



# Event Guide

EUROPEAN WIND ENERGY  
CONFERENCE & EXHIBITION

**16 - 19 March 2009**  
**Parc Chanot**  
Rond Point du Prado  
13266 Marseille, France

EVENT GUIDE SPONSORED BY:



SUPPORTING ORGANISATIONS:





# MAINSTREAM RENEWABLE POWER

**BECAUSE PASSIONATE PEOPLE ALWAYS DELIVER**

**DON'T MISS!**

**How the supergrid  
is *really* going to  
be built.**

**Tuesday at 9.30am–12.30pm.  
Pytheas Room, Palais des Arts**

Dr. Eddie O'Connor and leaders from Government, Policy and Industry communities discuss the issues around how the supergrid is *really* going to be built.

Pre-register at the Mainstream stand, Hall 1, Stand 1730 or by email to [supergrid@mainstreamrp.com](mailto:supergrid@mainstreamrp.com).

**Please note: attendance is by pre-registration only.**

**See page 53 for more details.**

Mainstream Renewable Power was established in February 2008 by Eddie O'Connor, founder and former CEO of Airtricity. Our business is to develop, build and operate renewable energy plant in collaboration with strategic partners across Europe, North America, South America, South Africa and Australia.

Our people are our defining strength. With over 250 years of industry experience and a best-in-class management team, we have an enviable track record in project delivery.

Our Corporate Finance team have previously raised over €1 billion in project and corporate debt in the renewables sector. And so far, we have raised almost €100 million in equity and mezzanine finance to support our global development programme, including a €20 million equity investment from Barclays Capital.

We're focused on delivering the bigger picture and our vision for a pan-European offshore supergrid is central to our European offshore strategy.

But it's our approach that sets us apart. Our vision. Our commitment to partnership. Our entrepreneurial spirit. And most of all, our passionate belief in what we do.

Because where there's passion, there's always a solution.

**DROP BY AND MEET OUR TEAM AT EWEC (HALL 1, STAND 1730)**  
**[WWW.MAINSTREAMRP.COM](http://WWW.MAINSTREAMRP.COM)    [INFO@MAINSTREAMRP.COM](mailto:INFO@MAINSTREAMRP.COM)**

**LONDON – BERLIN – CHICAGO – DUBLIN – SANTIAGO – SYDNEY – TORONTO**



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## Contact details

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 Speakers' Room

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### EXHIBITION

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 EWEA stand 2532, Hall 2

WELCOME



## L'énergie éolienne, ça compte !

*"Au cours de l'année 2008, la capacité de production éolienne installée dans l'Union européenne a de loin dépassé l'installation de toute autre technologie de génération d'électricité. Au cours de cette même année, l'énergie éolienne a représenté plus de 40% de cette nouvelle capacité dans l'Union européenne et a atteint le record de 27 GW de capacité installée au niveau mondial. Ces performances sont la meilleure preuve de la valeur ajoutée; ce qui est particulièrement important aujourd'hui, où la crise financière et économique prend de l'ampleur.*

*L'énergie éolienne est également partie intégrante d'une solution à la croissance de la crise énergétique et climatique. On pourra compter sur l'énergie éolienne pour soutenir le leadership technologique, la lutte contre le changement climatique et l'indépendance énergétique tout en créant des opportunités commerciales, des exportations et des emplois. Investir dans l'énergie éolienne signifie également investir en Europe plutôt que transférer les richesses vers les pays exportateurs de pétrole, une condition essentielle pour la revitalisation des économies européennes. L'événement de cette année se déroule à un moment crucial. La conférence de Marseille sera le théâtre de la première discussion d'envergure du secteur suite au vote, par l'Union européenne en décembre 2008, de la Directive historique Energies Renouvelables. Il s'agit également du premier événement majeur de l'industrie éolienne depuis le début de la crise financière.*

*Après des années de croissance explosive, la crise crée une nouvelle dynamique de marché. Le besoin d'excellence commerciale et technologique qui caractérise la situation de marché va alimenter la transformation continue de notre secteur. L'industrie éolienne a fait des avancées prodigieuses mais nous sommes toujours face à d'importants défis et opportunités : l'optimisation de la logistique, l'amélioration continue des processus de fabrication et l'innovation par la création de nouveaux produits et solutions permettront de renforcer la compétitivité de l'énergie éolienne.*

*Ces défis et bien d'autres seront au cœur des sessions thématiques de la conférence et des discussions qui réuniront l'industrie à EWEC 2009. Plus de 6000 participants sont attendus pour l'édition 2009 d'EWEC. Au cours des sessions ou pendant des discussions informelles ou du networking, ils auront accès à un panel de responsables politiques, de directeurs de sociétés, de scientifiques, d'ingénieurs, d'environnementalistes et d'experts financiers. Cette année, l'exposition EWEC, la plus grande à ce jour, leur permettra de découvrir les plus récents développements technologiques du secteur.*

*Nous sommes très honorés de vous accueillir à Marseille où se déroule le plus grand événement éolien européen. C'est l'endroit idéal pour discuter et débattre de la nouvelle ère énergétique et économique."*

## ABOUT THE ORGANISER

The European Wind Energy Association (EWEA) is the voice of the wind industry, actively promoting the utilisation of wind power in Europe and worldwide.

It now has over 500 members from over 50 countries including manufacturers with a 90% share of the global wind power market, plus component suppliers, research institutes, national wind and renewables associations, developers, contractors, electricity providers, finance and insurance companies and consultants. This combined strength makes EWEA the world's largest and most powerful wind energy network.

EWEA coordinates international policy, communications, research and analysis and provides various services to support members' requirements. EWEA also organises numerous conferences, exhibitions, seminars and working groups for the benefit of its members and the industry. The main events are the:

- annual European Wind Energy Conference and Exhibition (EWEC), attracting up to 6,000 participants and over 300 exhibiting companies and
- bi-annual European Offshore Conference and Exhibition, attracting 2,000 participants and over 100 exhibiting companies.

For more information about EWEA, please visit our website: [www.ewea.org](http://www.ewea.org).





WELCOME

## Count on wind energy

"In 2008, more wind power capacity was installed in the EU than any other electricity generating technology. Over 40% of the EU's new capacity was wind energy in 2008 and a record breaking 27 GW of new wind power generation capacity came online on a global level. Wind's track record is the most visible proof of the value it creates, which is especially relevant today as the financial and economic crisis deepens.

Wind power is also a major part of the solution to the growing energy and climate crisis. You can count on wind power to support technology leadership, climate protection and energy independence whilst creating commercial opportunities, exports and jobs. Investing in wind energy also means putting money to work in Europe instead of transferring wealth to fuel-exporting nations, which is a key solution towards revitalising European economies. This year's event comes at a critical time. The conference in Marseille will be the sector's first large-scale discussion of the historic Renewable Energy Directive, agreed by the EU in December 2008. It will also be the industry's first major event since the financial crisis started.

After years of explosive growth the crisis is creating new market dynamics. The inherent demand for business and technological excellence that characterises our market situation will fuel the continued transformation of our sector. As an industry we have made quantum leaps, but we still have great challenges and opportunities lying ahead: optimising our supply chains, continuously improving our manufacturing processes, and innovating to create new products and solutions, thereby strengthening the competitiveness of wind power.

These and other challenges will be at the heart of conference sessions and business interaction as the industry meets for EWEC 2009. Over 6,000 people are expected to attend EWEC 2009 to engage with policy makers, company executives, scientists, engineers, environmentalists and financial experts in the conference sessions, and to network, do business and discover the latest technological developments in the largest ever EWEC exhibition.

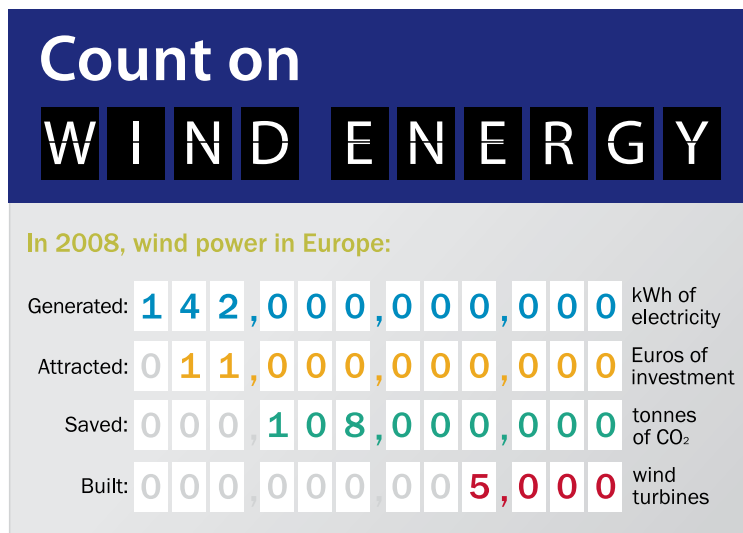
We are delighted to welcome you to Europe's premier wind energy event in Marseille - the place to discuss and debate the new energy and economic era."



Roland Sundén  
Conference Chair, CEO  
LM Glasfiber, Denmark



Arthouros Zervos  
President, European Wind  
Energy Association (EWEA)



You can count on wind power to support technology leadership, climate protection and energy independence while creating commercial opportunities and jobs. Investing in wind energy also means putting money to work in Europe instead of transferring wealth to fuel-exporting nations which is a key solution towards revitalised European economies.

At EWEC 2009 we will graphically demonstrate the benefits of wind by counting the amount of electricity generated, tonnes of CO<sub>2</sub> saved and investments made during the four days of the event.





## WELCOME



"I am very honoured to welcome you to Marseille for the 2009 European Wind Energy Conference and Exhibition. Marseille is one of the oldest cities in France and on behalf of the city, I would like to wish all of you who are coming, especially those from far away, a hearty welcome.

I would also like to thank the thousands of participants who have travelled here in order to discuss the very important issue of renewable energy and wind energy in particular. Our earth and its inhabitants will suffer if no solutions are found. We need to take major decisions now so that future generations can live in a healthy world. The current financial crisis also forces us to rethink our energy consumption in order to reduce costs as much as possible. Water and wind are sources of life and unlimited energy, representing a real alternative to traditional energy sources.

I very much hope that the conference sessions here in Marseille will help move Europe towards a joined-up approach, which EWEA initiated some years ago, and that this event will be a decisive step towards reaching the objectives that Europe has set for itself by 2020."

*«Je suis très honoré de recevoir ici à Marseille le congrès EWEC pour cette édition 2009. A vous tous qui venez parfois de loin, je vous souhaite la bienvenue dans la plus ancienne cité de France où l'accueil et l'hospitalité de nos hôtes sont une priorité.*

*Je remercie les milliers de personnes qui ont fait le déplacement pour pouvoir légiférer sur la question des énergies renouvelables et notamment les questions liées au vent. La terre et ses habitants seront bientôt en souffrance si rien n'est envisagé. Nous nous devons de prendre des décisions importantes afin de laisser aux générations futures un espace de vie sain. Et en ces temps de crise financière mondiale, il devient aussi urgent de repenser tous ensemble nos habitudes de consommation d'énergie afin de réduire au maximum les coûts. L'eau, le vent sont source de vie et d'énergie inépuisable, et s'offrent à l'humanité comme un formidable palliatif aux énergies traditionnelles.*

*J'espère vivement que vos séances de travail à Marseille feront avancer l'Europe dans cette démarche commune engagée déjà depuis quelques années grâce à l'association EWEA et que ce congrès sera une étape décisive dans les objectifs que l'Europe s'est fixés pour 2020.»*

Jean-Claude Gaudin  
Mayor of Marseille  
Vice President of the Senate



## EWEA would like to thank the city of Marseille and the following organisations for their support of EWEC 2009:



"ADEME is delighted that the European wind industry has selected France for their annual conference in 2009. This prestigious event will focus attention on the abundant, yet largely untapped, wind energy potential in France and facilitate a discussion on the main barriers and challenges to the mainstream exploitation of this indigenous resource. The EWEC 2009 event will also help deliver sustainable solutions to energy markets across Europe."

Jean-Louis Bal  
Director, Renewable Energy,  
French Agency for Energy and Environment (ADEME)



"FEE thanks the wind industry for selecting France to host the renowned European Wind Energy Conference in 2009. EWEC will provide an opportunity to engage political decision makers in France in understanding the positive role that wind energy can play in reducing climate change, and in the set up of regulatory frameworks which will allow us to implement our share of the European objective of 20% of renewable energy by 2020."

Charles Dugué  
President, French Wind Energy Association  
France Energie Eolienne (FEE)





## ABOUT THE EVENT

### A comprehensive conference programme

The conference programme at EWEC 2009 offers a unique opportunity for Europe's decision makers and industry leaders to engage in constructive dialogue about the barriers, challenges and benefits of developing and exploiting wind energy.

During the four-day programme, over 50 sessions and side events will cover every key aspect of the wind energy market – from technical and theoretical to policy and practice. More than 500 oral and poster presentations will give conference delegates a valuable insight into the latest developments in the wind energy sector.



### The largest ever EWEC exhibition

EWEC 2009 will be the largest ever EWEC exhibition, with over 9,000m<sup>2</sup> of exhibition space. Featuring all of the key players in the wind energy industry under one roof, the exhibition will be home to over 390 exhibitors from all over the world. Three halls will host professionals from all parts of the wind energy industry – manufacturers, component suppliers, developers, operators, utilities, consultants and financiers – who will come together for four days of networking and information exchange.



### Key exhibitors include



# Monday

16 March 2009



## 08:00 - 10:00

REGISTRATION, WELCOME COFFEE, POSTER VIEWING

## 09:00 - 10:00

WELCOME ENTERTAINMENT

Beginning at 09:00, relaxing and enjoyable background music will set the scene for the opening session of the conference. The opening session will begin with a giant bubble drifting onto the stage, which becomes part of a magical performance. Stilt walkers will support a trapeze act featuring a series of gentle acrobatic movements, as bubbles float across the stage.



**Auditorium**

## 10:00 - 12:00

**Auditorium**

### Opening session / *Séance d'ouverture*

**AP1**

The opening session of EWEC 2009 will feature leading political figures, who will deliver their vision on the future of wind power from national, European and global perspectives.

*La session d'ouverture de l'EWEC 2009 accueillera des hommes politiques de premier plan qui feront part de leur vision de l'avenir de l'énergie éolienne sur le plan national, européen et mondial.*



#### INTRODUCTION

**Roland Sundén**

CEO, LM Glasfiber, EWEC  
2009 Conference Chair

#### SPEAKERS:



**Andris Piebalgs**

EU Energy Commissioner



**Waldemar Pawlak**

Deputy Prime Minister &  
Minister of Economy,  
Poland



**Chantal Jouanno**

Secretary of State  
for Ecology, France



**Mechthild Rothe**

Vice President,  
European Parliament



**Nobuo Tanaka**

Executive Director,  
International Energy  
Agency (IEA)



**André Antolini**

President, French  
Renewable Energy  
Association (SER)



#### FINAL REMARKS

**Arthouros Zervos**

President, European  
Wind Energy Association  
(EWEA)



Live English-French interpretation will be provided for all sessions with a French title and session description. Interpretation will not be provided for the Scientific sessions. *Une interprétation simultanée EN/FR sera proposée pour toutes les sessions portant un titre et une description en français. Il n'y aura pas d'interprétation pour les sessions scientifiques.*





**12:30 - 13:30** \_\_\_\_\_ **Press Conference Room, Hall 1**

**14:00 - 15:30** \_\_\_\_\_ **Auditorium**

## **Global leaders' vision / *Vision des leaders mondiaux***

**AP2**

Leading visionary figures from industry, science and finance will discuss how harnessing wind energy on a large scale can address the compelling challenges of global warming and energy security. Against a backdrop of ambitious EU targets for CO<sub>2</sub> emissions and renewable energies, a growing wind energy sector must address the obstacles it now faces as it rapidly expands.

The panel will offer a diverse range of perspectives and a spirited discussion of the hottest topics in wind energy and the future of the sector.

*Des personnalités visionnaires de premier plan dans les domaines de l'industrie, des sciences et de la finance aborderont la manière dont l'exploitation de l'énergie éolienne à grande échelle peut contribuer à résoudre les grands défis liés au réchauffement climatique et à la sécurité énergétique. Avec les ambitieux objectifs européens en matière d'émissions de CO<sub>2</sub> et d'énergies renouvelables en toile de fond, le secteur de l'énergie éolienne, qui connaît une croissance rapide, se doit de surmonter les obstacles qui se présentent à lui.*

*Ce panel offrira une gamme variée de perspectives ainsi qu'une discussion animée à propos des sujets les plus brûlants de l'énergie éolienne et de l'avenir du secteur.*



**MODERATOR**  
**Steve Sawyer**  
Secretary General  
Global Wind Energy  
Council (GWEC)



**KEYNOTE SPEAKER**  
**Rajendra Pachauri**  
Chair, Intergovernmental  
Panel on Climate Change  
(IPCC)

### PANELLISTS:



**Ditlev Engel**  
President & CEO,  
Vestas, Denmark



**David Jones**  
CEO, Allianz Specialised  
Investments, United  
Kingdom



**Christian Kjaer,**  
CEO, European  
Wind Energy  
Association (EWEA)



**Marc Vergnet**  
President, Vergnet,  
France



**Xabier Viteri**  
CEO, Iberdrola  
Renovables, Spain

• **Gerard Mestrallet**, CEO, GDF-Suez (tbc)



15:30 - 16:00

COFFEE BREAK - HALLS 2 & 3

16:00 - 17:30

Auditorium

**Strengthening the EU policy framework:  
rapid integration of large quantities of wind power**

AP3A

***Renforcer le cadre de la politique UE: intégration rapide de grandes quantités d'énergie éolienne***

In December 2008, the European Union agreed ambitious differentiated national binding targets for renewable energies to be reached by 2020, as part of an EU Directive which seeks to ensure that Member States implement appropriate national legislation to achieve their targets.

The high-level panellists will discuss what further measures, including improving the EU's fledging internal electricity market and interconnectors between Member States, will ensure that large quantities of renewables can be integrated into the grid - especially from offshore wind farms.

*En décembre 2008, l'Union européenne s'est mise d'accord sur des objectifs contraignants, nationaux, différenciés et ambitieux en matière d'énergies renouvelables d'ici 2020, dans le cadre d'une Directive européenne qui vise à s'assurer que les Etats membres mettent en œuvre une législation nationale appropriée afin d'atteindre leurs objectifs.*

*Les panélistes de haut niveau aborderont en quoi des mesures complémentaires, notamment l'amélioration du récent marché intérieur européen de l'électricité et des interconnexions entre les Etats membres, permettront l'intégration d'importantes quantités d'énergies renouvelables dans le réseau, particulièrement en provenance de parcs éoliens offshore.*



**MODERATOR**

**Simon Taylor**

Senior Reporter,  
European Voice

**PANELLISTS:**



**Martin Crouch**

Representative of European  
Regulators Group for  
Electricity and Gas (ERGEG),  
United Kingdom



**Andreas Nauen**

Head of Wind  
Power Division,  
Siemens



**Hans Van Steen**

Deputy Head of Unit,  
DG TREN, European  
Commission



**Justin Wilkes**

Head of Regulatory  
Affairs, European Wind  
Energy Association  
(EWEA)

• **Luis Atienza Serna**, President & CEO, Red Eléctrica, Spain (tbc)



16:00 - 17:30

Les Goudes

### Taking wind power technology to the next level

AP3B

### Porter la technologie de l'énergie éolienne à un niveau supérieur

With increasing penetration in the power generation market and electrical power systems, wind power technology is facing increasing demands and challenges for further development in a competitive and sustainable way, with due regard to local conditions all over the globe, both offshore and onshore.

In this panel discussion session, leading experts in wind energy technology discuss and present their vision on topics including grid integration, offshore, wind turbine technology and wind plant operation.

*L'énergie éolienne bénéficie d'une importante pénétration sur le marché de la production d'énergie et des systèmes d'alimentation électrique. Dans ce contexte, la technologie éolienne est confrontée à une demande et à des défis sans cesse croissants de développement concurrentiel et durable, tout en respectant les réalités locales à travers le monde, tant offshore qu'onshore.*

*Lors de cette discussion de groupe, des experts de premier plan spécialisés dans la technologie éolienne discuteront et présenteront leur point de vue sur différents sujets tels que l'intégration du réseau, l'offshore, la technologie éolienne et le fonctionnement des aérogénérateurs.*



**MODERATOR**  
**Andrew Garrad**  
Garrad Hassan & Partners, United Kingdom

**PANELLISTS:**



**Thomas Ackermann**  
CEO, Energynautics, Germany



**Jean-Michel Germa**  
CEO, Compagnie du Vent, France



**Troy Christopher Patton**  
Senior Vice-President, Vestas Wind Systems A/S, Denmark



**Andreas Reuter**  
Managing Director, Kenersys Europe GmbH, Germany



**Heiko Ross**  
Managing Director, Bard Engineering, Germany



**Henrik Stiesdal**  
CTO, Siemens, Germany



**Gijs Van Kuik**  
Scientific Director, DUWind, TU Delft & President of the European Academy for Wind Energy (EAWE), The Netherlands

PROGRAMME





16:00 - 17:30

Callelongue

## Opportunities and challenges in the new financial environment

AP3C

### *Opportunités et défis du nouvel environnement financier*

Volumes and availability of capital will be one of the key factors determining the speed of growth in the wind industry over the next five years. This session will break down and examine the sources of capital which have so far supported rapid growth in the industry and ask its providers what they intend to do with their money in the future, and if and how their views have changed in the last six months.

This session will discuss the subject with key utility and IPP investors as well as leading private equity investors and specialists in corporate finance. Key questions to be examined will be:

- What will the impact of the financial crisis be on the industry in the next five years?
- How will capital spending be constrained if the economy enters recession?
- What will the effects of this be across the industry?

*Les volumes et la disponibilité des capitaux constitueront des éléments clés qui détermineront la vitesse de la croissance de l'industrie éolienne au cours des cinq années à venir. Cette session vise à analyser et à examiner les sources de capital qui ont jusqu'à présent soutenu la croissance rapide du secteur et à demander à ses fournisseurs ce qu'ils comptent faire de leur argent dans le futur ainsi que si leur perception a changé au cours des six derniers mois, et de quelle manière.*

*Cette session abordera le sujet avec les investisseurs institutionnels et les producteurs d'électricité indépendants clés ainsi que les investisseurs en capital de premier plan et des experts en financement des entreprises. Les questions clés examinées seront:*

- *Quel sera l'impact de la crise financière sur le secteur au cours des cinq prochaines années ?*
- *Quelles seront les restrictions en matière de dépenses de capital si l'économie entre en récession ?*
- *Quels seront les effets de ces événements sur le secteur ?*



**MODERATOR**

**Michael Liebreich**

Chairman & CEO, New Energy  
Finance, United Kingdom

**PANELLISTS:**



**Matthias Kollatz-Ahnen**  
Vice-President, European  
Investment Bank (EIB)



**Tom Murley**  
Head of Renewable  
Energy, HgCapital,  
United Kingdom



**Ana Maria Fernades**  
CEO, EDP Renovaveis,  
Portugal



**Paul Dowling**  
CEO, Airtricity, Ireland



**Nikolai Ulrich**  
European Head of  
Renewables, HSH Nord-  
bank, Germany



**Michael Lewis**  
Managing Director of  
Europe, E.ON Climate &  
Renewables, Germany





Monday

16 March 2009

17:00 - 18:00 \_\_\_\_\_ Hall 1

BEER RECEPTION at the Hansen (1640) and Pauwels (1540) stands

For more information, please see page 73.



