National Institute of Advanced Industrial Science and Technology, Japan

PO.361 MCP IN THE REAL WORLD
Charles Briggs, SgurrEnergy Ltd, United Kingdom

PO.362 GETTING IT RIGHT PRE-CONSTRUCTION
Charles Briggs, SgurrEnergy Ltd, United Kingdom

PO.364 OFFSHORE WIND FIELD: APPLICATION OF A MODEL OUTPUT STATISTICS (MOS) AS A SPATIAL VALIDATION TECHNIQUE
Paulo Costa, LNEG, Portugal

PO.365 RINGING WAVE LOADS ON BOTTOM FIXED OFFSHORE WIND TURBINE FOUNDATIONS
Bo Terp Paulsen, Technical University of Denmark, Denmark

PO.367 OFFSHORE WIND FARM PERFORMANCE MONITORING
Athanasios Kyriazis, 3E, Belgium

PO.368 IMPROVING OFFSHORE WIND RESOURCE ASSESSMENTS USING A DATA ASSIMILATION TECHNIQUE
Paulo Costa, Laboratório Nacional de Energia e Geologia, Portugal

PO.369 ON THE UTILIZATION OF MESO-SCALE MODELS FOR OFFSHORE WIND ATLASES
Erik Berge, Kjeller Vindteknikk, Norway

PO.370 CORRECTION AND SPATIAL EXTRAPOLATION OF ONSHORE MAST WIND DATA FOR OFFSHORE WIND APPLICATIONS
Hakim Mouslim, Ecole Centrale de Nantes, France

PO.371 OFFSHORE FREE FLOW DESIGN TURBULENCE
Niels Jacob Tarp-Johansen, DONG Energy, Denmark

PO.372 COMPARISON OF ICE LOAD MODELS IN ICE-STRUCTURE INTERACTION SIMULATION FOR OFFSHORE WIND TURBINES
Jaakko Heinonen, VTT Technical Research Centre of Finland, Finland

PO.373 DEVELOPMENT OF WIND POWER FORECAST QUALITY FOR NEW OFFSHORE WIND FARMS
Melih Kurt, Fraunhofer IWES, Germany
PO.374 CHARACTERISTICS OF OFFSHORE WIND SPEED SIMULATED WITH WRF IN THE SEAS AROUND JAPAN
Teruo Ohsawa, Kobe University, Japan

PO.375 DATA MINING OF OFFSHORE WIND DATA GENERATED BY CFD SOLUTIONS
Bahri Uzunoglu, Gotland University, Sweden

WAKES

PO.377 FARMFLOW: ACCURATE PREDICTION OF POWER LOSSES AND TURBULENCE LEVELS IN OFFSHORE WIND FARMS
Peter Eecen, ECN, The Netherlands

PO.378 NEURAL NETWORK MODEL FOR NOWCASTING THE WIND DISTRIBUTION INSIDE THE WIND PARK
Alla Sapronova, Uni Research, Norway

PO.379 COUPLED LARGE EDDY SIMULATION OF DYNAMICALLY CONTROLLED WIND TURBINES
Rupert Storey, University of Auckland, New Zealand

PO.381 POWER OUTPUT OPTIMISATION FROM AN OFFSHORE WIND FARM
Muyiwa Adaramola, Norwegian University of Science and Technology, Norway

PO.384 ASSESSING THE INFLUENCE OF NEIGHBOURING WIND FARMS ON ONE ANOTHER
Charles Briggs, SgurrEnergy Ltd, United Kingdom

PO.385 THE VALIDATION AND REFINEMENT OF WAKE MODELS USING DIRECT 2ND GENERATION LIDAR MEASUREMENTS
Charles Briggs, SgurrEnergy Ltd, United Kingdom

PO.386 CFD SIMULATIONS AND MEASUREMENTS OF WAKE EFFECTS AT THE ALPHA VENTUS OFFSHORE WIND FARM
Thomas Neumann, DEWI GmbH, Germany

PO.387 IMPROVED MODELLING OF WAKES: EXPERIMENTAL STUDY AND EXPERIMENTALLY-ANCHORED MODEL
Christian Kress, ETH Zurich, Switzerland

PO.388 NEAR AND FAR WAKE BLIND TEST STUDY FOR A MODEL TURBINE USING BEM, AD AND FULL ROTOR CFD
Lene Sælen, GexCon AS, Norway

PO.389 IMPACT OF LARGE NEIGHBOURING WIND FARMS ON ENERGY YIELD OF OFFSHORE WIND FARMS
Gillian Smith, GL Garrad Hassan, United Kingdom

WIND PROFILES

PO.390 OPTIMUM LAYOUT DESIGN AND ENERGY YIELD OF OFFSHORE WIND FARMS
Gillian Smith, GL Garrad Hassan, United Kingdom

PO.391 EVALUATION OF TURBINE WAKE MODELS IN OFFSHORE WIND FARMS
Guillaume De Volder, 3E, Belgium

PO.394 WRF MESOSCALE MODELING AND LIDAR MEASUREMENTS OF TALL WIND PROFILES AT FINO1
Domingo Muñoz-Esparza, Environmental and Applied Fluid Dynamics, von Karman Institute for Fluid Dynamics, Belgium

PO.395 LONG-TERM VERTICAL WIND SHEAR OBSERVED BY WIND LIDARS AT SEVERAL LOCATIONS IN THE NORTH SEA
Alfredo Peña, Risø DTU, Denmark

PO.396 VALIDATION OF OFFSHORE WIND SPEED PROFILE MODELS: MONIN-OBUKHOV SIMILARITY THEORY IN THE NORTH SEA
Andrea Venora, Ecofys, The Netherlands

PO.397 FIRST INSIGHT IN OFFSHORE WIND PROFILES UP TO 250 M UNDER FREE AND WIND TURBINE WAKE FLOWS
Beatriz Canadillas, DEWI GmbH – German Wind Energy Institute, Germany

PO.398 ‘TALL’ WIND PROFILES AND THE EFFECT OF OFFSHORE ATMOSPHERIC STABILITY
Rogier Floors, Risø DTU, Denmark

PO.399 FEASIBILITY STUDY FOR ESTIMATING THE OFFSHORE SHEAR LAYER FROM ON SHORE MEASUREMENTS
Matthew Stickland, University of Strathclyde, United Kingdom
POSTER PRESENTATIONS
POSTER AREA PLAN

Ruby Lounge (Level 1)

Themes, topics and poster numbers
For a full list of poster presentations, please refer to pages 24-37.

ZONE A: LOGISTICS:
- Off/on-shore installation Harbors (PO.244)
- Vessels (PO.248-PO.252)
- Supply chain (PO.254-PO.255)
- Planning (PO.256-PO.259)
- Access (PO.264-PO.271)
- Inspection (PO.272-PO.277)
- Strategies (PO.279-PO.283)
- Reliability (PO.289-PO.298)
- Supply chain issues (PO.305)
- Health & safety issues (PO.307-PO.309)

ZONE B: THE GREAT OUTDOORS:
- Measuring (PO.310-PO.338)
- Offshore wind (PO.339-PO.375)
- Wakes (PO.377-PO.391)
- Wind profiles (PO.394-PO.399)

POSTER SESSION 17:30 – 19:00, Wednesday 30 November, Poster Area
Hundreds of poster presentations are available for viewing throughout the event in the poster area. This dedicated poster session is an opportunity for all delegates to meet with the poster presenters and discuss the presentations in more detail. Drinks and canapes will be served throughout the poster session.

Mobile App - you can also check the poster list and other event information using the Mobile App (see page 46 for more information).
Themes, topics and poster numbers

For a full list of poster presentations, please refer to pages 24-37.

ZONE C: HARDWARE (continued):
• Concepts for deep waters (PO.153-PO.162)
• Design optimisation (PO.163-PO.180)
• Soil-pile interactions (PO.181-PO.186)
• Concepts (PO.187-PO.196)
• Anchor/ position keeping (PO.199)
• Dynamics (PO.200-PO.213)

ZONE D: GRID & INFRASTRUCTURE:
• Europe-wide offshore electricity grid and onshore transmission reinforcements (PO.215-PO.221)
• Substations (PO.222-PO.224)
• Wind power plant management and operation on the network (PO.226-PO.230)
• Concepts and technologies for grid connection (PO.231-PO.241)
• Electricity markets (PO.242-PO.243)

ZONE E: THE SOFT SECTOR AND HARD CASH (continued):
• Markets (PO.81-PO.84)
• Human Resources, Training & Education (PO.87-PO.88)
• EU and National policies and programmes (PO.90-PO.92)
• Markets (PO.81-PO.84)
• Human Resources, Training & Education (PO.87-PO.88)
• EU and National policies and programmes (PO.90-PO.92)

ZONE C: HARDWARE:
• Public funding (PO.46-PO.47)
• Project finance (PO.53)
• Insurance (PO.58)
• Environment (PO.61-PO.71)
• Social acceptance (PO.73-PO.74)
• National and international planning methods (PO.75-PO.80)

ZONE E: THE SOFT SECTOR AND HARD CASH:
• Public funding (PO.46-PO.47)
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ZONE E: THE SOFT SECTOR AND HARD CASH:
• Public funding (PO.46-PO.47)
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• Insurance (PO.58)
• Environment (PO.61-PO.71)
• Social acceptance (PO.73-PO.74)
• National and international planning methods (PO.75-PO.80)
PRE-EVENT SEMINAR AND WORKSHOPS

PRE-EVENT SEMINAR: WIND ENERGY – THE FACTS: OFFSHORE

Monday 28 November
09:00 – 15:45
followed by a drinks reception
Location: Emerald Room
Organised by: EWEA

Building on the success of its ‘Wind Energy – The Facts’ publication, widely considered to be the most reliable reference published to date, EWEA will precede EWEA OFFSHORE 2011 with an introduction to wind energy, with a particular focus on offshore.