PROGRAMME

17:30 - 18:30 \_\_\_\_\_ Callelongue

**NEW** Motivational seminar: Maximise your EWEC experience

For details of this seminar, please see page 49.

19:30 21:00 - 22:00 \_\_\_\_\_ Docks des Suds

CONFERENCE RECEPTION - For more information, please see page 73.



*"We need an energy revolution to meet the twin challenges of climate change and energy security, and wind energy is in the vanguard of this work. Yet more needs to be done, and faster: grid connection and planning delays need to be ironed out, and sufficient support provided for the development of newer and offshore wind technology. I hope EWEC 2009 will accelerate the changes we need."*

**Nobuo Tanaka**, Executive Director, International Energy Agency (IEA)  
and EWEC 2009 speaker





## 08:00 - 09:00

REGISTRATION, WELCOME COFFEE, POSTER VIEWING

## 09:00 - 10:30

**Auditorium**

### Leading EU markets: achieving the vision

**BB1**

#### *Les marchés UE dominants : comment réaliser cette vision ?*

Chairs:

**Justin Wilkes**, European Wind Energy Association (EWEA)

**Kai Schlegelmilch**, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany

This session will focus on the implementation of the EU renewables directive by Europe's strongest wind energy market countries. The presentations will be future-oriented, concentrating on the development of National Action Plans (NAPs) across Europe and the exchange of best practice between different countries.

*Cette session se concentrera sur la mise en œuvre de la Directive européenne sur les énergies renouvelables par les marchés éoliens les plus forts d'Europe. Les présentations seront axées sur l'avenir et se concentreront sur le développement de Plans d'action nationaux (PAN) dans toute l'Europe et l'échange de bonnes pratiques entre différents pays.*

- THE NEW GERMAN RENEWABLE ENERGY SOURCES ACT / EEG – NEW ADVANCED REGULATION FOR GRID EXTENSION, GRID INTEGRATION AND FEED-IN MANAGEMENT - **Hermann Albers**, German Wind Energy Association, Germany
- 25 000 MW IN 2020 IN FRANCE. WHAT DOES IT MEAN FOR THE FRENCH WIND MARKET ? - **Charles Dugué**, French Renewable Energy Association/French Wind Energy Association (SER/FEE), France
- THE ROLE OF WIND IN ACHIEVING THE EU'S 20% RENEWABLE ENERGY OBJECTIVE BY 2020 - **Hans Van Steen**, DG TREN, European Commission
- WIND ENERGY IN ITALY: POLICY FRAMEWORK, INCENTIVES, INDUSTRY AND MARKET DEVELOPMENT - **Luciano Pirazzi**, Italian National Agency for New Technologies, Energy and Environment (ENEA), Italy
- UK RENEWABLE ENERGY STRATEGY - GETTING TO 2020 - **Allan Taylor**, Department of Energy & Climate Change, United Kingdom

## 09:00 - 10:30

**Endume**

### Small Wind Turbines (SWT) and hybrid systems

**BS1**

Chairs:

**Henrik Bindner**, Risø DTU, Denmark

**Gerard van Bussel**, TU Delft, The Netherlands

Availability of electricity is very important for development and increasing people's standard of living. Power systems with a very high fraction of wind energy input will benefit many people throughout the world and, particularly in remote places, wind diesel technology is a key means of achieving a small carbon footprint. The technology can also be applied in areas with a developed infrastructure, increasing security of supply as well as reducing use of fossil fuels.

Small wind turbines also have several areas of application from small battery charging system over remote systems power supply to urban installations. Currently there is a renewed focus on development of the technologies due to increased environmental concerns, increased awareness of exploitation of local resources for increased security of supply and a reduced sensitivity to fluctuations in fuel prices.

- ULTRA HIGH WIND PENETRATION AT FOUR WIND-DIESEL ISLAND POWER SYSTEMS IN CAPE VERDE - **Per Nørgaard**, Risø DTU, Denmark
- PERFORMANCE SIMULATION OF WIND DIESEL SYSTEMS - COMPARISON OF TWO SIMULATION MODELS USING REAL LIFE DATA - **Henrik Bindner**, Risø DTU, Denmark
- TECHNOLOGY, PERFORMANCE AND MARKET REPORT OF WIND-DIESEL APPLICATIONS FOR REMOTE AND ISLAND COMMUNITIES - **E. Ian Baring-Gould**, National Renewable Energy Laboratory, United States of America
- PERFORMANCE MEASUREMENT AND EVALUATION OF 1-KW SMALL WIND TURBINE - **Hikaru Matsumiya**, Hikaruwind Lab, Japan

In the first session of the scientific track, the **Excellent Young Wind Doctor Award** will be presented.



09:00 - 10:30 Les Goudes

**TP Wind (European Wind Technology Platform): Implementing the SRA** BT1

***TP Wind (Plateforme Technologique Européenne de l'Éolien): Mise en oeuvre de l'Agenda Stratégique de Recherche (SRA – Strategic Research Agenda)***

Introduction by TP Wind Chair:  
**Henning Kruse**, Siemens, Germany

The European Wind Energy Technology Platform (TPWind) is a network composed of the most relevant stakeholders in the wind energy sector and is currently the only EU entity with enough expertise and critical mass to be able to understand, map and prioritise realistic pathways for policy and technology R&D. During this workshop TPWind will present its future objectives and its plans for implementing the Strategic Research Agenda and Market Deployment Strategy, which outline the R&D needs of the wind energy sector. Further to that, the upcoming "European Wind Initiative" (EWI) and "Strategic Energy Technology" (SET) Plan of the European Commission will be presented.

*La plate-forme technologique sur l'énergie éolienne (TPWind) est un réseau composé des intervenants les plus pertinents du secteur éolien. Elle est la seule entité européenne actuellement dotée d'une expertise et d'une masse critique suffisantes pour parvenir à comprendre, définir et accorder la priorité à des solutions réalistes en matière de politique et de recherche et de développement technologique. Au cours de cet atelier, TPWind présentera ses objectifs futurs et ses projets concernant la mise en oeuvre d'un Agenda de recherche stratégique*

*et d'une Stratégie de déploiement de marché, qui souligne les besoins en R&D du secteur éolien. Par ailleurs, l'« Initiative européenne pour l'énergie éolienne » (EWI) et le « Plan stratégique pour les technologies énergétiques » (SET) de la Commission européenne seront également présentés.*

- OUTCOMES OF THE 3RD GA AND IMPLEMENTATION PLAN
- TPWind Secretariat representative,
- TPWIND MIRROR GROUP: PRESENTATION AND NEXT STEPS - **Susanna Widstrand**, Swedish Energy Agency, Sweden
- THE FUTURE OF TPWIND - **Takis Chaviaropoulos**, Centre for Renewable Energy Sources (CRES), Greece
- THE EUROPEAN WIND INITIATIVE (EWI) - **Josep Prats**, Alstom-Ecotècnia, Spain
- THE SET-PLAN - **Stefan Tostmann**, DG TREN, European Commission
- THE FUTURE EU ELECTRICITY NETWORKS: RECENT ACHIEVEMENTS AND NEXT STEPS OF SMARTGRID - **Pier Nabuurs**, N.V. KEMA, The Netherlands
- MATERIALS FOR ENERGY: RECENT ACHIEVEMENTS AND NEXT STEPS OF ESTEP - **Pietro Gimondo**, Energy Working Group Chairman of ESTEP, Italy

09:00 - 10:30 Callelongue

**Project finance / Financement de projet** BF1

Chair:  
**Nick Gardiner**, Director Energy & Utilities, Fortis Bank, United Kingdom

This session will examine the challenges of project finance for onshore and offshore wind power, drawing on the experience of a range of key actors in the sector. With challenging conditions in the debt markets, how are financial instruments being adapted to the needs of lenders and projects developers?

*Cette session examinera les défis que représentent le financement de projets d'énergie éolienne onshore et offshore, sur la base de l'expérience de plusieurs acteurs clés du secteur. Vu les conditions difficiles qui affectent les marchés des créances, comment les instruments financiers vont-ils être adaptés aux besoins des prêteurs et des développeurs de projets ?*

- KEY DIFFERENCES BETWEEN OFFSHORE VERSUS ONSHORE PROJECT FINANCE - **John Dunlop**, HSH Nordbank AG, London Branch, United Kingdom
- PROJECT FINANCING OF OFFSHORE WIND PROJECTS - **James Donaldson**, Investec Bank (UK) Limited, United Kingdom
- PRIVATE EQUITY IN THE WIND ENERGY INDUSTRY - **Philippe Raybaud**, CGR LEGAL, France
- THE ROLE OF EIB IN STIMULATING THE WIND SECTOR IN EUROPE - **Chris Knowles**, European Investment Bank (EIB)
- THE FINANCIAL CRISIS - THE IMPACT ON WIND PROJECT FINANCING, INCLUDING OFFSHORE PROJECTS - **Jérôme Guillet**, Dexia Crédit Local, France



## 10:30 - 11:00

COFFEE BREAK - HALLS 2 & 3

## 11:00 - 12:30

**Auditorium**

### Emerging EU markets: 20% - dream or reality?

**BB2**

#### *Marchés ue émergents : 20% - rêve ou réalité ?*

Chairs:

**Jaan Tepp**, Estonian Wind Power Association

**Jacopo Moccia**, European Wind Energy Association (EWEA)

Representatives from emerging wind energy market countries will consider the implications of the EU renewables directive for their national markets. Speakers will examine the challenges and opportunities which arise from implementing the directive, and ask whether or not the 20% target is achievable in reality.

*Les représentants de marchés éoliens émergents évalueront les implications de la Directive européenne sur les énergies renouvelables pour leur marché national. Les intervenants examineront les défis et les opportunités découlant de la mise en œuvre de la Directive et poseront la question de savoir si l'objectif de 20 % est vraiment réalisable.*

- POLAND – A PRICE EL DORADO WITH UNSTABLE LEGISLATION - **Jaroslav Mroczek**, Polish Wind Energy Association (PWEA)
- UTILISATION OF WIND ENERGY IN HUNGARY IN 2009 - **Gábor Csákány**, Hungarian Wind Energy Association (HWEA)
- **Alexandru Sandulescu**, Ministry of Economy, Romania
- WIND ENERGY IN THE CZECH REPUBLIC – BARRIERS TO FUTURE DEVELOPMENT - **Vladimír Cesenek**, Czech Society for Wind Energy, Czech Republic
- Representative, Bulgarian Ministry (tbc)

## 11:00 - 12:30

**Endoume**

### Reliability, materials and lubrication

**BS2**

Chairs:

**Peter Tavner**, School of Engineering, Durham University, United Kingdom

**Berthold Hahn**, ISET e.V., Germany

The reliability of wind turbines is intimately dependant on the design and materials used for components and, for rotating elements, the lubrication is of paramount importance. Presentations in this session will address the behaviour of composite materials, the design of joints in composites and the integration of new materials into wind turbine components. The session will be of interest to design engineers, materials scientists and wind turbine operators and maintainers.

- RESOLVING PERFORMANCE CONFLICTS BETWEEN RADAR ABSORBING MATERIALS, LIGHTNING PROTECTION AND COST-EFFECTIVE STRUCTURAL PERFORMANCE IN NEW WIND TURBINE BLADE DESIGNS - **Vidyadhar Peesapati**, University Of Manchester, United Kingdom
- TESTING OF ADHESIVE JOINTS IN THE WIND INDUSTRY AND CURRENT DEVELOPMENTS - **Florian Sayer**, Fraunhofer CWMT, Germany
- ESTIMATION OF THE UNCERTAINTY IN MEASUREMENT OF COMPOSITE MATERIAL MECHANICAL PROPERTIES DURING STATIC TESTING - **D. J. Lekou**, Centre for Renewable Energy Sources (CRES), Greece
- DISTRIBUTION OF DEFECTS IN WIND TURBINE BLADES - **Henrik Stensgaard Toft**, Aalborg University, Denmark





11:00 - 12:30

Les Goudes

## Wakes / Sillages

BT2

Chairs:

**Gerard Schepers**, Energy Research Centre of the Netherlands (ECN), The Netherlands

**Colin Morgan**, Garrad Hassan & Partners, United Kingdom

Nowadays, wind turbines are usually clustered in wind farms in order to make efficient use of the limited space and to reduce installation costs. However, wind turbines in wind farms often operate in the wake from the other turbines in the farm. In such conditions the wind field is significantly different from the conditions in the free stream. In the wake, the mean wind speed is generally lower leading to a decreased power output where at the same time the turbulence level (both small scale as well as large scale) is higher, leading to increased loads. This session will discuss several recent results from theoretical and experimental studies which aim to better understand the flow field within a wake.

*A l'heure actuelle, les éoliennes font généralement partie de parcs éoliens de manière à maximiser l'utilisation d'un espace limité et de réduire les coûts d'installation. Toutefois, les éoliennes des parcs fonctionnent dans le sillage d'autres éoliennes. Dans ces conditions, le champ de vent est bien différent des conditions de courant libre. Dans le sillage, la vitesse moyenne du vent est généralement moins élevée,*

*ce qui conduit à une production de puissance inférieure et, dans un même temps, à des turbulences plus importantes (à petite ainsi qu'à grande échelle) et à des charges plus élevées. Cette session abordera divers résultats d'études théoriques et expérimentales récentes visant à mieux comprendre le champ de courant dans le sillage.*

- MODELLING THE IMPACT OF WAKES ON POWER OUTPUT AT NYSTED AND HORNS REV - **Rebecca Barthelmie**, Indiana University, United States
- TURBULENCE MEASUREMENTS IN THE WAKE OF A WIND TURBINE MEASURED WITH A WIND LIDAR - **René Lemoine**, 3E, Belgium
- NUMERICAL SIMULATIONS OF WAKES OF WIND TURBINES OPERATING IN SHEARED AND TURBULENT INFLOW - **Niels Trolborg**, Technical University of Denmark, Denmark
- ADAPTATION OF A LAGRANGIAN DISPERSION MODEL FOR WIND TURBINE WAKE MEANDERING SIMULATION - **Juan José Trujillo**, Universität Stuttgart, Germany
- LIDAR MEASUREMENTS OF FULL SCALE WIND TURBINE WAKE CHARACTERISTICS - **Kurt S. Hansen**, Technical University of Denmark, Denmark

11:00 - 12:30

Callelongue

## Risk assessment / Evaluation des risques

BF2

Chairs:

**Klaus Rave**, Investitionsbank Schleswig-Holstein, Germany

**Anne Lapierre**, Norton Rose, France

The session will deal with the most recent studies in the field of risk assessment covering the most relevant areas as there are O&M, Portfolio Theory, Quantification Methods for Offshore Wind and the respective Technology Assessment. Thereby we establish transparency as needed in an ever more volatile market given the ongoing credit crisis and shortage of liquidity of financial markets. That is the way to encourage and stimulate sound investment perspectives.

*La session abordera les études les plus récentes en matière d'évaluation du risque couvrant les domaines les plus pertinents tels que l'exploitation et l'entretien, la théorie du portefeuille, les méthodes de quantification du vent offshore et l'évaluation technologique respective. De la sorte, nous établissons la transparence nécessaire dans un marché de plus en plus volatil en raison de la crise du crédit et du*

*manque de liquidités sur les marchés financiers. Il s'agit d'un moyen d'encourager et de stimuler des perspectives d'investissement saines.*

- O&M COST MODELLING, TECHNICAL LOSSES AND ASSOCIATED UNCERTAINTIES - **Axel Albers**, Deutsche WindGuard, Germany
- THE MODERN PORTFOLIO THEORY APPLIED TO WIND FARM FINANCING - **Sven Barkemeyer**, German Wind Energy Institute (DEWI), Germany
- QUANTIFYING RISK THROUGH A RIGOROUS ANALYTICAL APPROACH TO THE REAL WORLD CHALLENGE OF OFFSHORE WIND CONSTRUCTION ? DOWNTIME, CONSTRAINTS AND SEQUENCING - **Nick Baldock**, Garrad Hassan & Partners, United Kingdom
- EXPERIENCES WITH WIND FARM PROJECT RISK MANAGEMENT: DUE DILIGENCE AND PROJECT CERTIFICATION - **Robert Poore**, DNV Global Energy Concepts, United States
- ASSESSING UNCERTAINTY IN PRODUCTION ESTIMATES FOR WIND FARM PORTFOLIOS - **Ricardo Guedes**, Megajoule, Portugal



**12:30 - 14:00**

BUFFET LUNCH - HALLS 2 & 3

**14:00 - 15:30**

**Poster Area**

## Poster session / *Session consacrée aux posters*

**PO**

The dedicated poster session will give you the opportunity to discuss the hundreds of posters with the poster presenters and interact with other delegates, visitors and exhibitors.

*La session consacrée à la présentation des posters vous donnera l'occasion de discuter des centaines de présentations avec leurs auteurs et également de parler avec les autres délégués, visiteurs et exposants.*

**15:30 - 16:00**

COFFEE BREAK - HALLS 2 & 3

**16:00 - 17:30**

**Auditorium**

## Mediterranean markets: challenges and opportunities

**BB4**

### *Les marchés méditerranéens : défis et opportunités*

Chairs:

**Mete Maltepe**, GE, Turkey

**Keith Hays**, Emerging Energy Research, Spain

Straddling Europe and Africa, the Mediterranean region has significant potential in wind energy and combines some of the strongest wind energy markets in Europe with relative newcomers from outside the EU. This session will deliver a variety of perspectives from the region and ask whether the EU directive can be seen as an inspiration for increased activities and improved regional cooperation (including grids)?

*Située à la croisée de l'Europe et de l'Afrique, la région méditerranéenne possède un important potentiel éolien et combine certains*

*des marchés éoliens les plus forts d'Europe à des nouveaux venus hors d'Europe. Cette session fournira une série de perspectives de la région et posera la question de savoir si la directive européenne peut être considérée comme une source d'inspiration pour une progression des activités et une amélioration de la coopération régionale (y compris des réseaux) ?*

- GREAT WIND POTENTIAL OF TURKEY - **Zeki Eris**, Polat Energy Inc., Turkey
- ACTION PLAN FOR HIGH-PRIORITY RENEWABLE ENERGY INITIATIVES IN SOUTHERN AND EASTERN MEDITERRANEAN AREA - **Geert Dooms**, 3E, Belgium
- **Mustapha Enzili**, Renewable Energy Development Center (CDER), Morocco (tbc)
- **Paula Garcia**, Gamesa Eólica S.L., Spain

**16:00 - 17:30**

**Endoume**

## Aerodynamics & aeroelastic stability

**BS4**

Chairs:

**Takis Chaviaropoulos**, Centre for Renewable Energy Sources (CRES), Greece

**Spyros Voutsinas**, National Technical University of Athens, Greece

Closing knowledge gaps in aerodynamics and aeroelasticity is essential to increase the design efficiency of multi-MW wind turbines. Measuring wind shear and turbulence characteristics on a rotating blade of a multi-MW turbine provides useful information regarding the influence of the turbine size on inflow-driven fatigue loading. Interesting new data for better understanding the near wake behavior of wind turbines will be provided through CFD simulation of the MEXICO experiment. Two presentations in the session will be devoted to aeroelastic stability investigations through numerical modelling. One will study stability boundaries at parked conditions, where the WT blades may experience extremely high angles

of attack and massively separated flow. A second aeroelastic presentation will investigate the stability characteristics of multi-MW blades equipped with trailing flaps, exploiting the servoaeroelastic capabilities of a multi-body state-of-the-art design code.

- STABILITY LIMITS FOR A FULL WIND TURBINE EQUIPPED WITH TRAILING EDGE SYSTEMS - **Thomas Buhl**, Risø DTU, Denmark
- WIND SHEAR AND TURBULENCE CHARACTERISTICS FROM INFLOW MEASUREMENTS ON THE ROTATING BLADE OF A WIND TURBINE ROTOR - **Helge Aagaard Madsen**, Risø DTU, Denmark
- STABILITY ANALYSIS OF PARKED WIND TURBINE BLADES - **Evangelos Politis**, Centre for Renewable Energy Sources (CRES), Greece
- CFD SIMULATIONS OF THE MEXICO ROTOR WAKE - **Andreas Bechmann**, Risø DTU, Denmark



16:00 - 17:30 Les Goudes

Remote sensing / *Télédetection*

BT4

Chairs:

**Jørgen Højstrup**, Suzlon Energy A/S, Denmark  
**Detlev Heinemann**, ForWind, Germany

This session will investigate the most common remote sensing instruments used for wind measurements - SODARs and LIDARs. Comparisons with conventional instrumentation will be made, both in flat and complex terrain, highlighting the challenges of the sizeable averaging volumes of the remote sensing instruments in complex terrain. The next generation of SODARs, where the instrument is being developed directly for wind energy purposes emphasizing performance in high wind, will also be discussed. Finally, this session will present examples of the practical application of SODARs in conjunction with conventional mast instrumentation.

*Cette session analysera les instruments de télédetection les plus couramment utilisés dans la mesure du vent (SODAR et LIDAR). Elle les comparera avec des instruments conventionnels, tant sur des terrains plats que complexes, et soulignera les défis des volumes moyennes quantifiables des instruments de télédetection en terrain complexe.*

*La prochaine génération de SODAR, qui verra des instruments directement développés pour le secteur éolien et mettant l'accent sur la performance par grands vents, sera aussi abordée. Enfin, cette session présentera des exemples d'applications pratiques de SODAR associés à des mâts instrumentés conventionnels.*

- LIDAR PROFILERS FOR WIND ENERGY ? THE CURRENT STATUS - **Michael Courtney**, Risø DTU, Denmark
- NEXT-GENERATION ACOUSTIC WIND PROFILERS - **Stuart Bradley**, University of Auckland, New Zealand
- LIDAR PERFORMANCE IN COMPLEX TERRAIN MODELLED BY WASP ENGINEERING - **Ferhat Bingöl**, Risø DTU, Denmark
- INVESTIGATING WIND FLOW PROPERTIES IN COMPLEX TERRAIN USING 3 LIDARS AND A METEOROLOGICAL MAST - **Dimitri Foussekis**, Centre for Renewable Energy Sources (CRES), Greece
- SODAR AND EXTRAPOLATED TOWER WIND SHEAR PROFILE COMPARISON IN VARIOUS TOPOGRAPHIC CONDITIONS - **Elizabeth Walls**, Second Wind Inc., United States of America

16:00 - 17:30 Callelongue

Private equity and venture capital / *Capitaux privés et capital-risque*

BF4

Chair:

**Andrew Perkins**, Ernst & Young LLP, United Kingdom

This panel discussion will feature a spirited debate on the costs of and access to new sources of equity, both for developing projects and new technologies and for the building out of current portfolios. It will also include an educated discussion on how the market might evolve over the next six to twelve months, and consider the impact of a potential 'green' push from legislators in the US, UK and France. This should all help participants shed some light on how the European wind industry will be effected by the current liquidity squeeze.