The seminar is tailored to anyone new to wind as well as people working in a particular sub-sector or function who want to understand their industry as a whole. Armed with this global view of offshore wind energy, participants will get even more out of the main conference and exhibition.

Attendance is open to all at very competitive rates and with significant reductions for EWEA members, academics, students and NGOs.

The next edition of the ‘Wind Energy – The Facts’ pre-event seminar will take place on 15 April 2012 as part of EWEA 2012, Copenhagen, 16-19 April.

For more information visit: www.wind-energy-the-facts.org
OFFSHORE GRID CONNECTION REQUIREMENTS:
FUTURE CHALLENGES – THE EUROPEAN WIND INDUSTRY’S PERSPECTIVE

Wednesday 30 November
14:00 – 16:00
Location: Room E103
Organised by: EWEA Working Group on Grid Code Requirements

Connecting wind farms to future offshore grids gives rise to technical challenges that are quite different from doing the same onshore.

The technologies to be applied in transnational offshore networks – notably multi-terminal and meshed HV DC networks – will need an entirely new set of standards, different control and protection methods and operational procedures. Furthermore, future offshore wind power plants have specific electrical connection topologies and technical characteristics (size, control and protection methods), which influence their power plant capabilities.

As a result, there will be specific network connection requirements offshore. This is already reflected by the specific category for offshore foreseen in the draft European Code for Network Connection by ENTSO-E.

This two-hour workshop is organised by the EWEA Working Group on Grid Code Requirements, which since 2007 has represented the common interests of the wind industry and has striven for a better specification of grid connection requirements for wind power in Europe. Speakers from the Working Group will present relevant technical and operational issues.

Attendance is free of charge for all registered conference delegates, exhibition visitors or exhibitors at EWEA OFFSHORE 2011.
INVEST IN LEADING OFFSHORE MARKETS

The United Kingdom’s The Crown Estate and UK Trade & Investment, and the economic development agency of the Federal Republic of Germany, Germany Trade & Invest, will each organise a workshop at EWEA OFFSHORE 2011 highlighting the investment and business opportunities available in their respective offshore wind markets.

These events are organised independently of EWEA, and are open to all OFFSHORE 2011 conference delegates, exhibitors and exhibition visitors. For detailed information, or to contact the workshop organisers, please visit www.ewea.org/offshore2011.

UK OFFSHORE WIND OPPORTUNITY SUPPLY CHAIN WORKSHOP

Wednesday 30 November
09:00 – 12:30, followed by lunch
Location: Emerald Room
Organised by: The Crown Estate and UK Trade & Investment

The increasing number of offshore wind programmes around the UK and Northern Europe will require the largest planned delivery of offshore generating capacity in the world by 2020. The challenge for the supply chain in meeting this demand is to invest in the right people, products and services at the right time in the best location.

To assist companies understand the potential for business growth, The Crown Estate and UK Trade & Investment have organised a morning event dedicated to supply chain development in the UK. Presentations will highlight the current situation of the UK’s offshore wind programme and ongoing work to de-risk development and encourage rapid progress. Case studies from key players working on UK projects will be followed by a series of regional reports focusing on the offerings, opportunities for collaboration and partnerships that could strengthen localisation of the offshore wind supply chain.

The event will be of interest to government and industry trade bodies, wind farm developers and supply chain companies seeking to put the UK’s progress into perspective against wider European programmes. New start-ups and expanding enterprises within Europe, including the UK, can hear more about the plans for technology development and business support and planning around all of the UK. Attendees will also hear how UK Trade & Investment can assist companies looking to invest in the UK market.

YOUR NORTHERN EUROPEAN OFFSHORE WIND HUB BUSINESS OPPORTUNITIES IN GERMANY

Wednesday 30 November
15:30 – 17:00, followed by reception
Location: Emerald Room
Organised by: Germany Trade & Invest

Why Germany? What business opportunities lie in the German offshore wind market? How can Germany be utilized as a hub to serve northern European offshore wind markets? The economic development agency of the Federal Republic of Germany, Germany Trade & Invest, and its partners from the federal states of Baden-Wuerttemberg, Brandenburg, Bremen, Hamburg, Lower Saxony, Mecklenburg-Vorpommern and Schleswig-Holstein know the answers. Our teams of industry experts support international companies from market entry to business start-up in Germany. This workshop and networking event will bring together company decision makers, local business players and policy makers to discuss:

- The political framework for offshore wind development in Germany
- Opportunities in the northern European offshore wind market and industry
- German port locations – ready to serve the complete northern European offshore wind industry
- Industry player best market practices

Join this workshop and learn how your business can benefit from Germany’s offshore wind market.
USEFUL INFORMATION

Practical information, mobile application, relaxation area, social events, sustainability
Get the buzz!
Download the EWEA OFFSHORE 2011 Mobile Application

- View the entire conference programme
- Find exhibitors and consult their profiles
- Navigate the floor plan
- Select your favourites and create your personal agenda
- Share with colleagues

Download the Mobile Application here or visit http://m.offshorewind2011.info

Ultra Wind Profiler
Booth 9128
PRACTICAL INFORMATION A-Z

EVENT VENUE
Amsterdam RAI Exhibition and Convention Centre
Europaplein 22
NL 1078 GZ Amsterdam
www.rai.nl
Metro station: RAI Europaplein

ACCOMMODATION
For last-minute hotel bookings or changes to existing bookings made via the EWEA OFFSHORE 2011 Events Secretariat, please go to the hotel desk in the registration area (entrance G).

AMSTERDAM
If you would like to extend your stay, or require more information about the city, the Amsterdam Tourist Information Office offers information in several languages: www.iamsterdam.com, +31 20 201 88 00
Office can be found at:
Stationsquare, Stationsplein 10 – Amsterdam
Opening hours:
09:00 – 18:00 Monday – Saturday
09:00 – 17:00 Sunday

BADGES
All participants are requested to wear their badges throughout the event. Badges are marked according to the type of pass purchased, and participants will not be admitted to the conference or exhibition without their badge. You may also be required to show your badge at some social events.

Should you lose your badge, please go to the registration areas for assistance. An administrative fee may apply.

CATERING
Welcome coffee
In the Poster Area:
08:00 – 10:00 Tuesday
08:00 – 09:00 Wednesday and Thursday
Coffee breaks
In the coffee break areas (Halls 9, 10 and 11):
10:30 – 11:00 Wednesday and Thursday
15:30 – 16:00 Tuesday and Wednesday
Buffet lunch
In the catering areas (Halls 8 and 11):
12:00 – 14:00 Tuesday
12:30 – 14:00 Wednesday and Thursday

See the venue plan on the inside back cover and the exhibition floor plans on pages 74-79 for the location of the catering areas.

Conference delegate passes as well as exhibitor staff passes include access to the daily buffet lunch. Only exhibition visitors who bought a ticket online before the event can access the lunch.

Please note that for those participants not entitled to the buffet lunch, it is possible to buy lunch onsite at the Holland restaurant and at ‘La Place’ snack bar located in the central foyer between Halls 9, 10 and 11. Water is freely available throughout the venue.

CLOAKROOM AND LUGGAGE FACILITY
There are two cloakrooms available free of charge in the registration areas (entrance C and entrance G).

COMMERCIAL OPENING HOURS IN AMSTERDAM
Banks in Amsterdam open weekdays only, between 09:00 and 16:00.

Shops are open:
09:00 – 18:00 Monday, Tuesday, Wednesday and Friday
09:00 – 21:00 Thursday
09:00 – 17:00 Saturday
12:00 – 17:00 Sunday

Some supermarkets stay open until 20:00 or 22:00 on week nights. Most businesses operate Monday to Friday, 08:30 to 17:00.
PRACTICAL INFORMATION A-Z

CURRENCY AND CREDIT CARDS
The unit of currency in The Netherlands is the EURO. Current exchange rates can be found at www.xe.com/ucc. Cash points are widely available throughout the city. All major credit cards are widely accepted throughout Amsterdam in shops, restaurants, hotels etc. Foreign exchange facilities can be found at the airport, railway station and major banks.

Theft/loss of credit card:
- Eurocard-Mastercard: 030 283 5555
- Visa: 0800 022 3110
- Diner’s-Club: 0900 0334
- American Express: 020 504 8666

INTERNET
A cyber café is available in Hall 10 which provides internet access and printing facilities.

Wireless internet access will also be available, using the following login details:
- Login: offshore2011
- Password: ewea

See the floor plan on page 76 for the location of the cyber café.

LANGUAGE
The conference language, including all presentations, is English.

LOST AND FOUND
For any items lost or found whilst at the venue, please visit the information desks located in the registration areas or the organiser’s office located in the foyer between Halls 9, 10 and 11.

MEETING ROOMS
If you reserved a meeting room and have any queries, please contact Aleksandra Nowak, anw@ewea.org, +32 2 213 18 00.

MOBILE APPLICATION
A customised Mobile App is offered, free of charge, to all EWEA OFFSHORE 2011 participants to get the most out of the event. This service is optimised for Smartphone use (iPhone, BlackBerry and Android) but the mobile website is also available on all mobile phones that have internet capabilities.

Visit the event website m.offshorewind2011.info to download the EWEA OFFSHORE 2011 Mobile App.

Sponsored by:

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FILM PREVIEW
Cape Spin: An American Power Struggle
- Date: Wednesday 30 November 2011
- Time: 17:30
- Place: Forum Room

Join the producers of Cape Spin: An American Power Struggle for a special EWEA OFFSHORE 2011 sneak preview of this exciting new film.