*Ce groupe de discussion sera le cadre d'un débat animé relatif aux coûts et à l'accès aux nouvelles sources de capital pour le développement de projets, pour les nouvelles technologies et la liquidation des portefeuilles existants. Il comprendra aussi une discussion quant à la manière dont le marché pourrait évoluer au cours des six à douze prochains mois et envisagera l'impact d'un éventuel élan « vert » des*

*législateurs aux Etats-Unis, au Royaume-Uni et en France. Il devrait apporter quelques éclaircissements aux participants quant à la manière dont le secteur éolien européen sera affecté par le resserrement de liquidités actuel.*

- THE ROLE OF PRIVATE EQUITY AND VENTURE CAPITAL - **Philippe Raybaud**, Partner, CGR Legal, France
- IMPACT OF THE LIQUIDITY CRISES - TRENDS IN M&A - **Mortimer Menzel**, Partner, Augusta, United Kingdom
- THE ROLE OF AN IPP - **Mike O'Neill**, CEO, Element Power, United States of America
- THE ROLE OF PRIVATE EQUITY IN THE SUPPLY CHAIN - **Mark Florman**, Managing Director, Doughty Hanson, United Kingdom

17:30 - 20:00 Halls 1, 2 & 3

EXHIBITION RECEPTION - For more information, please see page 73.





## 08:00 - 09:00

REGISTRATION, WELCOME COFFEE, POSTER VIEWING

## 09:00 - 10:30

Auditorium

### Global strategies and opportunities / *Stratégies et opportunités mondiales*

CB1

Chairs:

**Ian Mays**, RES, United Kingdom

**Bruce Douglas**, European Wind Energy Association (EWEA)

Featuring varying global perspectives, this session will examine growth trends in wind energy on an international scale, with presenters giving an insight into wind activities across the globe and exchanging best practice examples.

*Cette session abordera différentes perspectives mondiales et examinera les tendances de croissance dans le secteur éolien à l'échelle internationale. Les intervenants donneront un aperçu des activités éoliennes à travers le monde et échangeront des exemples de bonnes pratiques.*

- EUROPEAN UTILITY GLOBAL WIND EXPANSION FOLLOWS WIND GRAVITY CENTRE'S DISPLACEMENT - **Eduard Sala de Vedruna**, Emerging Energy Research, Spain
- VESTAS' GLOBAL POLICIES ON GOVERNMENTS' PREPARATION FOR LARGE SCALE WIND POWER INTEGRATION - **Peter Brun**, Vestas, Denmark
- REPOWER SYSTEMS AG: ON THE WAY TO A GLOBAL PLAYER IN WIND TURBINE SOLUTIONS - **Per Hornung Pedersen**, REpower, Germany
- Wu Gang, Goldwind, China
- THE IMPACT OF THE GLOBAL FINANCIAL CRISIS ON INVESTMENT IN RENEWABLE ENERGY - **Virginia Sonntag-O'Brien**, REN21 Secretariat/UNEP Sustainable Energy Finance Initiative
- THE U.S. WIND INDUSTRY: CURRENT STATUS AND PATH TOWARD 20% BY 2030 - **Denise Bode**, American Wind Energy Association (AWEA), United States

## 09:00 - 10:30

Endoume

### Condition monitoring of turbines and components

CS1

Chairs:

**Christian Nath**, Germanischer Lloyd AG, Germany

**Nikolaos Stefanatos**, Centre for Renewable Energy Sources (CRES), Greece

Condition monitoring is becoming more and more important for several reasons. The size of modern wind turbines requires big investments in terms of cost and time when replacing components. Secondly, offshore applications with restricted access are increasing the need for detailed information on the machine's status.

- CONDITION MONITORING ARTIFACTS FOR DETECTING WINDING FAULTS IN WIND TURBINE DFigs - **Sinisa Durovic**, University of Manchester, United Kingdom
- AN APPROACH FOR FATIGUE LOAD MONITORING WITHOUT LOAD MEASUREMENT DEVICES - **Nicolai Cosack**, Universität Stuttgart, Germany
- FLIGHT LEADER CONCEPT FOR WIND FARM LOAD COUNTING AND PERFORMANCE ASSESSMENT - **Tom Obdam**, Energy Research Centre of the Netherlands (ECN), The Netherlands
- EMERGING TECHNIQUES FOR HEALTH MONITORING OF WIND TURBINE GEARBOXES AND BEARINGS - **D. J. Lekou**, Centre for Renewable Energy Sources (CRES), Greece





09:00 - 10:30

Les Goudes

**Aerodynamics and aerocoustics / *Aérodynamique et aéroacoustique***

CT1

Chairs:

**Peter Fuglsang**, LM Glasfiber, Denmark**Herman Snel**, Energy research Centre of the Netherlands (ECN), The Netherlands

Wind turbine aerodynamics is an important discipline for the wind energy community. Aerodynamic models provide important inputs for wind turbine power performance, load calculations and acoustic analysis. Aerodynamic models span from simplified engineering methods for rapid and reliable design to more general and advanced computational fluid dynamics methods for physical understanding. Both types of modelling call for thorough validation against experimental data from wind tunnel and field experiments. This session addresses five very different aspects covering aeroacoustic modelling for airfoil design, experimental investigation of airfoil flow boundary layer transition, analytical modelling of an ideal rotor, CFD modelling of the rotor nacelle interaction and numerical modelling of the rotor and wake.

*L'aérodynamique des éoliennes constitue une discipline importante pour le secteur. Les modèles d'aérodynamique fournissent des éléments clés pour les performances des éoliennes en matière d'énergie, les calculs de charges et l'analyse acoustique. Les modèles aérodynamiques vont des méthodes d'étude simplifiées pour une conception*

*rapide et fiable aux méthodes évoluées de calcul de la dynamique des fluides pour la compréhension physique. Les deux types de modèles nécessitent une validation approfondie sur la base de données expérimentales provenant d'expériences en soufflerie et sur le terrain. Cette session aborde cinq aspects très différents et couvre la modélisation aéroacoustique d'une conception aérodynamique, la vérification expérimentale de la transition de couche limite du flux aérodynamique, la modélisation analytique d'un rotor idéal, la modélisation CFD de l'interaction entre la nacelle et le rotor et la modélisation numérique du rotor et du sillage.*

- EXPERIMENTAL VALIDATION OF TNO TRAILING EDGE NOISE MODEL AND APPLICATION TO AIRFOIL OPTIMISATION - **Franck Bertagnolio**, Risø DTU, Denmark
- VORTEX THEORY OF THE IDEAL WIND TURBINE - **Jens Sorensen**, Technical University of Denmark, Denmark
- EXPERIMENTAL DETECTION OF TRANSITION FOR WIND TURBINE AIRFOILS - **Peter Baek**, LM Glasfiber, Denmark
- CHARACTERISATION OF THE UNSTEADY FLOW IN THE NACELLE REGION OF A MODERN WIND TURBINE - **Frederik Zahle**, Risø DTU, Denmark
- PREDICTING WIND TURBINE BLADE LOADS USING VORTICITY TRANSPORT AND RANS METHODOLOGIES - **Timothy Fletcher**, University of Glasgow, United Kingdom

09:00 - 10:30

Callelongue

**Integration of wind power plants / *Intégration des centrales éoliennes***

CG1

Chairs:

**Peter Quell**, REpower, Germany**Stephan Wachtel**, ENERCON, Germany

This session will present methods and experiences related to the interaction of wind power plants and the electricity network, including active control of power fluctuations, riding through system faults (FRT) and influence of wind plants on network voltage. Also, the modelling and simulation of these interactions with the network in view of achieving grid code compliance will be discussed.

*Cette session présentera les méthodes et expériences relatives à l'interaction des centrales éoliennes et du réseau électrique, y compris le contrôle actif des fluctuations électriques, le maintien d'alimentation en cas de défaillances du réseau (FRT) et l'influence des centrales éoliennes sur le voltage du réseau. La modélisation et la simulation de ces interactions avec le réseau visant à se conformer avec le code du réseau seront aussi abordées.*

- APPLICATION OF RAMP LIMITATION REGULATIONS FOR SMOOTHING THE POWER FLUCTUATIONS FROM OFFSHORE WIND FARMS - **Antonio Viguera-Rodríguez**, Parque Científico y Tecnológico de Albacete, Spain
- MEASUREMENTS OF DOUBLY FED INDUCTION GENERATOR SYSTEM WITH OPTIMISED FAULT RIDE THROUGH PERFORMANCE - **Andrzej Geniusz**, Woodward SEG GmbH & Co. KG, Germany
- VOLTAGE DIP CAUSED BY THE SEQUENTIAL ENERGISATION OF WIND TURBINE TRANSFORMERS - **Iván Arana**, DONG Energy A/S, Denmark
- PSCAD/EMTDC-BASED MODELLING AND FLICKER ESTIMATION FOR WIND TURBINES - **Camilo Carrillo**, University of Vigo, Spain
- MODELLING OF AND SIMULATION WITH GRID CODE VALIDATED WIND TURBINE MODELS - **Frank Martin**, Germanischer Lloyd Industrial Services GmbH, Business Segment Wind Energy, Germany



10:30 - 11:00

COFFEE BREAK - HALLS 2 & 3

11:00 - 12:30

Auditorium

## Climate change policies as a driver for wind energy investments

CB2

### *Les politiques de changement climatique : un vecteur pour les investissements dans l'éolien*

Chair:

**Steve Sawyer**, Global Wind Energy Council (GWEC)

Following the EU climate and energy package, the Poznan COP14 and the election of Barack Obama, climate change policies are shaping the way energy strategies are being devised around the globe. The session will look at the efficiency of the tools put into place to reduce emissions, from the perspective of their benefits in terms of wind energy investments. Stakeholders will discuss existing and future carbon markets, in particular the new EU ETS as well as other cap and trade systems (Australian, regional and federal US). The pros and cons of the Kyoto flexibility mechanism will be analysed, as well as how they could be ameliorated in a post-2012 agreement.

*Suite au paquet européen énergie-climat, à la Conférence sur les changements climatiques à Poznan et à l'élection de Barack Obama, les politiques en matière de changements climatiques déterminent la manière dont les stratégies énergétiques sont développées à travers le monde. Cette session abordera l'efficacité des outils mis en place*

*afin de réduire les émissions, du point de vue de leurs avantages sur le plan des investissements éoliens. Les acteurs discuteront des marchés du CO<sub>2</sub> actuels et futurs, en particulier du nouveau système européen du commerce des émissions ainsi que d'autres systèmes de plafonnement et d'échange de carbone (Australie, régional et américain, etc.). Les avantages et les inconvénients du mécanisme de flexibilité de Kyoto seront analysés, ainsi que la manière de les améliorer dans un accord post-2012.*

- THE CURRENT STATUS OF THE CLIMATE NEGOTIATIONS AND WIND ENERGY'S ROLE IN SAVING CO<sub>2</sub> EMISSIONS - **Steve Sawyer**, Global Wind Energy Council (GWEC)
- IMPLICATION OF A NEW ETS DIRECTIVE FOR WIND ENERGY - **Rémi Gruet**, European Wind Energy Association (EWEA)
- CAN CARBON MARKETS DELIVER A TOOL TO PROMOTE WIND INVESTMENTS? PART I - **Isabel Blanco**, Gamesa, Spain
- CAN CARBON MARKETS DELIVER A TOOL TO PROMOTE WIND INVESTMENTS? PART II - **Henry Derwent**, International Emission Trading Association (IETA)

11:00 - 12:30

Endume

## Control strategies

CS2

Chairs:

**Gijs van Kuik**, TU Delft, The Netherlands

**Peter Caselitz**, ISET e.V., Germany, (tbc)

During the development of wind turbines, the objective of the control has moved from the maximisation of performance to minimisation of loads. The control of the wind turbine is the point at which wind, aerodynamics, dynamics, materials, standards and design join forces. This makes the design of a controller the most multi-disciplinary aspect of wind turbine design. Each presentation in this session will showcase a different aspect of control strategies, from passive control to active control by single pitch, individual pitch or trailing edge flaps.

- ALLEVIATION OF UNBALANCED ROTOR LOADS BY SINGLE BLADE CONTROLLERS - **Bill Leithead**, MLS / University of Strathclyde, United Kingdom
- DESIGN OF WIND TURBINE PASSIVE SMART BLADES - **Alireza Maheri**, University of Bristol, United Kingdom
- ACTIVE AERODYNAMIC BLADE CONTROL DESIGN FOR LOAD REDUCTION ON LARGE WIND TURBINES TO INCREASE ENERGY CAPTURE - **David Wilson**, Sandia National Laboratories, United States
- EXPLORING THE LIMITS IN INDIVIDUAL PITCH CONTROL - **Stoyan Kanev**, Energy Research Centre of the Netherlands (ECN), The Netherlands



11:00 - 12:30

Les Goudes

**Structural design and aeroelasticity / Conception structurelle et aéroélasticité**

CT2

Chairs:

**Peter Schaumann**, Leibniz Universität Hannover, Germany**Morten Hansen**, Risø DTU, Denmark

One of the crucial challenges in wind turbine design, particularly in going offshore, is to enhance the structural reliability. The assessment of structural components always comprises analysis in two areas, loads and resistances. Consequently, this session will deal with both areas by offering three presentations on load simulation and two on resistance of structural components. Load simulation techniques need to be thoroughly verified against measurement data. Beyond the presentation of their analysis approach, all three presentations on load simulation will address the verification by making a comparison with real-world measurements. On the resistance side, the presentations will discuss the local resistance of wind turbine blades and present an analysis approach for adhesive joints based on fracture mechanics.

*Un des principaux défis de la conception des éoliennes, en particulier des éoliennes offshore, est l'amélioration de la fiabilité structurelle. L'évaluation des composants structurels implique toujours l'analyse de deux domaines : les charges et les résistances. Dès lors, cette session se penchera sur ces deux domaines et proposera trois présentations consacrées à la simulation de charge et deux à la résistance des composants structurels. Les techniques de simulation de charge doivent être entièrement vérifiées sur la base de données de mesure.*

*En plus de présenter leur approche analytique, les trois présentations consacrées à la simulation de charge aborderont la vérification par le biais d'une comparaison avec les mesures réelles. En ce qui concerne la résistance, les présentations seront axées sur la résistance locale des pales d'éoliennes et présenteront une approche analytique des joints adhésifs sur la base de la mécanique de la rupture.*

- INTEGRATED ANALYSIS OF THE DYNAMICS OF OFFSHORE WIND TURBINES WITH ARBITRARY SUPPORT STRUCTURES - **Daniel Kauffer**, Universität Stuttgart, Germany
- DEFECT-TOLERANT STRUCTURAL DESIGN OF WIND TURBINE BLADES - **Kyle Wetzel**, Wetzel Engineering Inc., United States
- COMPARISON OF EXTREME LOAD EXTRAPOLATIONS USING MEASURED AND CALCULATED LOADS OF A MULTI MW WIND TURBINE. - **Johan Peeringa**, Energy Research Centre of the Netherlands (ECN), The Netherlands
- MATCHING EXPERIMENTAL AND NUMERICAL DATA OF DYNAMIC WIND TURBINE LOADS BY MODELLING OF DEFECTS - **Andreas Heege**, SAMTECH Iberica, Spain & Jan Hemmelmann, GE Global Research, Germany
- FRACTURE MECHANICS TECHNIQUES FOR THE DESIGN OF STRUCTURAL COMPONENTS WITH ADHESIVE JOINTS FOR WIND TURBINES - **Iñaki Nuin**, CENER (National Renewable Energy Centre), Spain

11:00 - 12:30

Callelongue

**Integrating wind in electricity markets**

CG2

**Intégration du vent dans les marchés de l'électricité**

Chairs:

**Paul Wilczek**, European Wind Energy Association (EWEA)**Achim Woyte**, 3E, Belgium (tbc)

Featuring case studies from the UK and Spain on market and system operation with large amounts of wind power, this session will also examine the costs of balancing forecasts errors in electricity markets and consider strategies for wind power trading in intraday markets.

*Cette session mettra en avant des études de cas du Royaume-Uni et d'Espagne concernant le fonctionnement de marché et de système contenant de grandes quantités d'énergie éolienne. Elle examinera aussi les coûts des erreurs de prévisions d'ajustement sur les marchés de l'électricité et envisagera des stratégies pour l'échange d'énergie éolienne sur les marchés infra-journaliers.*

- OPTIMAL WIND POWER DEPLOYMENT ACROSS EUROPE: A PORTFOLIO THEORY APPROACH - **Fabien Roques**, Associate Director, European Gas and Power, Cambridge Energy Research Associates, France
- IMPACT OF WIND ENERGY ON ELECTRICITY MARKETS - **Julio Usaola**, Universidad Carlos III, Spain
- IMBALANCE COSTS OF WIND POWER - HOW TO IMPROVE THE MARKET INTEGRATION OF WIND POWER? - **Hannele Holtinen**, VTT Technical Research Centre of Finland, Finland
- STRATEGIES FOR WIND POWER TRADING IN SEQUENTIAL SHORT-TERM ELECTRICITY MARKETS - **Franck Bourry**, MINES ParisTech, France
- BARRIERS IN THE IMPLEMENTATION OF RESPONSE OPTIONS AIMED AT MITIGATING UNPREDICTABILITY AND VARIABILITY OF WIND ENERGY - **Enrique Lobato**, Comillas University, Spain

# Wednesday

18 March 2009



**12:30 - 13:00**

BUFFET LUNCH - HALLS 2 & 3

**14:00 - 15:30**

**Auditorium**

## Offshore market deployment and prospects

**CB3**

### *Développement du marché offshore et perspectives*

Chairs:

**Chris Westra**, Energy Research Centre of the Netherlands (ECN), The Netherlands

**Frederic Lanoë**, WPD Offshore France S.A.S, France

This session will focus on the policies and actions needed to develop offshore wind power on a large scale, namely:

- \* updated plans for offshore implementation;
- \* the need and the case for international interconnection to deploy offshore;
- \* an EU view on status and actions; and
- \* offshore wind in the framework of EU maritime policies.

*Cette session sera consacrée aux politiques et actions nécessaires afin de développer l'énergie éolienne offshore à grande échelle, à savoir :*

- \* des plans actualisés pour la mise en œuvre offshore*
- \* le besoin et le plaidoyer en faveur d'interconnexions internationales visant à déployer l'offshore*

*\* une vision européenne sur le statut et les actions*

*\* l'éolien offshore dans le cadre de politiques maritimes européennes.*

- THE GLOBAL OFFSHORE WIND MARKET - POLICIES AND INVESTMENT TRENDS - **Irene Allcroft**, Douglas-Westwood Limited, United Kingdom
- HOW CAN OFFSHORE WIND CONTRIBUTE TO THE EUROPEAN ENERGY PORTFOLIO? - **Bo Mørup**, Vestas Offshore A/S, Denmark
- UK OFFSHORE WIND: STATUS AND ACTIVITY TO GROW SUPPLY CHAIN TO MEET 2020 TARGETS - **Bruce Valpy**, UK Renewables, United Kingdom
- EU POLICIES AND ACTION TO PROMOTE OFFSHORE WIND - **Niels Ladefoged**, DG TREN, European Commission
- UK ROUND 3 – A DEVELOPER'S PERSPECTIVE - **Chris Hill**, Mainstream Renewable Power, Ireland

**14:00 - 15:30**

**Endoume**

## Resource assessment and siting

**CS3**

Chairs:

**Ignacio Marti**, CENER (National Renewable Energy Centre), Spain

**Helge Aagaard Madsen**, Risø DTU, Denmark

This session will focus on topics that are related to wind shear characterisation, power curve determination, verification of productive capacity of wind farms and flow simulation on complex terrain.

The use of nacelle anemometry and remote sensors will be discussed as valuable sources of information for the determination of the power curve of wind turbines. A CFD approach for the simulation of time varying wind characteristics will also be presented.

All topics in this session are of major importance to properly assess the available resources and the expected energy production at high heights above the ground and in complex terrain environment.

- EXTENDING THE WIND PROFILE MUCH HIGHER THAN THE SURFACE LAYER - **Alfredo Peña**, Risø DTU, Denmark
- THE GENERICS OF WIND TURBINE NACELLE ANEMOMETRY - **Sten Frandsen**, Risø DTU, Denmark
- TIME DEPENDENT CFD ANALYSES OF WIND QUALITY IN COMPLEX TERRAIN - **Claude Abiven**, Natural Power, France
- INFLUENCE OF WIND SHEAR AND SEASONALITY ON THE POWER CURVE AND ANNUAL ENERGY PRODUCTION OF WIND TURBINES - **Rafael Zubiaur**, Barlovento Recursos Naturales S.L., Spain





## 14:00 - 15:30 Les Goudes

### Drive train from different angles / *Transmission sous différents angles*

CT3

Chairs:

**Christina Aabo**, Vestas, Denmark

**Ruediger Kipke**, 8.2. Consulting, Germany

This session will introduce new innovations within gearbox and generator design, discuss norms for design, and explore expert evaluations of brand new materials and methods, as well as their experiences with present technologies. The selection of the drive train concept is one of the wind energy industry's key ongoing discussions and, even with financial crisis, the industry is set to increase its production volumes significantly in the years to come. In light of this, wind turbines need to be produced and delivered in line with demand, and to operate flawlessly in even the harshest environments. This puts the drive train concept into the spotlight – it needs to be optimised for high power production, low material use and cost and, not least, reliability and serviceability.

*Cette session présentera les dernières innovations en matière de conception de boîtes de vitesses et de générateurs. Elle abordera les normes de conception et explorera des évaluations de nouveaux matériaux et méthodes par des experts, ainsi que leurs expériences avec les technologies actuelles. Le choix du concept de transmission constitue un des débats permanents au sein de secteur éolien et, même par ces temps de crise financière, le secteur devrait augmenter ses volumes de production de manière significative au cours des*

*années à venir. A cet égard, les éoliennes doivent être produites et livrées conformément à la demande et fonctionner de manière irréprochable, même dans les environnements les plus hostiles. Cette session place le concept de transmission sous le feu des projecteurs. Son optimisation est nécessaire pour une forte production électrique, une faible utilisation et un faible coût des matériaux, sans oublier la fiabilité et la facilité de maintenance.*

- POSSIBLE SOLUTIONS TO OVERCOME DRAWBACKS OF THE DIRECT-DRIVE GENERATOR FOR LARGE WIND TURBINES - **Deok-je Bang**, Delft University of Technology, The Netherlands
- WIND TURBINE GEAR DRIVE-TRAINS BASED ON NEW MATERIALS AND NOVEL GEAR SYSTEMS - **Alessandro Bozzolo**, D'Appolonia S.p.A., Italy
- THE IMPACT OF GEARBOX HOUSING AND PLANET CARRIER FLEXIBILITY ON WIND TURBINE GEARBOX DURABILITY - **John Coultate**, Romax Technology Limited, United Kingdom
- REMOTE CONDITION MONITORING OF VESTAS TURBINES - **Jacob Juhl Christensen**, Vestas Wind Systems A/S, Denmark
- NDFEB MAGNET TECHNOLOGY FOR CLEAN ENERGY PRODUCTION - MORE OUT OF WIND - **Sunny Zhang**, Bakker Magnetics, The Netherlands

## 14:00 - 15:30 Callelongue

### Transmission with wind power / *Transport et énergie éolienne*

CG3

Chairs:

**Frans van Hulle**, European Wind Energy Association (EWEA)

**Jean Verseille**, RTE, France

This session will discuss upgrades of the European transmission system that enable the integration of substantial amounts of wind power on the long term, both onshore and offshore. The possibilities for a better use of existing transmission lines will also be presented, illustrated by examples from Germany.