See page 17 for more information.
ORGANISER’S OFFICE
This is located in the Central Foyer between Halls 9, 10 and 11.

POSTER SESSION
Hundreds of poster presentations are available for viewing throughout the event in the poster area. The poster session is an opportunity for all delegates to meet with the poster presenters and discuss the presentations in more detail. Drinks and canapes will be served throughout the poster session taking place on Wednesday 30 November at 17:30 in the Poster Area.

See pages 24-37 for a full list of poster presentations.

PRESS
A press conference is scheduled immediately after the opening session on Tuesday at 12:00 in the press conference room (room E108).

A fully-equipped press room (room E107) is at the disposal of journalists throughout the event. Computers, refreshments, background information and press packs are available.

For press queries, please contact Peter Sennekamp, pse@ewea.org, +32 2 213 18 33.

See the venue floor plan on the inside back cover for the location of the press room.

PROCEEDINGS
A full three-day conference delegate pass includes free access to the online conference proceedings website published during the event. Pre-registered delegates will receive an e-mail with their login details to the proceedings on the first day of the conference. Delegates registered on site will receive the link shortly after the conference. The proceedings include all submitted abstracts and PowerPoint presentations, synchronised audio files, video files of selected sessions, poster presentations and full papers (where available).

For more information about the proceedings, please contact Maura Di Ruscio: mdu@ewea.org, +32 2 213 18 60 or visit the event website: www.ewea.org/offshore2011

SMS Q&A SYSTEM
Join in! All delegates will be able to submit questions to the speakers via SMS. In each session, a number and special code will be provided. Chairs will then make a selection of the best questions and encourage discussion between speakers and the audience.

All you need to take part is a mobile phone, so make sure you join in!

SPEAKERS AND SESSION CHAIRS
The Speakers’ Room (room E104) is available to all speakers who wish to work on or upload their presentations. Staff are on hand to assist with any queries from speakers or session chairs.

Speaker briefings will take place in the Speakers’ Room (room E105-106) on the day of your session at the following times:

Morning sessions – all days
(starting at 09:00 and 11:00)
Briefing takes place at 08:30

Afternoon sessions – Tuesday 29 November
(starting at 16:00)
Briefing takes place at 15:30

Afternoon sessions – Wednesday 30 November
(starting at 14:00 and 16:00)
Briefing takes place at 13:30

All session chairs and speakers must be present at the briefing.

The Speakers’ Room is open during the following times:

14:00 – 18:00 Monday 28 November
08:00 – 18:00 Tuesday 29 November
Wednesday 30 November
08:00 – 14:00 Thursday 1 December
PRACTICAL INFORMATION A-Z

**T**

**TELEPHONE**

The international access code for The Netherlands is +31. Remove the ‘0’ from the city/area code when dialing internationally. The city/area code for Amsterdam is 20.

Delegates may leave their mobile phones switched on during sessions, in order to use the SMS Q&A system. However, please ensure you put your phone on silent mode.

**TRAVEL AND TRANSPORT**

How to get to Amsterdam RAI Exhibition and Convention Centre

**By tram and metro**

If you arrive at Amsterdam Central Station, take either the Amstelveen metro 51 (travelling time: 12 minutes, exit at the Amsterdam RAI station) or take tram 4 and get off at RAI Europaplein (travelling time: 30 minutes).

**By taxi**

Amsterdam’s main taxi company is TCA (+32 2 077 77 77, www.tcataxi.nl/en). Depending on traffic, a taxi can take you to the city centre in half an hour. One ride will cost you approximately 40 euros.

For more information on taxis in Amsterdam, please visit www.taxi.amsterdam.nl

**By car**

The RAI is ideally suited for visitors who come by car. It is situated alongside the Amsterdam’s A10 orbital motorway (exit S109) and has its own underground car parks.

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**V**

**VISITOR CATERING**

Participants who are not entitled to the buffet lunch can buy lunch and snacks onsite.

A restaurant and a snack bar will be open during the entire event.

**Holland restaurant opening hours:**

10:00 – 14:30 Tuesday
10:00 – 14:30 Wednesday
10:00 – 14:00 Thursday

**Snack bar ‘La Place’ opening hours:**

08:00 – 18:00 Tuesday
08:00 – 19:00 Wednesday
08:00 – 14:00 Thursday

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*delta lloyd*
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As the voice of the wind industry, EWEA is in the perfect position to provide readers with reliable, relevant information on the developments and challenges encountered by the sector. If you are looking for reference publications for the wind energy sector, EWEA can offer you, free of charge, its collection of titles: available both in hard copy and digital versions.

Order here: www.ewea.org/order
Experience the power of the industry’s annual gathering

EWEA 2012 - Innovating today, shaping tomorrow

Taking place in the birthplace of wind energy, Denmark, EWEA 2012 will focus on new developments and innovative thinking in all aspects of wind energy.

Don’t miss the industry’s annual gathering. Benefit from the highest quality conference, international exhibition and incomparable networking opportunities.