*Cette session présentera les méthodes et expériences relatives à l'interaction des centrales éoliennes et du réseau électrique, y compris le contrôle actif des fluctuations électriques, le maintien d'alimentation en cas de défaillances du réseau (FRT) et l'influence des centrales éoliennes sur le voltage du réseau. La modélisation et la simulation de ces interactions avec le réseau visant à se conformer avec le code du réseau seront aussi abordées.*

- STORAGE AND TRANSPORT CAPACITIES IN EUROPE FOR A FULL RENEWABLE POWER SUPPLY SYSTEM - **Lueder Von Bremen**, ISET e.V., Germany
- THE GREENPEACE OFFSHORE GRID REPORT: DEVELOPMENT DRIVERS AND BENEFITS - **Achim Woyte**, 3E, Belgium
- UPGRADING THE GRID FOR WIND ENERGY - OPTIMISATION BEFORE REINFORCEMENT BEFORE BUILDING NEW LINES - **Lorenz Jarass**, Rhein-Main University Wiesbaden, Germany
- How to develop and manage a power system with more than 20% penetration of wind power - **Ana Estanquero**, National Institute of Engineering, Technology and Innovation (INETI), Portugal
- THE TRANSMISSION DEVELOPMENTS NECESSARY TO MOVE TOWARDS SUSTAINABILITY IN THE POWER SYSTEM BY 2030 - **Joe Corbett**, Mainstream Renewable Power, Ireland





**15:30 - 16:00**

COFFEE BREAK - HALLS 2 & 3

**16:00 - 17:30**

**Auditorium**

## How local benefits foster public acceptance of wind energy

**CB4**

### *Comment les retombées locales stimulent l'acceptation publique de l'énergie éolienne*

Chairs:

**Jean-Louis Bal**, French Agency for Energy and Environment (ADEME), France

**Oliver Schaefer**, European Renewable Energy Council (EREC)

Public acceptance remains one of the key obstacles preventing the full development of wind energy in Europe. Misconceptions too often lead to project delays or cancellation. Therefore, the wind industry must dedicate some time to analysing and understanding popular beliefs and develop awareness exercises to debunk these myths and make people aware of the benefits that wind energy generates: jobs, economic welfare, domestic and clean resources, etc. This session will shed some light on the acceptability of wind power and will zoom in on successful campaigns targeting public opinion.

*L'acceptation publique reste un des obstacles clés entravant le développement à plein rendement de l'énergie éolienne en Europe. Des idées fausses conduisent trop souvent à des reports ou annulations de projets. C'est la raison pour laquelle le secteur éolien doit consacrer du*

*temps à l'analyse et à la compréhension des idées reçues et développer des exercices de prise de conscience afin de les démystifier et de faire prendre conscience au grand public des avantages générés par l'énergie éolienne : emploi, bien-être économique, ressources domestiques et propres, etc. Cette session fera la lumière sur l'acceptabilité de l'énergie éolienne et se concentrera sur des campagnes fructueuses visant l'opinion publique*

- AN ANALYSIS OF THE ACCEPTABILITY AND PUBLIC OPINION DISCOURSES IN THE CASE OF WIND ENERGY - **Iskender Gokalp**, National Centre of Scientific Research (CNRS), France
- WIND AT WORK: WIND ENERGY AND JOB CREATION IN THE EU - **Isabelle Valentiny**, European Wind Energy Association (EWEA)
- THE CRETA EXPERIENCE: HOW WIND CAN HELP LOCAL DEVELOPMENT - **Nadia Scordino**, University of Calabria, Italy
- PUBLIC ACCEPTANCE? NUON'S EXPERIENCE IN THE UK - **Piers Guy**, NUON Renewables, United Kingdom
- GOOD NEWS ABOUT WIND ENERGY - **Mark Capellaro**, Endowed Chair of Wind Energy (SWE), Germany

**16:00 - 17:30**

**Endoume**

## Wind turbine design and components

**CS4**

Chairs:

**Jos Beurskens**, Energy research Centre of the Netherlands (ECN), The Netherlands, (tbc)

**Martin Kühn**, Universität Stuttgart, Institute of Aircraft Design, Germany

The rotor-drive train assembly is the heart of and the most critical part of a wind turbine system. In particular, in multi-megawatt wind turbines, physical phenomena and associated engineering problems are being encountered which were not faced when designing smaller wind turbines. In this session a selected number of issues will be addressed connected to the rotor-drive train assembly: the rotor (passive shedding of aerodynamic loads), the gearbox (torsional resonance and increased number of degrees of freedom) and the generator (hybrid mechanical and magnetic bearings and advanced electric and mechanical modelling).

- EXPERIMENTAL COMPARISON OF A 2 MW DFIG WIND TURBINE MODEL WITH DIFFERENT MECHANICAL SUB-MODELS - **Pujante López Antonio Jesús**, Universidad de Castilla La Mancha, Spain
- INCREASED ROTOR SIZE THROUGH PASSIVE LOAD CONTROL AND WEIGHT REDUCTION CONCEPTS - **Joshua Paquette**, Sandia National Laboratories, United States
- FROM TORSIONAL RESONANCE ANALYSIS TOWARDS MORE DEGREES OF FREEDOM AND FLEXIBLE MULTIBODY MODELLING AS A MEANS FOR IMPROVING ACCURACY OF DYNAMIC LOAD PREDICTION IN MULTI-MEGAWATT WIND TURBINE GEARBOXES - **Ben Marrant**, Hansen Transmissions, Belgium
- INVESTIGATION ON THE POSSIBLE USE OF MAGNETIC BEARINGS IN LARGE DIRECT DRIVE WIND TURBINES - **Ghanshyam Shrestha**, Delft University of Technology, The Netherlands



Wednesday

18 March 2009

PROGRAMME

16:00 - 17:30 \_\_\_\_\_ **Les Goudes**

## Forecasting of wind power / *Prévisions en matière d'énergie éolienne*

CT4

Chairs:

**Stephan Barth**, ForWind, Germany

**Lars Landberg**, Garrad Hassan & Partners, Denmark

Presenters in this session will address a number of topics relating to forecasting, including ensemble predictions & extreme events, forecasting variability, long-term forecasting and ramp events.

*Lors de cette session, les orateurs aborderont un certain nombre de sujets relatifs à la prévision, notamment les prévisions d'ensemble et des événements extrêmes, la prévision de la variabilité, la prévision à long terme et la prévision de fluctuations rapides.*

- OPTIMISING ENSEMBLE PREDICTION SYSTEMS FOR WIND POWER FORECASTS - **Michael Denhard**, European Centre for Medium-Range Weather Forecasts (ECMWF), United Kingdom
- TEMPORAL FORECAST UNCERTAINTY FOR RAMP EVENTS - **Jeremy Parkes**, Garrad Hassan & Partners, United Kingdom
- FORECASTING WIND ENERGY VARIABILITY USING STATISTICAL DOWNSCALING TECHNIQUES - **Peter Coppin**, CSIRO Marine and Atmospheric Research, Australia
- LONG TERM FORECASTING OF WIND SPEED USING HISTORICAL PATTERNS - **Simon Watson**, Loughborough University, United Kingdom
- PROBABILISTIC SHORT-TERM FORECASTING INTEGRATING NON-NORMAL OPERATING CONDITIONS - **Jérémy Juban**, MINES ParisTech, France

16:00 - 17:30 \_\_\_\_\_ **Callelongue**

## Energy and power management / *Gestion énergétique*

CG4

Chairs:

**Elizabeth Giraut Ruso**, Acciona, Spain

**Gregor Giebel**, Risø DTU, Denmark

This session will present methods for optimum power system planning and operation with large amounts of wind power from an economic and system security point of view. Examples will be presented from countries with high wind energy penetration such as Spain and Ireland and the optimisation of wind farm portfolios from the investors point of view will also be discussed.

*Cette session abordera les méthodes de planification et le fonctionnement optimal du système énergétique bénéficiant d'une quantité importante d'énergie éolienne du point de vue de la sécurité du réseau. Des exemples en provenance de pays à forte pénétration d'énergie éolienne tels que l'Espagne et l'Irlande seront présentés. L'optimisation du portefeuille de parcs éoliens du point de vue de l'investisseur sera également au centre des débats.*

- HOW TO DETERMINE THE PORTFOLIO EFFECT BASED ON WIND REGIME DEPENDENCY: EUROPEAN EXAMPLES - **José Manuel Marco**, Garrad Hassan & Partners, Spain
- OPTIMUM POWER SYSTEM PLANT PORTFOLIO WITH WIND POWER - **Juha Kiviluoma**, VTT Technical Research Centre of Finland, Finland
- WIND ENERGY INTEGRATION IN THE SPANISH ELECTRICAL SYSTEM - **Olivia Alonso Garcia**, Red Electrica de España, Spain
- SECURE SYSTEM SCHEDULING WITH HIGH WIND PENETRATIONS - **Jason Kennedy**, The Queen's University of Belfast, United Kingdom
- SOLUTIONS FOR LARGE-SCALE WIND INTEGRATION IN THE EUROPEAN SYSTEM - **Frits Verheij**, KEMA Consulting

17:00 - 18:00 \_\_\_\_\_ **Hall 1**

PROSECCO PARTY - AT THE REPOWER STAND (1520) - For more information, please see page 74.



18:00 - 20:00 \_\_\_\_\_ **Callelongue**

FILM SCREENING - FOLLOWED BY Q&A - For more information, please see page 50.

20:00 - 22:00 \_\_\_\_\_ **Palais de la Bourse**

CONFERENCE DINNER - For more information, please see page 74.



## 08:00 - 12:30

REGISTRATION, WELCOME COFFEE, POSTER VIEWING

## 09:00 - 10:30

Auditorium

### Wind power and electricity prices / *L'éolien et les prix de l'électricité*

DB1

Chairs:

**Fay Geitona**, Secretary General, Council of European Energy Regulators (CEER) (tbc)

**Klaus Kraemer**, European Federation of Energy Traders (EFET) (tbc)

This session will examine market behaviour in electricity markets with high penetration of wind power. Speakers will address the estimation and forecasting of day-ahead electricity prices, the market value of wind power and the impact of wind variability on the intraday spot market.

*Cette session examinera le comportement du marché sur les marchés de l'électricité à forte pénétration éolienne. Les orateurs aborderont l'estimation et la prévision des prix de l'électricité infra-journaliers, la valeur du marché éolien et l'impact de la variabilité éolienne sur le marché spot infra-journalier.*

- FORECASTING DAY-AHEAD ELECTRICITY PRICES AND REGULATION COSTS IN MARKETS WITH SIGNIFICANT WIND POWER PENETRATION - **Tryggvi Jónsson**, ENFOR A/S & Institute for Informatics and Mathematical Modelling, Technical University of Denmark, Denmark
- MARKET AND SYSTEM OPERATION DESIGN ADAPTED TO HIGH WIND PENETRATION - **Juan Rivier Abbad**, Iberdrola Renovables, Spain
- ON THE MARKET VALUE OF WIND POWER OR HOW MUCH MONEY FLOWS WHEN THE WIND BLOWS? - **Carlo Obersteiner**, Vienna University of Technology, Austria
- EFFECTS OF OFFSHORE WIND ENERGY ON THE INTRA-DAY SPOT MARKET IN GERMANY - **Michael Splett**, University of Paderborn, Germany
- **Alberto Ceña**, Asociación Empresarial Eólica (AEE), Spain

## 09:00 - 10:30

Endume

### Offshore

DS1

Chairs:

**Jørgen Lemming**, Risø DTU, Denmark

**Félix Avia Aranda**, CENER (National Renewable Energy Centre), Spain

In this session the presentations will focus on modelling, measuring and understanding the wind climate for design of future offshore wind turbines. Presentations will include the latest results from the EU-funded NORSEWIND (Northern Seas Wind Index database) project including satellite methods and remote sensing to collect data on wind speeds and wind directions, as well as new methods for computing the interactions between offshore wind farms.

- TESTING AND CALIBRATION OF VARIOUS LIDAR REMOTE SENSING DEVICES FOR A 2 YEAR OFFSHORE WIND MEASUREMENT CAMPAIGN - **Michael S. Courtney**, Risø DTU, Denmark
- SATELLITE WINDS IN EU-NORSEWIND - **Charlotte Hasager**, Risø DTU, Denmark
- THE EFFECT OF WIND FARMING ON MESO-SCALE FLOW - **Arno J. Brand**, Energy Research Centre of the Netherlands (ECN), The Netherlands
- NORTH SEA NEAR-SURFACE WIND IN THE PAST AND FUTURE CLIMATES - **Kay Susej**, Carl von Ossietzky University of Oldenburg, Germany



09:00 - 10:30

Les Goudes

**New concepts / Nouveaux concepts**

DT1

Chairs:

*Jan van der Tempel*, TU Delft, The Netherlands*Peter Joosse*, Composite Technology Centre, The Netherlands

This session on new concepts will examine the latest innovations in the wind energy sector, such as a new containerised onshore turbine, new offshore foundation experiences, all-in-one offshore turbine installations and prospective offshore floating turbines.

*Cette session relative à de nouveaux concepts examinera les dernières innovations du marché de l'énergie éolienne, telle que la nouvelle éolienne onshore conteneurisée, les nouvelles expériences d'implantation offshore, les installations éoliennes offshore tout compris et les futures éoliennes offshore flottantes.*

- NEW CONCEPTS FOR INSTALLING WINDTURBINES OFFSHORE - *Dolf Elsevier van Griethuysen*, Ballast Nedam Offshore Energy, The Netherlands
- THE 1 MW WTG FROM VERGNET REVEALS ADAPTED INNOVATIVE TECHNOLOGICAL FEATURES AND CONFIRMS FARWIND REALITY- *Pierre Pesnel*, Vergnet, France
- FLOATING SUPPORT STRUCTURES - ENABLING NEW MARKETS FOR OFFSHORE WIND ENERGY - *Henderson Andrew*, Garrad Hassan & Partners, United Kingdom
- SARENS INSTALLS THE FIRST OFFSHORE WIND FARM WITH 5MW TURBINES IN THE WORLD - *Peter Libert*, Sarens nv, Belgium
- HYBRID OFFSHORE-WIND AND TIDAL TURBINE (HOTT) ENERGY CONVERSION II (3-PHASE 12-PULSE IGBT STATCOM RECTIFIER AND INVERTER) - *Mohammad Rahman*, Kyoto University, Japan

09:00 - 10:30

Callelongue

**Tradewind: Maximal and reliable integration of wind energy into trans-European power markets / Intégration optimale et fiable de l'énergie éolienne sur les marchés transeuropéens de l'électricité** DG1

Chair:

*Frans van Hulle*, European Wind Energy Association (EWEA)

TradeWind is a European project funded under the EU's Intelligent Energy-Europe Programme. The project addresses one of the most challenging issues facing wind energy today: its maximal and reliable integration into Trans-European power markets. It aims to analyse existing barriers to the large-scale integration of wind energy in European power systems and to formulate recommendations for interconnection improvement, policy development and market regulation. This session's objective is to present and discuss the project's final conclusions and its recommendations to support wind power integration. It will be followed by the launch of the TradeWind project final report.

*TradeWind est un projet européen subventionné par le Programme UE Intelligent Energy-Europe. Le projet se consacre à l'un des problèmes les plus importants de l'énergie éolienne, à savoir son intégration maximale et fiable sur les marchés transeuropéens de l'électricité.*

*Le projet vise à analyser les entraves à l'intégration à grande échelle de l'énergie éolienne dans les réseaux électriques européens et à formuler des recommandations pour améliorer l'interconnexion, le développement des politiques et la régulation du marché. Au cours de cette session, les orateurs présenteront les conclusions du projet ainsi que les recommandations pour favoriser l'intégration de l'énergie éolienne. La séance sera suivie par le lancement du rapport final du projet TradeWind.*

Invited speakers:

- *John Olav Tande*, Sintef, Norway
- *Hannele Holttinen*, VTT, Finland
- *Achim Woyte*, 3E, Belgium
- *Konrad Purchala*, Tractebel Engineering (SUEZ), Belgium

10:30 - 11:00

COFFEE BREAK - HALLS 2 &amp; 3



11:00 - 12:30

Auditorium

## Environment and planning / *Environnement et planification*

DB2

Chair:

**Gloria Rodrigues**, European Wind Energy Association (EWEA)

Wind energy is one of the cleanest, most environmentally-friendly energy sources. Wind power has a long-term positive impact on our environment by reducing the threat posed by climate change – the single largest threat to biodiversity. However, at the local and regional level, wind energy can have negative environmental impacts. The increasing scale of development and projected growth of the wind industry requires both a broad understanding of complex issues combined with detailed and specific environmental information. The workshop will discuss the most up-to-date information about wind power development and its impact on biodiversity. It will also look at the advantages and different EU practices of spatial planning and present examples of wind energy projects in Natura 2000 areas. Different stakeholders will present their views and best practices of integrating environmental concerns into wind energy development.

*L'énergie éolienne est l'une des sources d'énergie les plus propres et les plus respectueuses de l'environnement. Elle a un impact positif à long terme sur notre environnement en réduisant la menace que constituent les changements climatiques, la principale menace qui pèse sur la biodiversité. Toutefois, l'énergie éolienne peut avoir un impact environnemental négatif au niveau local et régional. La progression du*

*développement et la croissance prévue du secteur éolien nécessitent à la fois de vastes connaissances des problématiques complexes et des informations environnementales précises et spécifiques. L'atelier abordera les informations les plus récentes en termes de développement éolien et son impact sur la biodiversité. Il traitera aussi des avantages et des différentes pratiques européennes en matière de planification spatiale et présentera des exemples de projets éoliens dans des zones Natura 2000. Différentes parties prenantes exposeront leur point de vue et leurs meilleures pratiques d'intégration des inquiétudes liées à l'environnement dans le développement énergétique.*

- DEVELOPING A LARGE WIND ENERGY PROJECT IN A NATURA 2000 AREA - **Janneke Wijnia-Lemstra**, Koepel Windenergie Noordostpolder, The Netherlands
- ENVIRONMENTAL RESEARCH AND WIND ENERGY – LATEST FINDINGS FROM GERMANY - **Sylvia Pilarsky-Grosch**, German Wind Energy Association, Germany
- UK PLANNING FOR ONSHORE WIND – BREAKING DOWN THE BARRIERS - **Gemma Grimes**, British Wind Energy Council (BWEA), United Kingdom
- EU GUIDELINES ON WIND ENERGY AND NATURE CONSERVATION - **Micheal O'Briain**, DG Environment, European Commission
- **Jean-Yves Grandidier**, Valorem, France (tbc)

11:00 - 12:30

Endoume

## Grid planning and operation

DS2

Chairs:

**Zbigniew Styczynski**, IESY, University of Magdeburg, Germany

**Lutz Hofmann**, ForWind, Germany

This session will present the current grid planning problem corresponding to the integration of wind energy to the grid (both onshore and offshore). A presentation from the UK will discuss the dynamic monitoring of the overhead line to increase the transfer capacity and a Norwegian presentation will focus upon the design of offshore power systems taking into consideration the wind farm connection. The storage problems in the power system concerning the V2G technology will be discussed in the presentation from Denmark and the controllability of the wind farms by dynamic behaviour in the Netherlands presentation.

- DYNAMIC MONITORING OF OVERHEAD LINE RATINGS IN WIND INTENSIVE AREAS - **Damian Flynn**, The Queen's University of Belfast, United Kingdom
- OPTIMAL DESIGN OF SUBSEA GRID FOR OFFSHORE WIND FARMS AND TRANSNATIONAL POWER EXCHANGE - **Thomas Trötscher**, SINTEF Energy Research, Norway
- OPTIMAL CONFIGURATION OF FUTURE ENERGY SYSTEMS INCLUDING ROAD TRANSPORT AND VEHICLE-TO-GRID CAPABILITIES - **Nina Juul Andersen**, Risø DTU, Denmark
- FAULT RIDE-THROUGH STRATEGIES FOR VSC-CONNECTED WIND PARKS - **Ralph Hendriks**, Delft University of Technology, The Netherlands





## 11:00 - 12:30 Les Goudes

### Siting challenges / *Défis des localisations*

DT2A

Chairs:

**Hans Jørgensen**, Risø DTU, Denmark

**Thierry Ranchin**, Mines ParisTech, France

This session will consider the effects of climate change and extremes on the siting of wind farms, address offshore modelling and downscaling, as well as issues relating to turbulence and forest.

*Cette session abordera les effets des changements et les extrêmes climatiques sur l'implantation de parcs éoliens, la modélisation et la réduction offshore ainsi que les problématiques relatives aux turbulences et aux forêts.*

- ARE WE FACING INCREASING EXTREME WINDS IN THE FUTURE? - **Niels-Erik Clausen**, Risø DTU, Denmark
- THE GOOD, THE BAD AND THE UGLY: EXTREME WINDS - **Wiebke Langreder**, Suzlon Energy A/S, Denmark
- MODELLING OF OFFSHORE WIND RESOURCES. COMPARISON OF A MESO-SCALE MODEL AND MEASUREMENTS FROM FINO 1 AND NORTH SEA OIL RIGS. - **Erik Berge**, Kjeller Vindteknikk AS, Norway
- PARAMETERISATION OF THE ATMOSPHERIC BOUNDARY LAYER FOR OFFSHORE WIND RESOURCE ASSESSMENT WITH A LIMITED-LENGTH-SCALE K-ε MODEL - **Javier Sanz Rodrigo**, CENER (National Renewable Energy Centre), Spain
- WIND AND TURBULENCE AT A FOREST EDGE - **Ebba Dellwik**, Risø DTU, Denmark

## 11:00 - 12:30 Callelongue

### Small wind turbines and autonomous systems

DT2B

#### *Les éoliennes de moyenne puissance et les systèmes autonomes*

Chairs:

**Gerard Van Busse**, TU Delft, The Netherlands

**Luc Dewilde**, 3E, Belgium

This session will provide participants with an overview of experiences with small wind turbines, including the presentation of some real applications in autonomous systems.

*Cette session fournira aux participants un aperçu des expériences avec des petites éoliennes et comprendra la présentation de certaines applications réelles dans des systèmes autonomes.*

- CONCLUSIONS AND EMPIRICAL DATA FROM THE FIRST LARGE SCALE PUBLIC FIELD TRIAL OF BUILDING-MOUNTED MICRO-WIND TURBINES - **Helen Brown**, Encraft Ltd, United Kingdom
- EXPERIMENTAL RESULTS OBTAINED IN SMALL WIND TURBINES TEST PLANT. NEW PROPOSALS FOR THE MEASUREMENTS - **Luis Cano**, Research Centre for Energy, Environment and Technology (CIEMAT), Spain
- THE PURE PROJECT - AN AUTONOMOUS, HYBRID AND DISTRIBUTED WIND HYDROGEN SYSTEM FOR ISLANDS - **Daniel Akliil-D'Halluin**, Pure Energy Centre, United Kingdom
- THE UTSIRA WIND/HYDROGEN DEMONSTRATION SYSTEM IN NORWAY: AN EVALUATION OF THE OPERATION USING UPDATED SYSTEM MODELLING TOOLS - **Arnaud Ete**, SgurrEnergy Ltd, United Kingdom

## 12:30 - 13:00

BUFFET LUNCH - HALLS 2 & 3



14:00 - 15:30

Auditorium

## Supply chain / *Logistique*

DB3

Chairs:

**Jan Declercq**, Hansen Transmissions, Belgium  
**Allan MacAskill**, SeaEnergy, United Kingdom (tbc)

This session will look at supply chain vertical integration versus outsourcing, the relationship between OEMs and suppliers and supply chain issues in the US. Presenters will also address the challenge of meeting demand growth and meeting quality standards in a constrained supply and HR environment and explore training concepts to meet qualification standards.

*Cette session examinera l'intégration verticale de la logistique versus la sous-traitance, la relation entre le fabricant de pièces détachées et les fournisseurs ainsi que les problèmes de logistique aux Etats-Unis. Les orateurs aborderont également la question qui consiste à répondre à une demande croissante tout en conservant les standards de qualité lorsque les fournitures et les ressources humaines sont limitées et à explorer les concepts de formation pour répondre aux normes de qualification.*

- SUPPLY CHAIN DEVELOPMENT IN THE UNITED STATES - **Britt Theismann**, American Wind Energy Association (AWEA), United States of America
- SUPPLY CHAIN VERTICAL INTEGRATION VS OUTSOURCING - **Todd Allmendinger**, Emerging Energy Consulting, Spain
- STRONG GROWTH - HALLENGES FOR THE SUPPLY INDUSTRY - **Johannes Schiel**, German Engineering Association (VDMA), Germany
- WINDENERGY MARKET FROM THE PERSPECTIVE OF A MAJOR SUB-SUPPLIER - **Stefan Karlsson**, SKF Group, Sweden
- **Frank Nielsen**, LM Glasfiber, Denmark (tbc)

14:00 - 15:30

Endoume

## Wind power plants and grid integration

DS3

Chairs:

**Lars Landberg**, Garrad Hassan & Partners, Denmark  
**Poul Sørensen**, Risø DTU, Denmark

This session will cover elements of wind farms as power plants and integration into the electrical grid. Firstly, a discussion about the impact of large amounts of wind power in the system will be given; the variability of the off-shore wind farm Horns Reef will then be discussed. The session will then look at how wind farms can be operated like conventional power plants. Finally, it will address how variable speed turbines can affect the frequency response.

- IMPACTS OF LARGE AMOUNTS OF WIND POWER ON DESIGN AND OPERATION OF POWER SYSTEMS, RESULTS OF IEA COLLABORATION - **Hannele Holttinen**, VTT Technical Research Centre of Finland, Finland
- CHARACTERISATION OF WIND VARIABILITY AT THE HORNS REEF WIND FARM - **Claire Vincent**, Risø DTU, Denmark
- WIND POWER PLANT CAPABILITIES - OPERATE WIND FARMS LIKE CONVENTIONAL POWER PLANTS - **Alejandro Gesino**, ISET e.V., Germany
- STUDY ON VARIABLE SPEED WIND TURBINES' CAPABILITIES FOR FREQUENCY RESPONSE - **Germán Claudio Tarnowski**, DTU University & Vestas Wind Systems, Denmark

**14:00 - 15:30** \_\_\_\_\_ **Les Goudes****Modelling wind flow / *Modélisation des flux d'air*****DT3A**

Chairs:

**Erik Lundtang Petersen**, Risø DTU, Denmark**Rebecca Barthelmie**, University of Edinburgh, United Kingdom

In this session on modelling wind flow, speakers will explore issues of CFP, complex terrain, marine boundary layers and internal boundary layers and provide a critical analysis of linear flow models. The latest developments relating to numerical wind atlases and modelling the risk of icing will also be covered.

*Dans cette session consacrée à la modélisation des flux d'air, les intervenants exploreront les problématiques CFP, les terrains complexes, les couches limites marines et les couches limites internes. Ils fourniront une analyse critique de modèles de flux linéaires. Les derniers développements en matière d'atlas numérique des vents et de modélisation du risque de formation de glace seront également abordés.*

- ATMOSPHERIC CFD SIMULATIONS COUPLED TO MESOSCALE ANALYSES FOR WIND RESOURCE ASSESSMENT IN COMPLEX TERRAIN - **Laurent Laporte**, Atmospheric Environment Teaching and Research Centre (CEREA), France
- PREDICTING AND UNDERSTANDING THE BREAKDOWN OF LINEAR FLOW MODELS - **Peter Stuart**, Renewable Energy Systems (RES) Ltd., United Kingdom
- MESO-MICRO-SCALE COUPLING OF OFFSHORE WIND SPEED MODELS - **Jens Tambke**, ForWind - University of Oldenburg, Germany
- MODELLING THE RISK OF ICING - **Silke Dierer**, Meteotest, Switzerland

**14:00 - 15:30** \_\_\_\_\_ **Callelongue****Distributed blade control / *Contrôle réparti des pales*****DT3B**

Chairs:

**Gijs van Kuik**, TU Delft, The Netherlands**Thomas Buhl**, Risø DTU, Denmark

With the increasing size of wind turbines, the control of loads and performance has moved from fixed pitch, fixed rpm concepts to individual blade pitch and variable speed operation. Field testing of the latter is reported, while at the same time industry and R&D community are preparing for the next step: detailed control of blade loads and performance by spanwise-distributed aerodynamic devices like flaps. This session covers most of these topics resulting in a survey of the state of the art.

*Avec la progression de la taille des éoliennes, le contrôle des charges et performances est passé du pas fixe et du concept de tours/minute fixes, aux concepts de pas de pale individuelle et de vitesse de fonctionnement variable. Les essais sur le terrain de cette dernière font l'objet de rapports, alors que, dans le même temps, le secteur et la communauté R&D se préparent pour l'étape suivante: le contrôle détaillé des charges et de la performance des pales par des appareils aérodynamiques*

*répartis sur l'ensemble de l'envergure, tels que des volets. Cette session couvre la majorité des sujets permettant de dresser un état de lieux de ce qui se fait de mieux actuellement.*

- CALCULATIONS OF FLOW AROUND AN AIRFOIL WITH A TRAILING-EDGE FLAP BY USE OF AN IMMERSSED BOUNDARY METHOD - **Tim Behrens**, Vestas Wind Systems A/S, Denmark
- THE IMPACT OF ACTIVE AERODYNAMIC LOAD CONTROL ON WIND ENERGY CAPTURE AT LOW WIND SPEED SITES - **Jose Zayas**, Sandia National Laboratories, United States of America
- AEROELASTIC MODELLING AND COMPARISON OF ADVANCED ACTIVE FLAP CONTROL CONCEPTS FOR LOAD REDUCTION ON THE UPWIND 5MW WIND TURBINE. - **Thanasis Barlas**, DUWind, TU Delft, The Netherlands
- LOAD REDUCTION USING PRESSURE DIFFERENCE ON AIRFOIL FOR CONTROL OF TRAILING EDGE FLAPS - **Peter Bjoern Andersen**, Risø DTU, Denmark
- FIELD TESTING OF INDIVIDUAL PITCH CONTROL ON THE NREL CART-2 WIND TURBINE - **Ervin Bossanyi**, Garrad Hassan & Partners, United Kingdom

**15:30 - 16:30** \_\_\_\_\_ **Auditorium****Closing session / *Séance de clôture***

- Keynote speech: **Jean-Claude Gaudin**, Mayor of Marseille
- Poster and Scientific Awards
- Conference summary and farewell words



## Global policies and markets

- THE NEW EUROPEAN INVASION: ADVICE FOR EUROPEAN DEVELOPERS BUILDING WIND PROJECTS IN THE USA - **Anntonette Zembrzuski Alberti**, Tetra Tech, United States PO.1
- THE EFFECT THAT THE NEWLY ELECTED US PRESIDENT AND CONGRESS WILL HAVE ON THE AMERICAN WIND MARKET - **Michael Stavy**, Consulting Energy Economist, United States PO.2
- WIND ENERGY DEVELOPMENT PERSPECTIVES IN ARMENIA - **Artur Lalayan**, Zod Wind CJSC, Armenia PO.3
- WIND ENERGY PROJECTS OF GRETA ENERGY IN RUSSIA, ESTONIA, VIETNAM AND BOSNIA@HEREZEGOVINA - RESULTS, PROBLEMS AND BOTTLENECKS - **Georgy Ermolenko**, Greta Energy Inc., Russian Federation PO.4
- REVIEW OF WIND TURBINE TECHNOLOGY - 2008 - **Ivan Abreu**, MEGAJOULE - Renewable Energy Consultants, Portugal PO.6
- CREATING A GLOBAL WIND INDUSTRY - AN EU CASE STUDY - **Bruce Woodman**, Pure Energy Professionals, United Kingdom PO.7
- WINNING THE U.S. HEARTS AND MINDS ON A 20% WIND FUTURE - **Larry Flowers**, Nrel, United States of America PO.8
- GLOBALIZATION OF THE WIND INDUSTRY AND THE OPPORTUNITIES CREATED - **Charles Vaughan**, Clipper Windpower, Inc., United States PO.9
- INTELLIGENT WIND PROJECT PORTFOLIO MANAGEMENT - **Thomsen Thomas**, Clipper Windpower, Inc., United States PO.10

## Renewable energy policies in European member states

- THE NEW TECHNICAL CODES FOR GENERATORS IN GERMAN DISTRIBUTION NETWORKS ? A SOUND BASIS FOR FURTHER GROWTH OF RENEWABLE ENERGY SOURCES AND DISTRIBUTED GENERATION - **Karsten Burges**, Ecofys Germany GmbH, Germany PO.14

## Environmental research

- WIND PARK NOISE EVALUATION USING COMPUTATIONAL TOOLS AND EXPERIMENTAL MEASUREMENTS - **Konstantinos Garakis**, TEI of Piraeus, Greece PO.15
- INCREASING THE VALUE OF PRE-CONSTRUCTION ASSESSMENTS BY FOCUSING ON OPERATIONAL PHASE MITIGATION EFFORTS - **Kevin Rackstraw**, Clipper Windpower, Inc., United States PO.16

## European markets

- DAY-AHEAD ELECTRICITY PRICES IN DENMARK: THE IMPACT OF WIND POWER FORECASTS - **Tryggvi Jónsson**, ENFOR A/S & Institute for Informatics and Mathematical Modelling, Technical University of Denmark, Denmark PO.17
- OFFSHORE WIND INDUSTRY IN FRANCE AND EU POLICIES - **Guillaume Fagot**, Enertrag France, France PO.18
- EUROPEAN WIND MARKETS – POLICY LANDSCAPE OUTLOOK IN A CHANGING MARKET ENVIRONMENT - **Martin Berkenkamp**, GE Energy, Germany PO.19

## Mediterranean markets

- ITALY, AMBITIONS AND CONTRADICTIONS IN THE DEVELOPMENT OF THE WIND ENERGY SECTOR - **Felice Vai**, Asja Ambiente Italia, Italy PO.21
- DEVELOPMENT OF A 200 MW WIND FARM 'BAVANISTANSKO POLJE' IN SERBIA - **Miodrag Obradovic**, Wellbury Wind Energy d.o.o, Serbia PO.22
- TURBULENCE ON THE FRENCH WIND MARKET? - **Nicolas Wolff**, Vestas France, France PO.23
- STATUS AND PROSPECTS OF CROATIAN WIND MARKET, LEGAL FRAMEWORK AND PERMITTING PROCEDURES - **Nikola Karadza**, Energy Institute Hrvoje Pozar, Croatia PO.24
- WIND POWER DEVELOPMENT IN TURKEY - **Geert Dooms**, 3E, Belgium PO.25

## Wind and carbon markets

- POSSIBILITIES OF REDUCING CO2 EMISSIONS OF CONVENTIONAL UTILITIES USING OFFSHORE WIND ENERGY - **Michael Splett**, University of Paderborn, Germany PO.26
- DOES THE CARBON MARKET SUPPORT A CARBON FREE ENERGY FUTURE? - **Cássia Januário**, Vestas, Denmark PO.27

## Supply chain

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- SUBMARINE POWER CABLE ROLE IN THE SUPPLY CHAIN - **Mark Chanine**, Norddeutsche Seekabelwerke GmbH, Germany PO.29
- WIND TURBINE SUPPLY IN A CONSTRAINED SUPPLY CHAIN ENVIRONMENT - **Ian Cluderay**, Clipper Windpower, Inc., United States PO.31



## Human resources and education

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- THE DEVELOPMENT OF RES LEARNING IN GREEK PRIMARY EDUCATION: A REAL CASE OR A FADE AWAY DREAM? - **Konstantinos Papatrechas**, Hellenic Centre of Marine Research, Greece PO.33
- STRUCTURE AND IMPLEMENTATION OF THE WINDSKILL QUALIFICATION STANDARD FOR THE EUROPEAN WIND ENERGY SECTOR - **Gerard McGovern**, MCG europe, Germany PO.34
- INVENTUS - A UNIVERSITY PROJECT ON A WIND ENERGY PROMOTION VEHICLE - **Mark Capellaro**, SWE, Germany PO.35
- WIND FOR SCHOOLS, THE DEVELOPMENT OF EDUCATIONAL PROGRAMMES TO ASSIST IN TRAINING THE NEXT GENERATION OF WIND ENERGY EXPERTS - **E. Ian Baring-Gould**, National Renewable Energy Laboratory, United States PO.36
- WIND ENERGY IN CUBA AND ITS EXPERIENCES ON RENEWABLE ENERGY EDUCATION WITH SPECIAL EMPHASIS ON WIND ENERGY - **Conrado Moreno**, Centro de Estudio de Tecnologias Energeticas Renovables (CETER), Cuba PO.37

## Integrating wind into electricity markets

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- PUBLIC ACCEPTANCE OF WIND TURBINES ? THE ROLE OF PSYCHOLOGICAL VARIABLES - **Petra Schweizer-Ries**, University of Magdeburg, Germany PO.45
- THE RESEARCH ON PUBLIC PERCEPTIONS TOWARD WIND POWER PROJECTS - **Theodoros Kolonas**, Eunice Energy Group, Greece PO.46
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- ANALYTICAL METHODS FOR ENERGY DIVERSITY AND SECURITY: RECOGNISING THE VALUE OF RENEWABLES - **Fabien Roques**, Associate Director, European Gas and Power, Cambridge Energy Research Associates, France PO.49
- DEALING OF AN OVERWHELMING WIND TURBINE LANDSCAPE THROUGH REPOWERING - **Jan Van den Berg**, Province of Flevoland, The Netherlands PO.50
- CREATING THE MAP OF VOJVODINA'S WIND POTENTIAL USING LINEAR INTERPOLATION INDEPENDENT OF DIRECTION - **Nikola Vasiljevic**, Student of Msc. program at Faculty of Electrical Engineering, Belgrade, Serbia PO.51
- GEOGRIDS ENABLE SITE ACCESS AT SCOUT MOOR WINDFARM, UK - **Joerg Klompmaker**, BBG Bauberatung Geokunststoffe GmbH & Co. KG, Germany PO.52
- ASSESSING RADAR MITIGATION OPTIONS FOR WIND FARM DEVELOPERS - **Mike Watson**, Pager Power Ltd, United Kingdom PO.53
- MARINE SPATIAL ANALYSIS, A KEY TOOL TO DELIVERING OFFSHORE PRODUCTS - **Sam Pryor**, SeaRoc Group, United Kingdom PO.54
- REPOWERING: GETTING MORE OUT OF IT LAYOUT OPTIMISATION BY APPLYING IEC STANDARDS - **Matthias Henke**, Lahmeyer International, Germany PO.55
- POTENTIAL FOR OFFSHORE CABLE CONNECTIONS IN ESTUARIES - **Daniel Hunke**, Ecofys Germany GmbH, Germany PO.56
- TECH-ECONOMIC EVALUATION OF WINDMILL CONSTRUCTION FOR IRRIGATION IN THE ARBORS OF GAZVIN REGION IN IRAN - **Majid Saghafi**, Gent University, Belgium PO.57





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- WIND AND WAKE MODELS FOR IEC 61400-1 SITE ASSESSMENT - **Morten Nielsen**, Risø DTU, Denmark PO.89
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*"Events like EWEK 2009 allow the wind industry, policy makers and journalists to be part of a valuable and positive experience that are of benefit to all!"*

**Andris Piebalgs**, European Commissioner for Energy and EWEK 2009 speaker





## Wind Energy Finance Forum

16-17 March 2009, Callelongue

Reflecting the importance of finance to the successful deployment of wind power in Europe, this year's **Wind Energy Finance Forum** will feature a **special panel session on Monday 16 March**, dedicated to discussing the volume and availability of capital in the wind energy market.

This debate is particularly important and relevant to the industry as the liquidity crisis has made raising funds both more challenging and more expensive. The impact of the increased cost of money generally, and risk money in particular, is likely to impact on the growth of the sector in the coming years, and in the potential returns earned by the industry participants. One of the major instruments to fight a global economic crisis will be stimulus packages for infrastructure investment, and one of the key sectors will be energy, be it via grid infrastructure or new plants.

No other industry has such a steep learning curve and makes it so easy for investors as the wind energy industry. It represents a safe haven for strategic investors who are looking for long-term investments with rates of around 10 %. EWEK 2009, and the Finance Forum in particular, is the ideal event to revive investor confidence.

The panel will run in parallel to the traditional policy and technology panel sessions and will be followed by three conference sessions on Tuesday 17 March, which will cover the areas currently challenging financiers and asset owners.

### Tuesday 17 March

09:00 - 10:30 **Project finance**

11:00 - 12:30 **Risk assessment**

16:00 - 17:30 **Private equity and venture capital**

For further details on sessions in the Finance Forum, **please see pages 12-19.**

Speakers will be drawn from banks, advisory firms, corporations and developers, providing a forum for a wide-ranging discussion about various aspects of the above topics and how they might affect individual companies.



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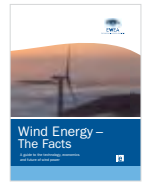
*"The Finance Forum at EWEK 2009 will help participants shed some light on how the European wind industry will be affected by the current liquidity squeeze."*

*Andrew Perkins, Ernst & Young*



## Pre-conference seminar: 'Wind Energy – The Facts'

Sunday, 15 March 2009, 10:00 - 16:00  
Callelongue



'Wind Energy – The Facts' is a European Commission-funded project, widely considered to be the most important wind energy reference in the world. It presents a detailed overview of the wind energy sector, with the most up-to-date and in-depth information on the essential issues concerning wind power today.

The new edition of the 'Wind Energy - The Facts' publication will form the basis for a comprehensive pre-conference seminar designed to give an insight into all aspects of the wind energy industry.

Newcomers to wind energy and those wishing to refresh their knowledge of the essential issues concerning wind power today will benefit from a detailed overview of the wind energy sector, delivered by a consortium of experts from all over Europe.

Organised by **French Wind Energy Association (FEE)** and the **European Wind Energy Association (EWEA)**, the event will bring together a broad range of stakeholders from the wind energy sector, public administration and the media.

### Programme

09:00 - 10:00 **Registration and welcome coffee**

10:00 - 11:00

- **Welcome and opening speech:** *Charles Dugué*, CEO, French Wind Energy Association (FEE)
- **Fundamentals of wind energy:** *Christian Kjaer*, CEO, European Wind Energy Association (EWEA) and *Charles Dugué*, CEO, French Wind Energy Association (FEE)
- **Wind resource estimation:** *Andrew Tindal*, Garrad Hassan & Partners, United Kingdom

11:00 - 11:30 **Coffee break**

11:30 - 12:20

- **Wind turbine technology** (including offshore): *Peter Jamieson*, Garrad Hassan & Partners, United Kingdom
- **Industry and Markets/Scenarios:** *Bruce Douglas*, COO, European Wind Energy Association (EWEA) and *Nicolas Wolff*, French Wind Energy Association (FEE) Board Member

12:20 - 13:30 **Lunch**

13:30 - 14:45

- **Grid Integration:** *Frans Van Hulle*, External Technical Consultant, XPwind, Belgium
- **Economics of wind power – status and perspective:** *Poul Erik Morthorst*, Risø DTU, Denmark

14:30 - 14:45 **Coffee break**

14:45 - 16:00

- **Support schemes for renewables in EU:** *Benjamin Pfluger*, Fraunhofer Gesellschaft, Germany
- **Direct employment in the wind energy sector - an EU study:** *Isabel Blanco*, Gamesa Energia, Spain
- **Environment:** *John Twidell*, AMSET Centre, United Kingdom

16:00 **Final remarks/Reception**

All presentations will be followed by a short Q&A. The seminar will be translated into French.

## Wind Power Works Campaign



The **Global Wind Energy Council (GWEC)** has partnered with **EWEA**, the **Danish Wind Industry Association (DWIA)** and other wind energy associations from around the world to run a high-profile media campaign during the crucial 12 months of negotiations between COP14 and COP15: **Wind Power Works**.

Wind energy has a strong case as a climate change solution, it has a real responsibility and it deserves a place at the table. However, to date, the wind industry has been virtually absent from the debate. Wind energy can and must play a central role in the energy revolution, but there is very little understanding among politicians, policy-makers and the media about the tremendous potential of wind energy as a climate change solution.

This campaign is designed to increase the visibility of the wind industry vis-à-vis international media and decision makers, and to present wind energy as the best supply-side solution to combat climate change between now and 2020. Leading wind energy companies who have already signed up include: Siemens, Vestas, GE Energy, Iberdrola, LM Glasfiber, Suzlon, ABB, Dong, Garrad Hassan, REPower, Nordex and NRG Systems.

To find out more about the **Wind Power Works campaign** please contact **Angelika Pullen**: [angelika.pullen@gwec.net](mailto:angelika.pullen@gwec.net) or visit [www.windpowerworks.net](http://www.windpowerworks.net).



## JOB FAIR – EXPLORE THE OPPORTUNITIES

Monday, 16 March 2009, 10:00-17:00  
Mezzanine level, Hall 2

Some 325,000 European jobs will be created by the wind industry by 2020.

Following the successful introduction of the first Job Fair at the 2008 European Wind Energy Conference and Exhibition (EWEC) in Brussels, EWEA will be holding a second specialised event to promote employment in the wind industry at next year's EWEC. The 2009 Job Fair will offer a unique opportunity to bring together potential employers, new graduates and experienced professionals within the framework of EWEC, Europe's premier wind energy event.

*"The job fair at EWEC 2008 provided us with the opportunity to meet and get to know good quality candidates, from a great variety of professional and educational backgrounds"*

Gamesa

### Recruitment opportunities

The 2008 Job Fair attracted over 300 relevant candidates, whose profiles perfectly matched the numerous jobs being offered by the exhibiting companies.



*"Wind energy is a sector which is going to grow and grow – it offers great employment opportunities."*

2008 Job Fair attendee

### Job opportunities

Meet company representatives face-to-face and establish new contacts to boost your future career prospects in one of the world's fastest-growing industries!

## Motivational Seminar: Maximise your EWEC experience

Monday, 16 March 2009, 17:30 - 18:30  
Callelongue

Attendees come to the annual EWEC conference & exhibition for many different reasons, but one fact remains the same for everyone – to get the most from the event it helps to be in the right frame of mind. In this entertaining and energetic session, attendees will learn to understand things from another perspective, leading to a more rewarding experience at **EWEC 2009**, as well as greater success in both their professional and personal lives.