EWEA has 20 years of experience in organising “industry for industry” events. By investing in them, you ensure that the right regulatory framework is in place to enable the wind industry to grow further.

Register now and save

Monday 16 - Thursday 19 April 2012 - Bella Center, Copenhagen, Denmark
Come to the relaxation area (located in the corridor leading to Hall 8) and have a massage to help you relax on a busy event day.

Inner Sense will provide massages during the three event days. Appointments can be made by visiting the relaxation area, and will be taken for the same day only.

09:00 – 18:00 on Tuesday and Wednesday
09:00 – 12:30 on Thursday

See the venue plan on the inside back cover for the location of the relaxation area.

Sponsored by:

Prysmian Group
SOCIAL EVENTS

SIEMENS STAND PARTY

Tuesday 29 November
17:00 – 18:00
Location: Siemens stand
(Hall 10, stand 10111)

Conference delegates, exhibitors and exhibition visitors are invited to the Siemens stand party to network and relax at the end of the first exhibition day.

Sponsored by:

SIEMENS

OPENING RECEPTION

Tuesday 29 November
19:00 – 21:30
Venue: Beurs Van Berlage,
Damrak 243, 1012 ZJ Amsterdam
Dress code: smart

This year’s reception is held in the Beurs van Berlage – the former Amsterdam Stock Exchange. A stock exchange is traditionally a place where people from all sectors come together and fittingly, for the first time, in 2011 the opening reception is also open to exhibition visitors and exhibitor staff who purchased a ticket.

The Beurs was built between 1898 and 1903 by the Dutch architect HP Berlage who aimed for a modern, cutting-edge design. What better place in which to kick-off a focused event where groundbreaking ideas are generated for the modern, cutting-edge technology – offshore wind energy?

For more information, including transport arrangements, please see the opening reception invitation. Entrance is reserved for all conference delegates as well as exhibition visitors and exhibitor staff who have purchased a ticket.

Sponsored by:

Rabobank
EXHIBITION RECEPTION AND POSTER SESSION

Wednesday 30 November
17:30 – 19:00
Location: Exhibition Halls 9, 10 and 11 and Poster Area

Gathering together all participants from both the exhibition floor and conference, the exhibition reception allows everyone to relax with an informal drink at the end of a busy day. Drinks and snacks will be served while you take the opportunity to expand your business by making new contacts.

Do not miss the poster session which will take place at the same time in the Poster Area. The EWEA OFFSHORE 2011 Programme Committee reviewed hundreds of abstracts and over 300 of these, representing all topics of the conference, were selected for a poster presentation. These poster presentations are available for viewing throughout the event in the Poster Area. This dedicated poster session is an opportunity for all participants to meet with the poster presenters and discuss the presentations in more detail.

CONFERENCE DINNER

Wednesday 30 November
19:30 – 23:00
Venue: Het Scheepvaartmuseum, Kattenburgerplein 1, 1018 KK Amsterdam
Dress code: formal

This exclusive seated dinner will be the most popular evening of EWEA OFFSHORE 2011. Not only will you be able to meet professionals from the wind industry and other offshore-related sectors over an excellent meal, but you will also enjoy some inspiring entertainment.

This year’s venue, Het Scheepvaartmuseum, is one of Amsterdam’s biggest 17th century buildings, a storehouse for the Dutch war fleet dating from 1656. The National Maritime Museum houses one of the world’s biggest collections of nautical art and artefacts. After a four-year renovation, the National Maritime Museum is the perfect setting for the EWEA OFFSHORE 2011 gala dinner.

This event is open to ticket holders only. For more information, including transport arrangements, please see the dinner ticket. If you have not already purchased a ticket, you can enquire about their availability at the registration desks.

Sponsored by:
SUSTAINABILITY
DID YOU KNOW…

...that EWEA has taken a number of actions to minimise the environmental impact of EWEA OFFSHORE 2011?

- EWEA tries to select modern venues that have good access via public transport and for disabled people.
- EWEA has put a waste management process into place to recycle as much as possible during the event days, build up and break down. Help us reach it by using the appropriate bins when disposing of your waste.
- The Amsterdam RAI will be 100% powered by sustainable energy sources for the duration of EWEA OFFSHORE 2011.
- 100% of the carpet will be recycled after the event.
- The EWEA stand has been designed using modular units to allow us to reuse it at future events.
- The shell scheme of all full service stands will be reused and recycled at other events by Melville (EWEA OFFSHORE 2011 stand constructor).
- EWEA required the caterer to ensure a vegetarian option for all meals, provide reusable equipment, select fair trade products, and use local food where possible.
- EWEA chooses environmentally friendly items, wherever possible, such as lanyards made from bamboo, visitor bags made from 100% recycled low density polyethylene (LPDE), pens made from ecological and biodegradable plastic, etc.
- All EWEA printed materials are printed on FSC certified paper (Forest Stewardship Council).
- EWEA has heavily reduced the number of bag inserts to reduce the amount of paper used and now offers electronic inserts instead.
- EWEA supports the work of Renewable World (formerly the Koru Foundation) with a donation of €1 per participant. This donation will be put towards a wind energy project in the developing world. To learn more about the project, visit the Renewable World stand (Hall 9, stand 9015).