This seminar will show attendees that although we may believe that our thoughts, attitudes, perceptions and feelings are controlled unconsciously, nothing could be further from the truth. Drawing from his experience gained from the variety of physical and mental challenges he has undertaken, along with the academic study of human behaviour, Jon Bradshaw will challenge your perceptions and make sure you experience EWEC 2009 to the fullest.



**Be prepared to explore the way you perceive the world – and get ready to change it!**

Jon Bradshaw is a motivational speaker & human performance consultant. For more information about Jon Bradshaw, please visit his website: [www.equinoxmotivation.com](http://www.equinoxmotivation.com).



## EXTRA EVENTS



### Free film preview: The Age of Stupid



**Wednesday, 18 March 2009, 18:00 - 20:00**  
**Callelongue**

In *The Age of Stupid*, Oscar-nominated Pete Postlethwaite stars as a man living alone in the devastated world of 2055, looking at "old" footage from 2008 and asking: why didn't we stop climate change when we had the chance? This ground-breaking documentary focuses on six human stories – including that of a wind-farm developer battling against strong public opposition.

Join us for a free special preview screening of this exciting new film! The screening will take place on Wednesday after the conference sessions. Following the screening, you can also meet one of the film's stars and engage in a lively discussion about the film.

HIGHLIGHTS

### **NEW** EWEA Members' Lounge at EWEC 2009



The EWEA Members' Lounge is an exclusive area for EWEA members to relax and network with other members. Coffee, snacks, daily papers and free wi-fi access will be provided in comfortable surroundings. The Lounge is open from 08:00-18:00 (16:00 on Thursday).

All members are also invited to a daily policy briefing by EWEA's in-house policy experts, which will give an overview of a different policy issue affecting wind energy.

### EWEA Policy Briefings

**Monday afternoon coffee break (15:30 – 16:00)**  
**The EU Emission Trading System (ETS)**

This briefing will consider which parts of the ETS, agreed in December 2008, are potentially beneficial to EWEA members. In particular, the impact of issues such as auctioning versus free allocation, the use of auctioning revenue and New Entrants Reserve funding for Renewables upon the development of wind energy will be discussed. Furthermore, the briefing will address Clean Development Mechanisms and the credits they can provide for project developers. Here, the main topics for discussion will be the quality of credits (i.e. potential inclusion/exclusion of technologies in the crediting system) and their use in different Emission Trading initiatives.

**Tuesday morning coffee break (10:30 – 11:00)**  
**EU Renewable Energy Directive**

This briefing will look at how the Renewable Energy Directive can benefit wind power development in the EU. Members will learn which policies EU Member States are expected to put in place to develop wind power and meet their binding targets.

**Wednesday afternoon coffee break (15:30 – 16:00)**  
**National Action Plans (NAPs)**

This briefing will focus on the 'Renewable Energy Action Plans', which all EU Member States will have to communicate to the European Commission by June next year. These Action Plans will highlight how each Member State intends to reach its targets as per the EU Renewable Energy Directive. The briefing will look at what exactly is expected of the Member States, and consider the European Commission's role in ensuring their efficiency.

**Thursday morning coffee break (10:30 – 11:00)**  
**Offshore wind energy: Blueprint for a North Sea grid**

This briefing will examine the Blueprint for a North Sea grid, which the European Commission plans to deliver by the end of 2010, together with a Mediterranean Energy Ring and Baltic Interconnection Plan.

**Not an EWEA member yet?**

Join and take advantage of the Members' Lounge and policy briefings, amongst many other benefits.

For more information about becoming an EWEA member, visit the EWEA stand (2532, Hall 1) or visit our website [www.ewea.org](http://www.ewea.org).





## EWEC – the most sustainable event in the global energy industry

The European Wind Energy Association (EWEA) is very much aware of the increasing need to provide an intelligent response to climate change and related environmental crises and is ready to take action.

EWEC 2009 represents the perfect platform to implement innovative green and Corporate Social Responsibility (CSR) practices. In parallel to the growth witnessed in the wind industry, EWEC is increasing in exhibition size, number of participants and venue capacity year after year. EWEA would like to ensure that the impact on the environment of such large events is minimised.

To this end, EWEA is implementing a number of measures to make EWEC as 'green' as possible and encourages all delegates to join in! The event website provides useful tips on what you can do to help and details of our own measures.

On our side, we carefully select our event suppliers and try to bring maximum benefit to the local community. For instance, our EWEC 2009 catering company is ISO 9001 certified, which is an internationally recognised standard for an organisation's internal Quality Management. It also has a sustainable development programme in place which ensures the implementation of environmentally friendly practices and the use of local products.

EWEA is working towards certification via the 'MeetGreen' event audit, which measures and benchmarks across eight areas to improve the sustainability performance of our events.



HIGHLIGHTS

We believe that future healthy communities rely on the successful creation of renewable energy systems and the integration of responsible business practices. We are committed to inspiring responsible action and taking social and environmental considerations into account in everything we do.

Your participation in this initiative is greatly appreciated. Remember, the first steps to global change start with each of us. Thank you for helping to make a difference!

### Green your travel



If you are concerned about the carbon dioxide emitted by travelling to EWEC, why not consider supporting a renewable energy project from the Koru Foundation?

The Koru Foundation is the chosen charity of the EWEA. It develops community-managed, small-scale renewable energy projects in developing countries that address energy poverty and do not contribute to climate change.

Climate change is likely to hit the poorest in the world the hardest. Supporting the Koru Foundation's project portfolio is a positive way to invest effectively in poverty reduction and climate change mitigation. It helps those communities most at risk build resilience and adapt to climate change.

Because of the unique way the charity is funded it guarantees that 100% of the money donated for projects is spent entirely on projects. Like an hybrid wind and solar system which will provide

electricity to a community in central Nicaragua, or a micro-hydro scheme in the Peruvian Andes that will power schools, homes and medical centres in remote communities.

If you would like to make a donation to the Koru Foundation in order to compensate for the CO<sub>2</sub> emissions caused by your travel to EWEC, please visit the "A greener EWEC" section of the EWEC 2009 website. 100% of your donation will be spent on a renewable energy project in a developing country.

Visit the Side event organised by the Koru Foundation on Wednesday 18 March from 14:00 – 16:00 in 'Gyptis' room (Palais de Arts, Parc Chanot). See page 57 for more details.

If you would like to learn more about the Koru Foundation please visit its website [www.korufoundation.org](http://www.korufoundation.org)



## SIDE EVENTS



### SIDE EVENTS OVERVIEW

All side events will take place in the Palais des Arts, Parc Chanot

#### Sunday 15 March

10:00-17:00 - Gyptis' room: **Tutorial: Risk management in wind energy investment**

#### Monday 16 March

15:30 – 17:00 - Gyptis' room: **Maryland: the Gateway to Obama's Stimulus Package and the North American Wind Energy Market**

#### Tuesday 17 March

09:30 - 12:30 - 'Pytheas' room: **The Friends of the Supergrid 'How the supergrid is really going to be built'**

10:30 - 13:00 - 'Gyptis' room: **Innovative & reliable wind rotor blades**

11:00 - 12:30 - 'Protis' room: **Small scale wind energy application in rural areas**

12:30 - 14:30 - 'Euthymenes' room: **With Growth, comes Pain: Targeted HR solutions to attract talent for the wind energy sector**

14:00 - 17:00 - 'Protis' room: **Wind Turbine Simulation using S4WT**

14:00 - 19:00 - 'Pytheas' room: **Regional planning of wind energy projects**

15:00 - 18:00 - 'Gyptis' room: **Development of the offshore grid in the Baltic/North Sea area**

16.00 - 17.30 - 'Euthymenes' room: **International wind market round up**

#### Wednesday 18 March

11:00 - 12:30 - 'Pytheas' room: **Remarkable results of the UpWind project**

14:00 - 16:00 - 'Gyptis' room: **The role of community- scale renewables in developing countries**

15:00 - 17:30 - 'Pytheas' room : **Canada's Wind Vision = Infinite Possibilities**

EWEA does not accept any responsibility for side events. Full responsibility for these events rests with individual side event organisers.

For questions about side events, please call Chantal Gennen: +32 4 79 40 08 42.

## TUTORIAL: RISK MANAGEMENT IN WIND ENERGY INVESTMENT

Sunday 15 March 10:00-17:00

### 'Gyptis' room (Palais des Arts, Parc Chanot)

On the eve of EWEA 2009, 3E is organising a tutorial on risk management in wind energy investment. This one-day tutorial will be led by experienced experts in the field. The training, which is primarily targeted at project owners, investors and financiers, will give you an in-depth insight in uncertainties related to the assessment of the resources and how to assess and manage risk when investing in wind energy projects. Participants will get an overview of strategies used in developing wind energy projects and services and methods to mitigate the risk.

The topics that will be covered include:

- Uncertainties in wind measurements and analysis
- Uncertainties related to modelling tools for resource assessment

- Uncertainties related to long-term wind variation
- Tools to reduce risk and improve financial performance
- Short-term predictions valuing your output on power markets
- Risk hedging and insurances
- Stability of the EU green electricity market: the new EU directive

About the organiser: 3E ([www.3e.eu](http://www.3e.eu)) is an independent expert company specialised in renewable energy and energy efficiency. The company performs technical studies as well as strategic corporate and public sector studies on sustainable energy technology, policy and markets.

The event is only available to preregistered participants. It is not possible to register for this event on-site.





## MARYLAND: THE GATEWAY TO OBAMA'S STIMULUS PACKAGE AND THE NORTH AMERICAN WIND ENERGY MARKET

Monday 16 March 2009, 15:30 – 17:00



'Gyptis' room (Palais de Arts, Parc Chanot)

Maryland has committed to a 20% Renewable Portfolio Standard (RPS) by 2022. This seminar will provide detailed information on the Maryland wind energy market potential and industry, trade, investment and technology partnership opportunities related to the implementation of in-state generation of clean energy to meet Maryland's progressive RPS. This year, the State expects initial utility scale installation of on-shore wind energy, and as Maryland has a larger coastline than California, the off-shore wind-energy potential provides corresponding opportunities.

Maryland's State and local governments can't 'save' their way out the current recession, but they must 'invest' their way out. Maryland's expected piece of the anticipated Federal 'investment' package could be \$6-7 billion.

At this seminar, you will:

- Learn how Maryland is aligned to receive block grants from President Obama's stimulus package and understand the expected impact on the state's renewable energy.
- Gain insight into the resources that Maryland provides for European companies seeking entry to the North American Market.
- Discover the state's "smart, green and growing" initiative that keeps its workforce current.
- Understand the importance that Maryland places on public/private partnerships through its new and unique Clean Energy Center.

This side event is open to all registered EWEC 2009 participants. Pre-registration is not required.

## THE FRIENDS OF THE SUPERGRID: 'HOW THE SUPERGRID IS REALLY GOING TO BE BUILT'

Tuesday 17 March 2009, 09:30 – 12:30



'Pytheas' room, Palais des Arts (Parc Chanot)

The purpose of this workshop is to bring together all those who have an interest in the construction of a European offshore supergrid. This event has a clear purpose: to commit to the building of the supergrid within a defined period. Included at the workshop will be members of national governmental policy communities as well as representatives from the areas who stand most to benefit from the supergrid.

Some of the topics that will be covered include:

- The extent of the resource;
- DC grid technology;
- Governance of a supergrid and incentivisation for grid operators and builders;

- Costs of the supergrid;
- Innovation and other supply chain issues;
- Proposals for an offshore TSO and effects on employment in Europe.

The workshop is intended to identify a clear set of conclusions to inform national and European policy makers, including the Adamowitsch Working Group on Offshore Wind.

The event is only available to pre-registered participants. Pre-registration at the Mainstream Stand (Hall 1, Stand no.1730) or by email to [supergrid@mainstreamrp.com](mailto:supergrid@mainstreamrp.com).

## INNOVATIVE & RELIABLE WIND ROTOR BLADES

Tuesday 17 March 10:30-13:00



'Gyptis' room (Palais des Arts, Parc Chanot)

This side event will provide an overview of a French global offer for high performance design, manufacturing & supply located in the Bordeaux region. The two leading companies in high performance composite structures, EADS Astrium & EADS Composites Aquitaine, have come together to develop and produce new composite wind turbine blades.

The wealth of experience gained in their core-business (aeronautics & space) as well as in other industrial fields (such as off-shore and transportation) is today more and more applicable to wind turbine blades due to their increasing size, but also due to the request of an increased reliability.

This new venture is fully supported by the Region of Bordeaux, which is located in the heart of the « European Atlantic market » for wind energy, in the middle of the UK, France, Spain, Portugal and North Africa, and which also has a wide expertise in composite structures development (from research to industrial products). Moreover, the location enables the development of a manufacturing plant close to the Gironde river, thus being an advantage for shipping the blades by sea.

The event is only available to pre-registered participants. It will not be possible to register for this event on-site.



## SIDE EVENTS



### SMALL SCALE WIND ENERGY APPLICATION IN RURAL AREAS

Tuesday 17 March 2009, 11:00 - 12:30

#### 'Protis' room (Palais des Arts, Parc Chanot)

This side event is a discussion workshop that will consider the question 'How may a large market for grid-connected microgeneration in richer countries affect wind power in poorer countries?'

In the 'small is beautiful' era of the 1970s, there was significant development of small-scale wind power for water pumping and autonomous power especially in developing countries; yet widespread success had not occurred. However, some 30 years later, microgeneration is expanding rapidly in developed countries.

The workshop will discuss the effects of standardisation, institutional support, technical innovation, mass markets, information availability, crossover of solar photovoltaics and wind, etc.

Moderator: *John Twidell* (AMSET Centre, UK) with colleagues *Gerard van Bussel* (TUDelft, The Netherlands) and *Luc Dewilde* (3E, Belgium).

This side event is open to all registered EWEC 2009 participants. Pre-registration is not required.



### WITH GROWTH, COMES PAIN: TARGETED HR SOLUTIONS TO ATTRACT TALENT FOR THE WIND ENERGY SECTOR

Tuesday 17 March at 12:30 - 14:30 (Lunch)

#### 'Euthymenes' room (Palais des Arts, Parc Chanot)

The rapid growth in the Wind Energy Sector has created a difficult challenge in attracting and retaining the best talent throughout the world. The stakes are high for companies to hit human capital timelines, especially when demand for talent is greater than supply and the competition is aggressively pursuing the same best people to win market share.

In order to win the "war", it is proven that organisations which adopt new and creative methods in recruitment practice stand out and surpass the competition to capture the best talent. Avancos, a leader in Human Capital Solutions for the renewable energy sector, will share their experience and innovate solutions currently being utilised by companies to overcome these challenges.

This side event is a MUST for all wind energy companies who are looking for innovative strategies to attract talent in the years to come. A luxury lunch will be served.

The VP Human Resources of **Suzlon Wind Energy**, *Mark van Dongen*, will join the session and share with the group his experience and benefits gained through use of **Avancos' services**.

This side event is open to all registered EWEC 2009 participants. Pre-registration is not required.



### WIND TURBINE SIMULATION USING S4WT

Tuesday 17 March, 14:00 - 17:00

#### 'Protis' room (Palais de Arts, Parc Chanot)

SAMTECH, European specialist in development of Computer Aided Engineering software and advanced FEA modelling technology, will hold a side event at EWEC2009 to demonstrate to the wind energy industry the power and user-friendliness of the latest release of its engineering software platform "SAMCEF for Wind Turbines (S4WT)".

S4WT is dedicated to the prediction of dynamic loads on Wind Turbine components, through a global model of the whole wind turbine, with or without gearbox. S4WT can be used at different levels in the wind turbine engineering process and by different engineering teams pursuing the same goals (loads groups, trans-

mission departments, component teams, integration programmes etc.w). It is made of two main parts that will be demonstrated during the workshop: S4WT Modeler for sub-models creation and S4WT Desktop for automated computations and post-processing of the whole wind turbine with aerodynamic forces and control.

After the technical presentations of the conference, the participants will have the opportunity to ask questions and interact with SAMTECH teams.

The event is only available to preregistered participants. It is not possible to register for this event on-site.





## REGIONAL PLANNING OF WIND ENERGY PROJECTS: ASSET OR HANDICAP FOR THE CLIMATE POLICY? A COMPARISON BETWEEN GERMANY AND FRANCE.

Tuesday 17 March 14:00-19:00



### 'Pytheas' room (Palais de Arts, Parc Chanot)

By 2020, France aims to provide 23% of its energy consumption through renewable energies, Germany 18%. In both countries, wind energy will make a significant contribution, and the regional planning context will be a major factor influencing the progress of wind farm projects. This side event will introduce the German and French models of regional planning and will evaluate their efficiency with regards to climate policy.

Experts and decision-makers from both countries will discuss the following questions:

- How important should climate policy be compared to other aims of the regional planning (e.g. nature conservation)?
- At what point should citizens and project managers be involved in the process?
- How can the future "schémas régionaux" be reconciled with the "ZDE"?
- Are national targets being implemented by the "Länder"?

The event is only available to preregistered participants. It is not possible to register for this event on-site.

## DEVELOPMENT OF THE OFFSHORE GRID IN THE BALTIC/NORTH SEA AREA

Tuesday 17 March 2009, 15:00 – 18:00



### 'Gyptis' room (Palais de Arts, Parc Chanot)

The development of offshore wind power generation in Europe will play an essential role for meeting the binding 2020 climate protection targets - including increasing the share of renewable energy to 20% by 2020.

In order to fulfil its potential of 50GW by 2020, and 100-150GW in the long-term, the integration of offshore wind power in the Baltic and North Sea area needs to progress substantially. Yet, this increase in offshore capacity will put additional pressure on the performance and grid operation of the electricity network in the Baltic and North Sea area.

This workshop represents one of the key deliverables of the first annual report (September 2008) of Mr G. Adamowitsch, the European Coordinator for the "Connection to offshore wind power in Northern Europe (North Sea – Baltic Sea)".

The workshop will:

- Present TSO-based planning of the three-legged interconnector for Krieger's Flak and of a modular design of the North Sea Grid.
- Emphasise the need to progress from national to regional/European solutions including a "to-do list" for technical standardisation.
- Raise awareness for coordinated actions such as a coalition for "50 GW Offshore – NOW!"

The workshop is aimed at representatives from transmission system operators, industry, governmental bodies, national regulators and non governmental organisations.

Workshop speakers:

Development of the offshore grid in the Baltic/North Sea area

- **Georg W. Adamowitsch**, European Coordinator for Connection of Offshore wind power in Northern Europe (North Sea - Baltic Sea)

First European Offshore Grid at the Baltic Sea - Kriegers Flak: Techniques, Economics and Challenges

- **Rüdiger Reinisch**, Vattenfall Europe Transmission GmbH & Antje Orths, Energinet.dk & Mr Ulf Moberg, Svenska Kraftnätt

Modular design for the development of the offshore/onshore grid in the North Sea

- **Kjartan Hauglum**, Statnett SF (rapporteur of the working group for offshore/onshore grid development in Northern Europe)

Financing renewables and transmission infrastructure projects

- **Paola Bresesti**, European Investment Bank

The workshop is only available to preregistered participants. It is not possible to register for this event on-site.



## SIDE EVENTS



### INTERNATIONAL WIND MARKET ROUND UP HOW WILL GLOBAL MARKETS BE AFFECTED BY THE ECONOMIC CLIMATE?

Tuesday, 17 March 2009, 16.00-17.30



#### 'Euthymenes' room (Palais des Arts, Parc Chanot)

International wind markets have seen another impressive year in 2008, with over 27 GW of new capacity brought online and a total installed capacity close to 121GW. The growth in 2008 was primarily driven by developments in China and the US, but other markets are also starting to emerge on the wind energy map.

This side event will look at the key developments in non-European markets in 2008, and analyse how the current financial crisis is likely to affect growth in 2009 and beyond. Experts from the US, Canada, China, India and the International Finance Corporation will give insights into established and emerging markets, and be available to answer questions from the audience in this interactive session.

Speakers include:

- Global wind markets in 2008 and beyond: Status and 5-year forecast  
**Steve Sawyer**, Secretary General, GWEC
- The world's largest market: Wind energy in the US - **Denise Bode**, CEO, American Wind Energy Association

- Growing Wind in Canada: Opportunities and Trends in the Canadian Wind Market - **Sean Whittaker**, Vice-President, Canadian Wind Energy Association (CanWEA)
- Recent developments and outlook for the Indian wind energy market - **DV Giri**, Chairman, Indian Wind Turbine Manufacturer's Association (IWTMA)
- Emerging wind energy markets and the role of financing - **Dana Younger**, International Finance Corporation
- 12 GW and counting – the wind energy boom in China TBC

#### About GWEC

**GWEC is the voice of the global wind energy sector**, bringing together the major national, regional and continental associations and leading wind energy companies. With a over 1,500 organisations, GWEC's member associations represent the entire wind energy community. Visit [www.gwec.net](http://www.gwec.net) for more information.

This side event is open to all EWEC 2009 conference delegates. Pre-registration is not required.

### REMARKABLE RESULTS OF THE UPWIND PROJECT

Wednesday 18 March 2009, 11:00 - 12:30



#### 'Pytheas' room (Palais de Arts, Parc Chanot)

**UpWind** is a European project funded under the EU's Sixth Framework Programme (FP6). The project looks towards the wind power of tomorrow, more precisely towards the design of very large wind turbines (8-10MW), both onshore and offshore.

The latest results from the UpWind project will be presented during this side event. Representing the EU Commission, **Mr. Thierry Langlois d'Estaintot** will present the status of the **EU research program**.

The latest results from the development of future blades for very large turbines with control features will also be presented, alongside the latest results of efforts to improve the drive design methods and to develop more reliable methods for gearboxes.

Finally, the workshop speakers will provide information on latest results on flow in very large wind farm and the development of new measurement methods.

#### About UpWind

The UpWind consortium, composed of 40 partners, brings together the most advanced European specialists of the wind industry. The project focuses on design tools for the complete range of

turbine components. It addresses the aerodynamic, aero-elastic, structural and material design of rotors. Critical analysis of drive train components will be carried out in the search for breakthrough solutions.

#### Workshop programme

- 09:00 – 09:10 European perspective on Wind Energy Research  
**Thierry Langlois d'Estaintot** (European Commission)
- 09:10 – 09:30 Remarkable results of the UpWind project; introduction and overview - **Jos Beurskens** (ECN) / Peter Hjuler Jensen (Risø-DTU)
- 09:30 – 09:45 The 20 MW Lighthouse European Turbine - **Bernard Bulder** (ECN)
- 09:45 – 10:00 Deepening insight in the design of drive trains - **Jan Hemmelmann** (GE)
- 10:00 – 10:15 Understanding and measuring the flow in and around large wind farms - **Hans Jørgensen** (Risø-DTU) / Rebecca Barthelmie (University of Edinburgh)
- 10:15 – 10:30 Novel aerodynamic control approaches for very large wind turbine rotors - **Flemming Rasmussen** (Risø-DTU)

This side event is open to all registered EWEC 2009 participants. Pre-registration is not required.



## THE ROLE OF COMMUNITY- SCALE RENEWABLES IN DEVELOPING COUNTRIES

Wednesday 18 March 2009, 14:00 – 16:00



'Gyptis' room (Palais de Arts, Parc Chanot)

This side event will explore the role that micro- and small-scale renewables can play in addressing energy poverty in developing countries. It will feature presentations from a panel of experts including individuals from the academic, NGO and business worlds which will look at the technical and economic potential of different renewable technologies in poor communities and discuss the obstacles and opportunities they present.