Match our efforts by making your own donation!
http://www.renewable-world.org

WHAT YOU CAN DO IN ORDER TO SUPPORT THESE EFFORTS...

- If possible, travel to the conference by public transport.
- At the end of the conference, put your badge and bags into the relevant collectors at the exits for them to be donated or reused at future EWEA events.
- Provide EWEA with your feedback to improve future events by emailing events@ewea.org
THANK YOU

Supporting organisations, committees, secretariat, sponsors and partners
SUPPORTING ORGANISATIONS

“We are very proud to host such an important offshore wind conference and exhibition in the Netherlands. Close to the shores of the North Sea, the place the wind seldom sleeps! The Dutch high tech offshore wind industry and scientific infrastructure has a lot to offer and will be well represented during EWEA OFFSHORE 2011. There will certainly be a lot to tell and even more to show.”

Jaap Warners
President, Netherlands Wind Energy Association (NWEA), The Netherlands

“Investments in the wind power industry and the need to achieve ambitious climate goals can enhance each other. Therefore the Provincie of North Holland is actively involved in creating conditions for renewable energy chain development. Offshore 2011 is the perfect opportunity to display our geographic position at the North Sea and our well equipped deep sea harbours.”

Jaap Bond
Vice Governor, Province of Noord Holland, The Netherlands

Thank you to the following organisations for their support of EWEA OFFSHORE 2011:

- Netherlands Wind Energy Association
- Global Wind Energy Council
- European Union
- Sustainable Energy Europe
Dutch success in offshore wind

The Netherlands has an offshore wind energy sector to be proud of. It is home to leading international companies, which together form a strong industry with experience in all aspects of offshore wind: research, project development, offshore wind suppliers & construction, and operation & maintenance.

Furthermore The Netherlands is strategically situated on the North Sea and has multiple specialised ports. This makes it the perfect base for the construction and maintenance of offshore wind farms in the North Sea.

It is therefore no coincidence that the Dutch offshore wind sector has played a part in every existing offshore wind farm in Europe.

visit www.nwea.nl/windforce11
COMMITTEES

EWEA would like to thank all committee members for their important contribution to the development of the EWEA OFFSHORE 2011 conference programme.

NATIONAL ADVISORY COMMITTEE
Calling themselves ‘The Energizers’, this group of Dutch wind energy professionals provided invaluable advice to EWEA regarding the conference programme content and format. A special thanks goes to Jan van der Tempel, who proposed numerous innovations and dedicated a large amount of time and energy to assist with the development of the programme.

Dolf Elsevier van Griethuysen, Ballast Nedam, The Netherlands
Ton Hirdes, NWEA, The Netherlands
Sylvia Scheper, Greenology, The Netherlands
Ton Sledsens, Stichting Natuur en Milieu, The Netherlands
Anouk Stortenbeker, NWEA, The Netherlands
Jan van der Tempel, Amplemann/TU Delft, The Netherlands
Ernst van Zuijlen, Eneco & FLOW, The Netherlands
Chris Westra, ECN, The Netherlands

LEAD SESSION CHAIRS
The lead session chairs are responsible for defining the sessions and proposing speakers and co-chairs. They then liaise with speakers to prepare the sessions and act as moderators during the event.

Grid and infrastructure
Adam Bruce, Mainstream RP United Kingdom
George Caralis, National Technical University of Athens (NTUA), Greece
Michael Nørtoft Frydensbjerg, Siemens Wind Power, Denmark
Frans Van Hulle, EWEA, Belgium

Hardware
Thomas Buhl, DTU, Denmark
Henrik Carstens, Ramboll, Denmark
Christian Nath, Germanischer, Germany
Jan Van der Tempel, TU Delft, The Netherlands

Logistics: getting them there and keeping them running
Dolf Elsevier van Griethuysen, Ballast Nedam, The Netherlands
Morten Keller, MAKE Consulting, Denmark
Dick Schaap, KCI, The Netherlands

The great outdoors: assessing the resource
Stephan Barth, ForWind – Center for Wind Energy Research, Germany
Mortimer Menzel, Augusta & Co, United Kingdom
Pep Moreno, Vortex, Spain

The soft sector and hard cash
Anne-Bénédicte Genachte, European Wind Energy Association (EWEA)
Geert Palmers, 3E, Belgium
Stephanie Ropenus, German Wind Energy Association, Germany

Wind farm experience, lessons learned and what not to do
Jos Beurskens, ECN, The Netherlands
Jakob Lau Holst, Danish Wind Industry Association, Denmark
Heiko Ross, Windreich, Germany

POSTER COMMITTEE
This committee makes a selection of the highest quality posters from the hundreds of presentations on offer and decides who should receive the four Poster Awards.