Topics to be addressed include:

- How widely are micro-renewables currently being used in developing countries and what are the prospects for growth?
- First-hand experience of the practicalities of implementing projects in remote and challenging environments.
- How to identify the most appropriate technology and match it to a community's energy needs?
- Is there a business case for micro-renewables and what economic opportunities do these rapidly growing countries present?

### About the Koru Foundation

The Koru Foundation is the chosen charity of both the European Wind Energy Association and the British Wind Energy Association. It works in partnership with the renewable energy industry to support small-scale, community-managed renewable energy projects that tackle both energy poverty and climate change in the developing world.

Find out more by visiting The Foundation's website at [www.korufoundation.org](http://www.korufoundation.org).

This side event is open to all registered EWEC 2009 participants. Pre-registration is not required.

## CANADA'S WIND VISION = INFINITE POSSIBILITIES

Wednesday 18 March, 15:00 - 17:30 (followed by a networking reception)



'Pytheas' room (Palais des Arts, Parc Chanot)

Canada has committed to a 20 per cent reduction of greenhouse gases by 2020.

This seminar will provide detailed information on the Canadian wind energy market & industry, trade, investment and technology partnership opportunities. In 2008, Canada became the 12th country in the world to surpass 2,000 MW of installed wind energy capacity (2,369 MW).

Last year, the province of Quebec alone awarded 15 wind energy contracts totalling 2,000 MW. In January 2009, the province of Ontario announced long-term contracts for six new wind energy projects totalling 492 MW. The province of Manitoba is currently developing Canada's largest single wind farm which will feature 130 turbines producing 300 MW of electricity.

The province aims to reach its goal of developing 1,000 MW of wind energy by 2016. The province of Alberta is designing transmission upgrades to accommodate 3,000 MW of new wind energy developments. And the province of British Columbia's new energy targets could result in the installation of up to 2,000 MW of wind energy.

Several other provinces have promising wind energy development plans. According to the Canadian Wind Energy Association, if current provincial targets or plans are achieved, Canada is projected to reach 12,000 MW of installed capacity by 2016 and 18,000 MW by 2020. The opportunities abound.

At this seminar, you will

- hear about the current and forecasted status of the Canadian wind energy market and discover the ever increasing Canadian wind energy industry capabilities.
- find out about specific provincial wind energy development master plans and incentives
- learn of new and promising wind energy-related opportunities for investments and partnerships and hear testimony of European/Canadian success stories.
- meet with Canadian industry and Government officials, to discover the advantages of doing business in Canada, to identify and discuss opportunities for trade, investment and technology partnerships.

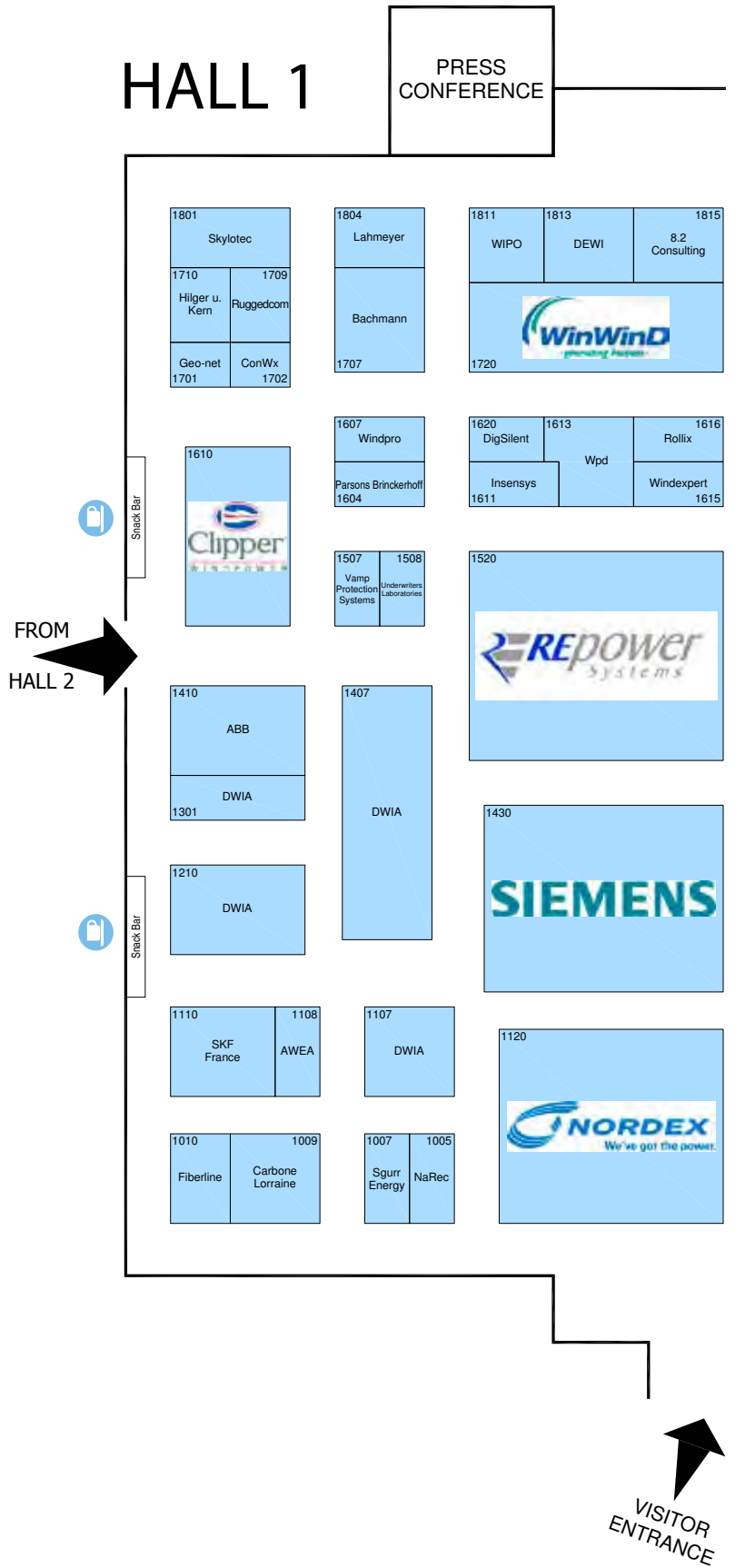
The event is only available to preregistered participants. It is not possible to register for this event on-site.

# EXHIBITION FLOOR PLAN



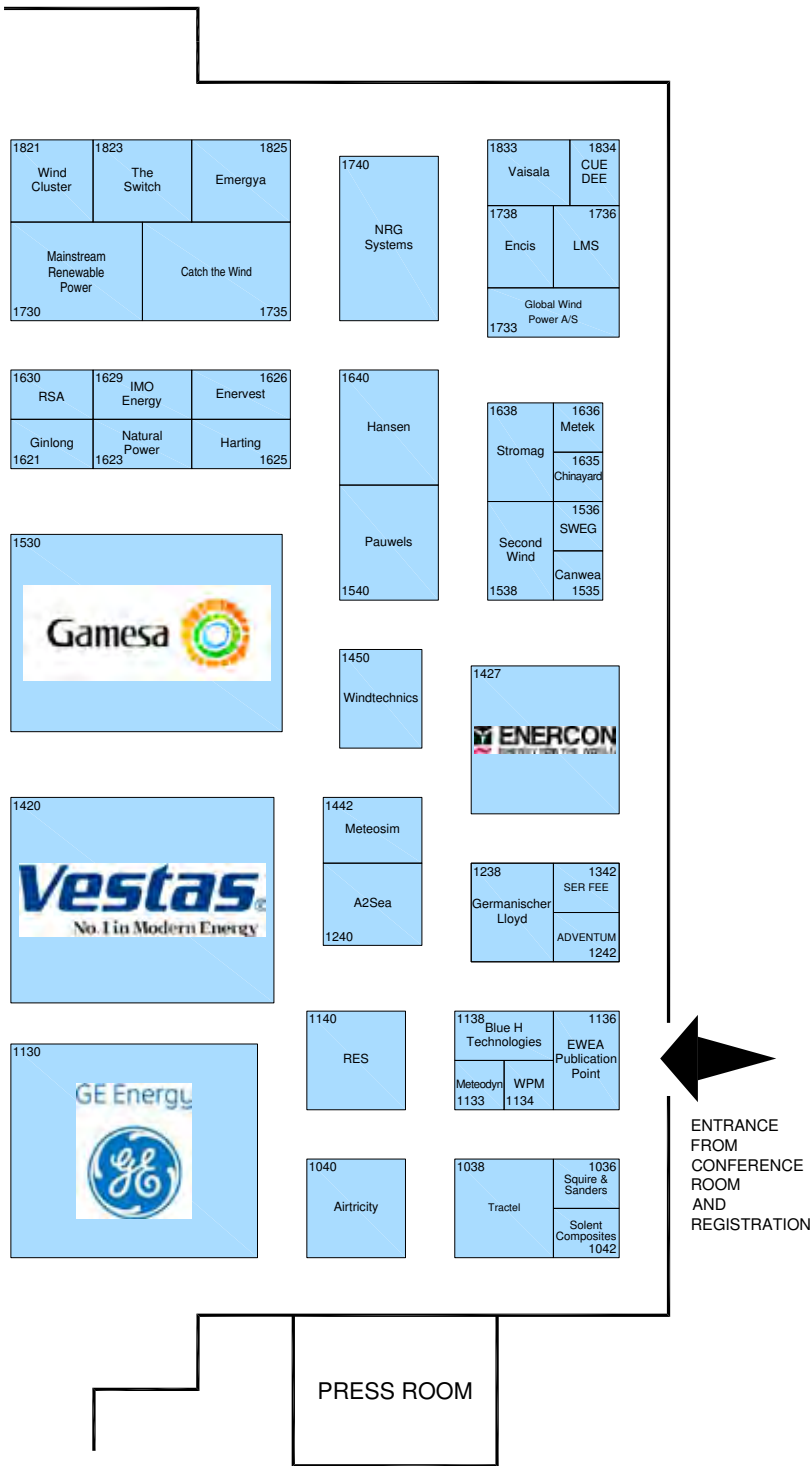
## HALL 1

PRESS CONFERENCE





# EXHIBITION FLOOR PLAN



EXHIBITION

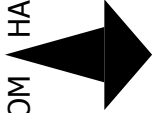
↑  
VISITOR  
ENTRANCE

←  
ENTRANCE  
FROM  
CONFERENCE  
ROOM  
AND  
REGISTRATION



# HALL 2

FROM HALL 3



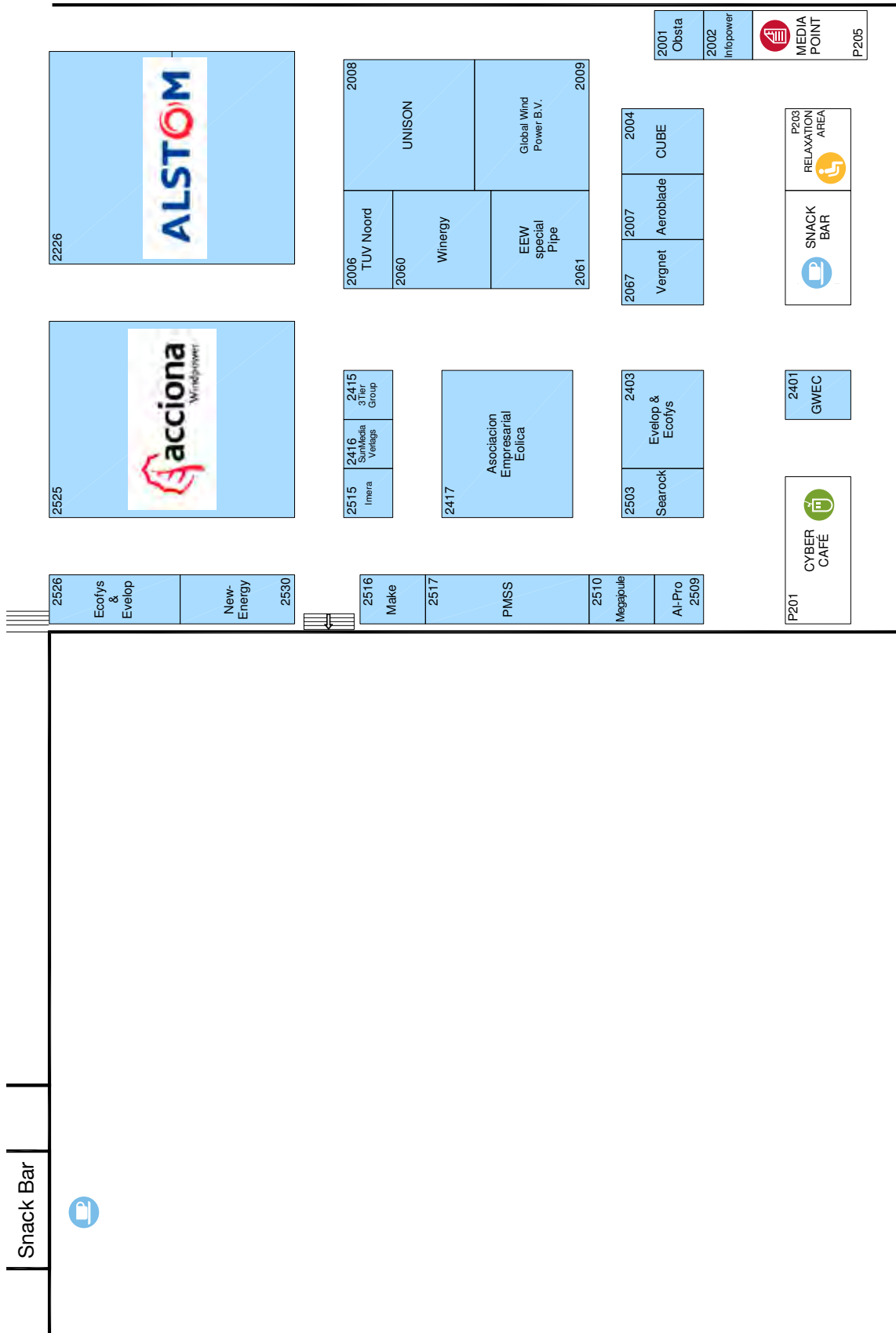
EXHIBITION







# EXHIBITION FLOOR PLAN



EXHIBITION

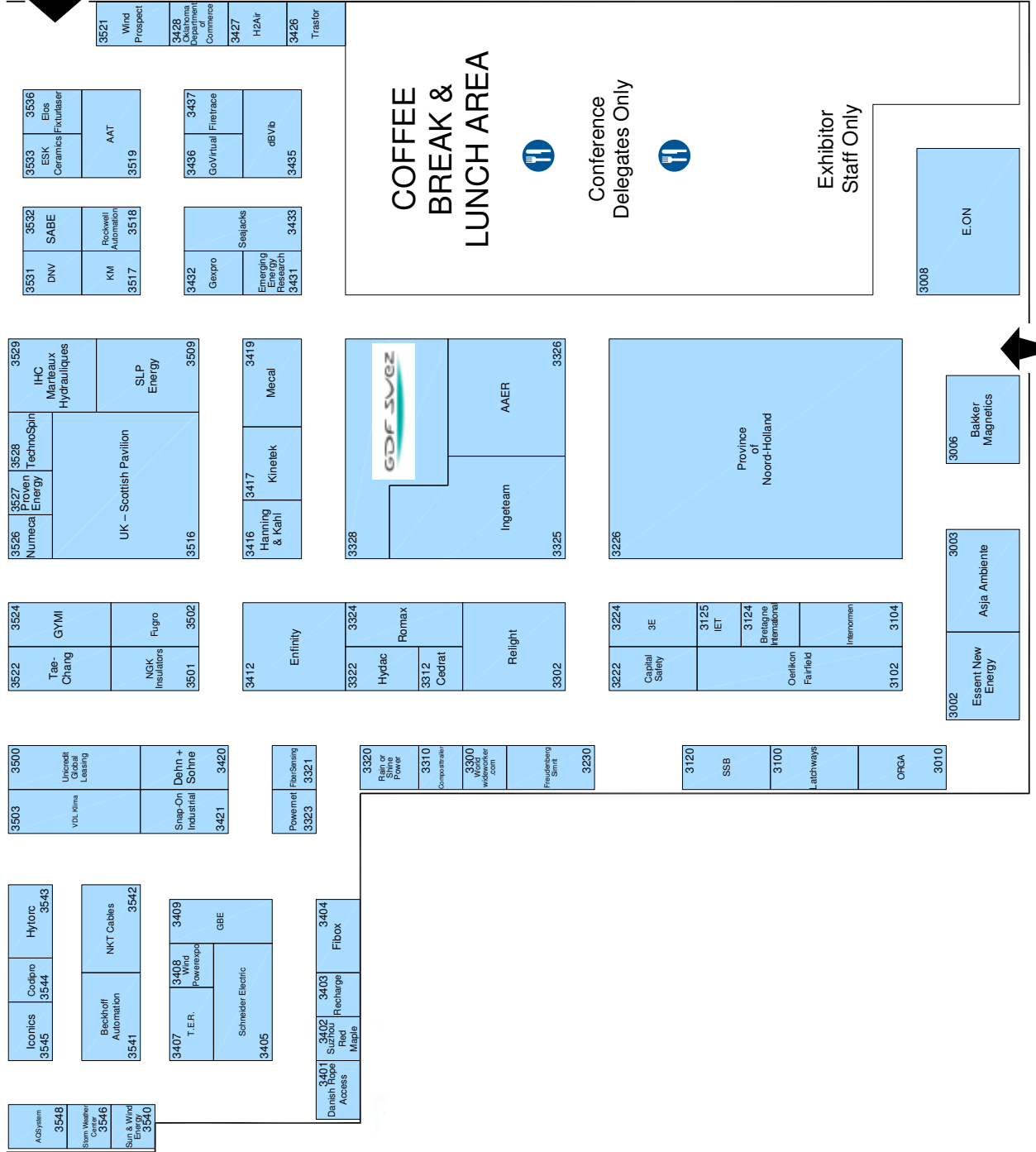






EXHIBITION  
FLOOR PLAN

Entrance



FROM HALL 2

EXHIBITION



VENUE  
FLOOR PLAN  
CONFERENCE  
& EXHIBITION

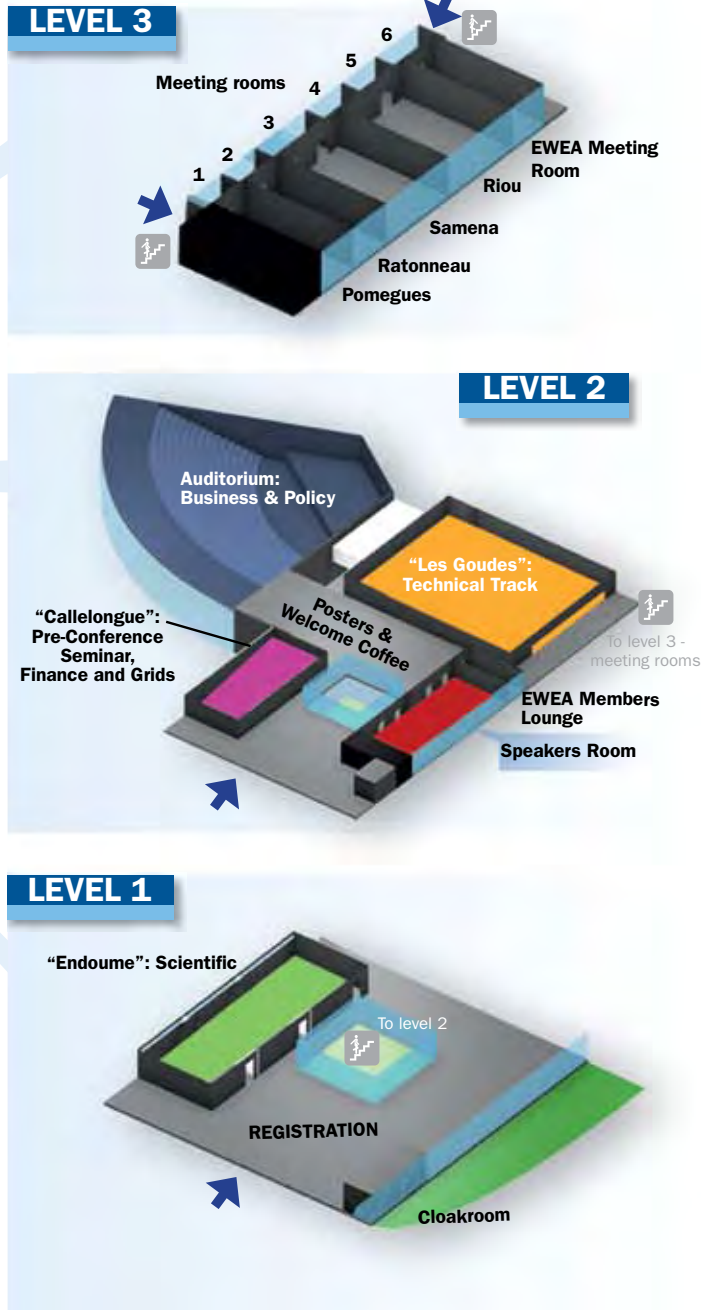


EXHIBITION





## Conference Centre



EXHIBITION



## EXHIBITOR LIST



01dB- Metravib	3811	CD-adapco	3720
3E	3224	CEDRAT SA	3312
3TIER	2415	CENAERO	3805
8.2 Consulting AG	1815	CENER National Renewable Energy Centre	2564
A2SEA A/S	1240	Centre for Renewable Energy Sources - CRES	3702
AAER Inc.	3326	China National Building Materials Corp.	3822
AAT Inc.	3519	Chinayard Co., Ltd	1635
ABB Group	1410	Clipper Windpower, Inc.	1610
ACCIONA WINDPOWER SA	2525	Codipro	3544
Actions EnR	3E008	Compagnie Nationale du Rhone (CNR)	3861
Advantech Europe GmbH	3226	Compo Tech co.srl	3882
ADVENTUM by Resnova srl,	1242	Compositrailer NV	3310
Aeroblade	2007	ConWx	1702
Airfloat LLC	3808	Corrosion & Water-Control BV	3981
Airtricity	1040	Cowi A/S	1210
AL-PRO GmbH & Co. KG	2509	Croon Elektrotechnik BV	3604
Alstom Ecotècnia	2226	CUBE Engineering GmbH	2004
Aluwind	1210	CUE DEE AB	1834
American Wind Energy Association	1108	Danish Rope Access ApS	3401
Ampair	3516	Danish Wind Energy Group	1407
Amsterdam Ymuiden Offshore Port (AYOP)	3226	Danish Wind Industry Association	1301+1210+1407+1107
anemos GmbH	1815	Darwind Holding B.V.	3226
Ansys France SAS	3737	Davi-Promau SRL	2536
Application Centre of Renewable Resources (ACRRES)	3600	dB Vib	3435
AQSystem Stockholm AB	3548	DECC UK Renewables /	
Asja Ambiente Italia S.p.A.	3003	Scottish Development International	3516
Asociacion Empresarial Eolica - AEE	2417	Dehn + Söhne GmbH + Co. KG	3420
Association of Technology Transfer	3226	DEIF A/S	1301
Atlas Magnetics Group	3630	DELTA	1107
ATM-PRO S.P.R.L.	3806	DELTABOX-SERA	3E003
AVAGO Technologie GmbH	3817	Densit ApS	1407
AVANTI Wind Systems A/S	2557	Det Norske Veritas	3531
AVN Energy A/S	1107	deugro Danmark A/S	1407
Bachmann electronic GmbH	1707	Deutsche Windguard	2066
Bakker Magnetics B.V.	3006	DEWI GmbH	1813
Ballast Nedam Offshore Energy	3226	DFN Inc.	3891
Balluff ApS	1210	DHTC B.V.	3226
Baltship A/S	1107	DlgSILENT GmbH	1620
Barlovento Recursos Naturales, S.L	3748	Draka Industry & Specialty - Renewable Energy	2553
BBB Umwelttechnik	3419	e.n.o. energy management GmbH & Co. KG	2064
BCP Busarello + Cott + Partner AG	3963	E.ON Climate & Renewables GmbH	3008
Beck-Crespel S.A.S	3742	Easy-Laser	3435
Beckhoff Automation Sarl	3541	e-begreen	3816
Bi Fab Burntisland Fabrications Limited	3516	ECN Wind Energy	3226
Blue H Technologies BV	1138	Ecofys International BV	2403 + 2526
Bluestone Offshore Pte. Ltd.	3E005	Ecoinsurances	3716
Boralex SAS	3968	EDF Energies Nouvelles	3823
Bretagne International	3124	EEl Equipaggiamenti Elettronici Industriali SpA	3886
Brøndberg & Tandrup International A/S	2255	EEW Special Pipe Constructions GmbH	2061
C C Jensen A/S	1407	Egyptian Company for advanced industries	
Canadian Wind Energy Association (CanWEA)	1535	(El Sewedy SEDCO)	3738
Capital Safety Group EMEA	3222	Ekobras Energias Renovables, S.L.	3E018
Carbone Lorraine Applications Electriques	1009	ELAN GmbH	3704
Catch the Wind, Inc.	1735	Electricon A/S	1210