Jos Beurskens, ECN, The Netherlands

PROGRAMME COMMITTEE
The programme committee reviews the submitted abstracts, providing scores and recommendations upon which the selection process is based.

Jos Beurskens, ECN, The Netherlands

THANK YOU
Stefano Barbati, Relex Italia, Italy  
Sarah Barber, BKW-FMB AG, Switzerland  
Stephan Barth, ForWind – Center for Wind Energy Research, Germany  
Francesco Belfiore, Golder Associates, Italy  
Marta Benito García-Morales, EDF R&D, France  
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Henrik Carstens, Rambøll, Denmark  
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Nath Christian, Germanischer, Germany  
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Rob Grimmond, Offshore Marine, United Kingdom  
Bogdan Gutkowski, Polish Wind Energy Society, Poland  
Steinar Haga, Automasjon og Data AS, Norway  
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Oliver Loenker, Siemens Wind Power A/S, Denmark  
Malte Lossin, TÜV SÜD Industrie Service GmbH, Germany  
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Janis Meirans, Latvian Wind Energy Association, Latvia  
Heinz-Theo Mengelkamp, anemos Gesellschaft fuer Umweltmeteorologie mbH, Germany  
Mortimer Menzel, Augusta & Co, United Kingdom  
Geir Moe, Norwegian University of Science and Technology, Norway  
Xavier Monteau, Dexia, France

COMMITTEES

THANK YOU
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Cristina Vellar, Accommodation Coordinator
Free movement of electricity

Twenty five years after the Single European Act, Europe urgently needs greater freedom of movement in electricity: a single internal power market and a network infrastructure to facilitate it.

A single electricity market will increase competition, improve security of supply, help deliver climate goals and integrate modern energy technologies including renewables.

Whilst development of a single power market is progressing, development of the infrastructure urgently needs a very major boost. To bring freedom of movement to and enhance cross-border trade in Europe's electricity, the European Parliament and the Council of Ministers must:

- Speed up, simplify and better coordinate permitting and planning procedures for electricity infrastructure projects
- Agree new financing mechanisms to support the necessary electricity infrastructure projects
- Address environmental concerns and social acceptance issues related to the necessary grid extensions at an early stage.

More information www.freedomforelectricity.eu
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- Key information about the wind sector
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Revenues from EWEA events and membership go right back into the industry, making EWEA’s policy and lobbying activities possible. By attending this event you are directly strengthening the voice of the industry.

Your money goes further than you think!
EXHIBITION

Exhibitor list, exhibition floor plan
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8.2 Consulting AG ............................................. 9149

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<td>City of Den Helder</td>
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<td>CN System AB</td>
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HALL 10
Coffee Break & Lunch Area

EWEA Publications

Sponsors’ Corner

Media Point
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<td>REGISTRATION + WELCOME COFFEE</td>
<td>Welcome coffee will be served in the Poster Area</td>
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<td>OFFSHORE GRID TECHNOLOGY p. 10</td>
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<td>REGISTRATION + WELCOME COFFEE</td>
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<td>NEXT GENERATION OF DEMONSTRATION SITES p. 20</td>
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PROGRAMME OVERVIEW

Full details of the conference programme can be found on pages 6-23. Sessions are grouped according to the following seven thematic tracks:

- THE GREAT OUTDOORS: ASSESSING THE RESOURCE
- WIND FARM EXPERIENCE, LESSONS LEARNED AND WHAT NOT TO DO
- GRID AND INFRASTRUCTURE
- THE SOFT SECTOR AND HARD CASH
- HARDWARE
- LOGISTICS: GETTING THEM THERE AND KEEPING THEM RUNNING
- PLENARY AND PANEL SESSIONS

MONDAY 28 NOVEMBER

09:00 — PRE-EVENT SEMINAR: WIND ENERGY – THE FACTS: OFFSHORE
EMERALD ROOM  p. 40

TUESDAY 29 NOVEMBER

08:00 — REGISTRATION + WELCOME COFFEE
Welcome coffee will be served in the Poster Area

10:00 — OPENING SESSION
AUDITORIUM (open to all participants)  p. 6

12:00 — PRESS CONFERENCE + LUNCH
Lunch will be served in the catering areas, Halls 8 and 11

14:00 — TECHNOLOGY CHOICES (PANEL)
AUDITORIUM  p. 7

15:30 — COFFEE BREAK
Coffee break areas, Halls 9, 10 and 11

16:00 — BREAKING DOWN THE BARRIERS TO AN OFFSHORE SUPERGRID  p. 8
SUPPORT STRUCTURE CONCEPTS  p. 8
SCANNING WIND  p. 9

19:00 — OPENING RECEPTION
Beurs Van Berlage  p. 52

CONTINUED

JOIN IN! SMS Q&A available during all sessions.
More details on page 47.

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