## EXHIBITOR LIST

Elettronica Santerno SPA	3910	Global Wind Power A/S	1733
Elos Fixturlaser AB	3536	Global Wind Power B.V.	2009
EMD International A/S	2465	Go Virtual Nordic AB	3436
Emerging Energy Research	3431	goracon systemtechnik gmbh	3632
Emergya Wind Technologies B.V.	1825	Gothaer Allgemeine Versicherung AG	3773
Enallaktiki Energiaki SA	3706	Great Yarmouth Marketing Initiative	3524
Encis Wind	1738	Green Energy World GmbH	3818
Eneco New Energy B.V.	3600	Grontmij - Carl Bro A/S	1210
ENEL SpA	3930	GWU - Umwelttechnik GmbH	2253
Enercon GmbH	1427	H2air S.A.S.	3427
Energy Engineering	3800	Hailo-Werk	2062
Energy to Quality S.L.	2417	HANNING & KAHL GmbH & Co KG	3416
Enertrag AG Etablissement France	3E002	Hansen Transmissions Int.	1640
EnerVest AG	1626	HARTING Electric GmbH & Co. KG	1625
Enfinity	3412	Hilger u. Kern GmbH	1710
Enspec Power Limited	3849	HUSUM Wind Energy, 21 - 25 Sept. 2010	2256
Eole Generation	3328	HYDAC	3322
Eolica Expo Mediteranean 2009 / Artenergy Publishing srl	2538	HYTORC Europe	3543
Ereda S.L.	2417	Iconics, Inc.	3545
ERELIA	3328	IESPM	3895
ESK Ceramics GmbH & Co KG	3533	IHC Marteaux Hydrauliques	3529
Essent New Energy	3002	ILME France	3971
European Wind Energy Association - EWEA	2532	Imera	2515
EUROS GmbH	3838	IMO Energy GmbH & Co. KG	1629
Evelop International	2403 + 2526	Infopower	2002
Eviag AG	3834	Ingeteam	3325
EWC Weather Consult GmbH	3740	Inneo Torres S.L.	2417
Faccin Srl	3710	Insensys Ltd.	1611
Falck Renewables	3846	Intermap Technologies GmbH	3778
Faragaman Power Plant Complex	3801	International Trade Alliance	3707
Federal-Mogul Deva GmbH	3739	INTERNORMEN Technology GmbH	3104
Feria de Zaragoza - Wind Powerexpo	3408	IN VIVO, Stand number	3124
Fiberline Composites A/S	1010	Irish Wind Energy Association	3735
FiberSensing	3321	Isastur Group	3771
Fibox	3404	ISET e.V.	3718
Firetrace International	3437	ITI Energy	3516
Freudenberg Simrit GmbH & Co. KG	3230	James Walker France	3648
Fritz Schur Energy A/S	1301	James Walker Rotabolt	3648
Fugro France SAS	3502	juwi Holding AG	2268
GAMESA	1530	K2 Management A/S	3885
Garrad Hassan & Partners Ltd.	2260	KEMA	3226
GBE SPA	3409	Kenersys Europe GmbH	3851
GCube Underwriting Ltd	1607	Kinetek	3417
GDF SUEZ	3328	Kintech Engineering	2417
GE Wind Energy GmbH	1130	KM Co. LTD	3517
Gemeente Den Helder (City of Den Helder)	3226	Koepel Windenergie Noordoostpolder	3600
General Blade Technology	3226	KORU	3E023
GEO-NET Umweltconsulting GmbH	1701	KR Wind A/S	3918
Germanischer Lloyd Industrial Services GmbH, Renewables		La Compagnie du Vent	3328
Gexpro Services	1238	Lahmeyer International GmbH	1804
Global Energy Services Siemsa, SA	3432	Lanco Wind Power Private Limited	3871
Global Wind Energy Council	3892	Latchways PLC	3100
	2401	Leosphere	2153

## EXHIBITOR LIST



LMS International	1736	Peterson SBS Den Helder BV	3226
LTi REEnergy GmbH	2151	Phoenix Contact GmbH & Co.KG	3961
Lund & Sørensen A/S	1107	PMSS	2517
M&I Materials Ltd	3516	Power Climber Wind	3879
M. TORRES OLVEGA INDUSTRIAL SL	2417	Powernet Oy	3323
Macom Technologies Ltd	3516	PowerWind GmbH	2267
Magnetek, Inc.	3708	Prima Automation (India) Pvt.Ltd.	3803
Mainstream Renewable Power Limited	1730	Proven Energy	3527
MAKE Consulting	2516	Province of Noord-Holland	3226
Mecal	3419	Province of Flevoland	3600
Meewind	3226	Pruftechnik	3979
MEGAJoule, Renewable Energy Consultants, Ltd	2510	Rain or Shine Power	3320
Metal Industries Research and Development Centre	3642	Ramboll Wind Energy	1407
METEK GmbH	1636	RAYCAP	3636
Meteodyn	1133	Recharge	3403
Meteosim Truwind SL	1442	Reflex Marine	3516
MeteoStrategy	3124	Relight	3302
Metis Instruments & Equipment NV	3970	Remtech SA	3638
Mierij Meteo Nederland BV	3226	Renewable Energy Focus	3639
Mita-Teknik	1407	Renewable Energy World	3751
MLS	3920	RENEWS LIMITED	3516
Moog	2151	REpower Systems AG	1520
Mott MacDonald	3E020	RES Group	1140
Moventas Wind Oy	1720	Research Association for Electrical Equipment &	
MSC Software	3884	Power Economics (FGH)	3828
Multiplast	3124	ReSoft Ltd	3643
Natural Power	1623	ResQ A/S	3736
NAUE GmbH & Co. KG	2568	Ricardo UK Ltd	3516
New and Renewable Energy Centre	1005	Risø DTU	2463
New Energy/Neue Energie	2530	Rockwell Automation	3518
Nexgen	2560	Rollix	1616
NGK Insulators, Ltd	3501	Romax Technology Limited	3324
Nheolis	3750	RSA Insurance Group PLC	1630
NHN Development Company Holland North	3226	RuggedCom	1709
Ningbo Ginlong Technologies Co., Ltd.	1621	RWE Innogy GMBH	3601
NKT Cables GmbH	3542	S&C Electric Europe Limited	2065
Nordex AG	1120	SABE di Sala Pasquale SRL	3532
Normawind S.L.	2417	SAMTECH S.A.	3713
NRG Systems	1740	Sarens Wind B.V.	3812
Numeca International	3526	SBB Towers	3734
Nuon	3226	Schneider Electric	3405
Obsta	2001	Schunk Electrographite SAS	3883
Oerlikon Fairfield	3102	Scintec AG	2464
Offshore Solutions BV	3830	SeaEnergy Renewables	3516
Oil Management Services Ltd	3516	Seajacks UK Limited	3433
Oklahoma Department of Commerce	3428	SeaRoc Group	2503
Ontario Canada	3989	Second Wind Inc.	1538
Orga Aviation B.V.	3010	SGS Group	2155
Oros	3435	SgurrEnergy	1007
OutSmart	3812	Shin-Etsu Magnetics Inc	3743
P&S Tensioning Systems Ltd	2265	Sicme Motori S.p.A .	3886
Parsons Brinckerhoff	1604	Siemens AG Energy Sector	1430
Pauwels International N.V.	1540	SINCLAIR KNIGHT MERZ	3802
Pekkaniska oy	3894	SIVCO	3940



## EXHIBITOR LIST

SKF France	1110	Verbrugge bv,	3709
Skylotec GmbH	1801	VERGNET SA	2067
SLP Energy	3509	Vestas Wind Systems A/S	1420
Snap-on Industrial	3421	Visser & Smit Marine Contracting	3226
Société Nouvelle Fonderies et Ateliers Salin - Fonderies de Brousseval et Montreuil		Von Roll Management Ltd.	3640
Solent Composite Systems Ltd	3637	Wiley-Blackwell	3760
Sperian Protection	1042	Wilmers Messtechnik GmbH	2253
Squire, Sanders & Dempsey	3938	Wind & Regen	2253
SSB-Antriebstechnik GmbH & Co. KG	1036	Wind Cluster	1821
SSP Technology AS	3120	Wind Direct Services	2549
Star Net Geospacial	3928	Wind Energy Solutions B.V.	3226
Sterr-Kölln & Partner GbR	3516	Wind Expert SRL	1615
Storm Weather Center AS	2462	Wind Prospect	3521
Stromag France SAS - SIME brakes	3546	Wind to Power System	3768
SUMEC Hardware & Tools Co. Ltd	1638	Windhoist	3516
SUN & WIND ENERGY - the magazine for renewable Energies	3804	WINDnovation GmbH	3E022
SunMedia Verlags mbH		Windpower Monthly	1134
Suzhou Licang Win-Power Equipment Co., Ltd	3540	WindSim AS	2555
Suzhou Red Maple Wind Blade Mould Co., Ltd	2416	Windtechnics SAS	1450
Suzlon Wind Energy A/S	3E025	windtest grevenbroich gmbh	3749
Svendborg Brakes A/S	3402	WINDTEST Kaiser-Wilhelm-Koog GmbH	1238
SWEG El Sewedy for Wind Energy Generation	2326	Winergy AG	2060
Symmetron Electronic Applications	1407	Wintech New Energy Co., Ltd.	3985
Syndicat des énergies renouvelables - France Energie Eolienne	1536	Winwind Ltd	1720
Systèmes Solaires, Le Journal des Energies Renouvelables	3634	WIPO Wind Power GmbH	1811
T.E.R. Tecno Elettrica Ravasi s.r.l.	1342	WISE – Wind Information Sentinel	2266
Tae-Chang N.E.T. Co., Ltd	3890	WKN Windkraft Nord AG	2551
TechnoSpin	3407	Worldwideworker.com	3300
Temporary Works Design B.V.	3522	wpd think energy GmbH & co. KG	1613
Tensor International Ltd.	3528	Zarges Aluminium Systems GmbH	3762
Ter Linden Transport	3E014	Zephyr Corporation	3840
The Institution of Engineering & Technology (IET)	3987	Zhenshi Group Hengshi Fiberglass FabricaCo. Ltd.	3942
The Switch	3812		
Tianjin Xiqing Economic Development Area Administrative Committee	3125		
Timolor	1823		
TNO Science and Industry	3712		
Total Wind A/S	3124		
Tractel Benelux	3226		
Trasfor SA	2058		
Tribco Inc.	1038		
TUEV NORD Group	3426		
Turbowinds NV/SA	3821		
Tyco Thermal Controls	2006		
Underwriters Laboratories	3744		
UniCredit Leasing	3769		
Unison Co. Ltd.	1508		
Vaisala Oyj.	3500		
Vamp Protection Systems	2008		
VDL Klima B.V.	1833		
	1507		
	3503		

## A-Z INFORMATION



### Practical Information

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**Venue:** Parc Chanot  
Rond Point du Prado  
FR- 13266 Marseille  
Tel : +33 (0)4 91 76 16 00  
Fax: +33 (0) 4 91 22 16 45  
e-mail: [exposants@safim.com](mailto:exposants@safim.com)  
web: [www.parc-chanot.com](http://www.parc-chanot.com)

### Catering

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A welcome coffee will be served in the poster area from 08:00 every morning. Coffee breaks will take place in the exhibition halls at 10:30 on Tuesday, Wednesday and Thursday and also at 15:30 on Monday, Tuesday and Wednesday. A complimentary buffet lunch is served in the Hall 2 and 3 between 12:00 and 14:00 every day to all conference delegates and exhibitors.

For those participants not entitled to the buffet lunch, a number of snack bars and a visitor restaurant are available at the venue. There are also several restaurants in the vicinity of Parc Chanot.

Water will be freely available around the conference venue.

### Commercial opening hours in Marseille

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**Banks:** Generally, banks in France are open on weekdays from 09:30 to 16:30. Most take a one-hour lunch break. Certain banks may also be open on Saturdays. Banks at the airport and main train stations open as early as 06:30 and close as late as 22:30.

**Shops:** Small shops and businesses tend to close for two hours at lunch, but stay open until later in the evening. Shopping malls in Marseille, such as the Centre Bourse, stay open all day, generally until 19:00. The standard closing day for shops is Sunday.

**Markets:** Marseille's open-air markets are generally held in the morning, from 08:00 to 13:00.

### Conference Dinner

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The Conference Dinner will take place on Wednesday, 18 March at 20:00 in the "Palais de la Bourse". Cocktails and canapés will be served, followed by the dinner. The Conference Dinner is only open to ticket holders (purchased in advance).

**Address: Palais de la Bourse**  
9 place du Général de Gaulle  
13001 Marseille

Dress code: smart

A coach shuttle will be provided from the Parc Chanot to the Palais de la Bourse, departing at 19:30 outside Parc Chanot. Return transfer will be provided from 21:30 every half an hour until 0:00 outside the Palais de la Bourse. Coaches will stop at main hotels in the city centre and near Parc Chanot.

### Conference Reception

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The conference reception will take place on Monday 16 March at 19:30 at the "Docks des Suds". This reception is only open to conference delegates and is free of charge. A valid badge and confirmation e-mail must be shown at the entrance.

**Address:**

"Docks des Suds", 12 Rue Urbain V - 13002 Marseille

A coach shuttle service will be provided between Parc Chanot and the Dock des Suds. Coaches will be departing from Parc Chanot at 18:45. Return transfers will be available as from 20:30 until 22:00, departing outside the Dock des Suds, and stopping at main hotels in the city centre and near Parc Chanot.

### Credit cards and cash

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Cash points are widely available. Cash withdrawals may be made using your credit card. There are 3 cash points onsite at Parc Chanot, as well as a fourth one located just outside the venue.

All major credit cards are widely accepted in shops, restaurants etc.

**Theft/lost of credit card**

Eurocard-Mastercard:	0800 902 390
Visa:	0892 705 705
Diner's-Club:	0810 314 159
American Express:	01 47 77 72 00

### Emergencies

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Police Emergency	17
Fire service	18
Ambulance service	15
Emergency doctor	+33 (0) 4 91 52 91 52
Anti-poison centre	+33 (0) 4 91 75 25 25
Marine life saving service Crossmed	+33 (0) 4 94 61 71 10
Emergency traveller	+33 (0) 4 91 62 12 80
Foreign social security	0 820 904 186
Parc Chanot emergency number	+33 (0) 4 91 76 90 56/7

Pharmacy open 7 days a week (Pharmacie du Vieux Port - 4 Quai du Port - 13002)	+33 (0) 4 91 91 63 10
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## Exhibition

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For details about the exhibition build-up, stand construction etc., exhibitors should contact Dianne Wright in the exhibition organiser's office in Hall 1.

### EXHIBITION OPENING HOURS

#### Monday 16 March

10:00 – 19:00

with Beer Reception from 17:00 – 18:00

#### Tuesday 17 March

09:00 – 17:30

with Exhibition Reception from 17:30 – 19:00

#### Wednesday 18 March

09:00 – 19:00

with Prosecco arty from 17:00 – 18:00

#### Thursday 19 March

09:00 – 14:00

## Exhibition Reception

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The Exhibition Reception will take place on Tuesday 17 March from 17:30 at the Gamesa stand (1530) in Hall 1 and in the catering areas in Halls 2 and 3.

Cocktails and snacks will be served while you take the opportunity of networking with your peers!

The reception is free of charge to all conference delegates, exhibitors and exhibition visitors.

## EWEA stand events

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The EWEA stand (2532) will host a number of special events aimed at giving you an opportunity to meet EWEA's members and its staff, accompanied by a taste of some regional specialties.

### Meet EWEA – Monday 16 March at 16:30

Come and get to know the people behind the European Wind Energy Association and try some of the many varieties of Pastis, one of the most popular liqueurs in France and a specialty of Marseille.

### EWEA members spotlight – Tuesday 17 March at 16:30

Several high-level representatives from key member companies will share their experiences of EWEA membership with the event participants over a tasting of fine French wines and cheeses.

### Focus on EWEC 2010 – Wednesday 18 March 16:30

The 2010 edition of EWEC will take place in Poland, one of Europe's emerging wind energy markets. Discover more about the event or book your exhibition stand, and sample some of Poland's famous vodka.

## Information points

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An information desk, located in the registration area, will be available to all participants for information about Marseille and the surrounding region.

### Marseille tourism information office

Address : 4, la canebière - 13001 Marseille

Telephone : + 33 (0)4.91.13.89.00

Website : <http://www.marseille-tourisme.com/en/in-marseille/>

Email : [info@marseille-tourime.com](mailto:info@marseille-tourime.com)

### Opening hours:

From Monday to Saturday: 09:00 - 19:00

Sunday and public holidays: 10:00 - 17:00

## Internet

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There are two cyber cafes at the venue which provide internet access, printing and copying facilities and a fax machine. These are located in Hall 2 and 3. Please see the floor plan for the exact location.

Free Wi-Fi access is also available at the venue.

## Language

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The conference language is English. Simultaneous French translation is available in all sessions except in the scientific track.

## Lost and found

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### At the venue:

Please visit the exhibition organiser's office, located in Hall 1.

### In Marseille:

Service des Objets Trouvés (Found items service)

Address: 41 bd de Briancon - 13003 Marseille

Phone: +33 4 91 14 68 97

## A-Z INFORMATION



### Parking

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Please use Esplanade 3 and 4, which are located behind Hall 1. The parking fee is 4€/day/car, which is payable with cash or credit card.

### Poster session

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A dedicated poster session will take place from 14:00 - 15:30 on Tuesday 17 March, in the Poster Area located in the Conference Centre. All poster presenters are requested to be at their poster at this time to present and discuss with delegates.

All posters must be removed on Thursday 19 March, before 16:00, otherwise they will be discarded.

### Press

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The press conference will be held in the press room immediately after the opening session, on Monday 16 March at 12:00.

A fully-equipped press room will be at the disposal of all journalists. Computers, refreshments, background information and press packs will be available.

### Proceedings

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A link to the proceedings website, which contains all relevant information, papers, presentations, photos and videos will be sent by email to all conference delegates following the conference (May 2009).

### Telephone

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The international access code for France is 0033. Remove the '0' from the city/area code when dialling internationally. The city/area code for Marseille is 04.

We request that all conference delegates switch off their mobile phones, or put them on silent mode, during all conference sessions.

### Travel within Marseille

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#### By metro

Marseille has 2 metro lines.

The nearest metro stop to Parc Chanot is the Rond Point du Prado on line M2 (direction Sainte Marguerite Dromel). There is direct access to Door A of Parc Chanot from the metro station. The metro runs from 5h - 21h (until 0h30 at weekends).

#### By bus

Marseille has around 80 bus and tramway lines.

The 'Rond Point du Prado' is served by the following bus lines - 19, 21, 22, 23, 41, 44, 45, 72, 83

Tickets available from machines or sales points:

- single tickets: 1,7€
- carte "libertés" (magnetic card): 6€ or 12€, (1,2€/journey)
- 1-day card 4,5€
- 3-day card 10€

#### By taxi

Taxi Radio Marseille	+33 4 91 02 20 20
Taxi Radio Tupp	+33 4 91 05 80 80
Taxis Plus	+33 4 91 03 60 03
Radio Taxis Marseille Est	+33 4 91 81 08 10
Corsica Taxis	+33 4 91 05 98 20

Marseille Airport is 30 kilometres from the centre of Marseille. During the day a taxi from the airport to the city centre costs approximately € 50-60 and at night approximately € 60.

A taxi from Parc Chanot to the centre or vice versa costs approximately 10€.



## SOCIAL EVENTS

### EWEA MEMBERS ONLY RECEPTION

Sunday, 15 March 2009, 18:00-21:00

#### “Palais du Pharo”

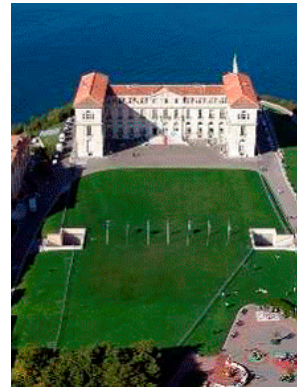
This reception will enable all EWEA members to exchange ideas and experiences in a truly emblematic site. The exclusive reception will take place in the ‘Palais du Pharo’, a magnificent architectural complex overlooking the sea, which was constructed in 1860.

#### Not an EWEA member yet?

Be there next time! For membership information, visit EWEA at stand 2532 or contact Christi Newman: [cn@ewea.org](mailto:cn@ewea.org).

#### Address

Palais du Pharo, 58 Boulevard Charles Livon - 13002 Marseille



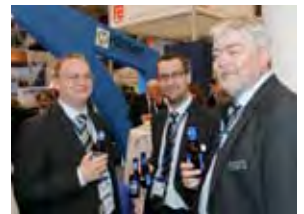
### BEER RECEPTION

Monday, 16 March 2009, 17:00-18:00

#### Hall 1 at the Hansen (1640) and Pauwels (1540) stands.

The beer reception offers conference delegates, exhibitors and exhibition visitors an ideal opportunity to network with other participants and enjoy a cold glass of Belgian beer.

Sponsored by:



### CONFERENCE RECEPTION

Monday, 16 March 2009 19:30-21:30

#### “Docks des Suds”

The official Conference Reception will take place in the “Docks des Suds,” where former harbour warehouses have been converted into various cultural spaces, including theatres, galleries and dining spaces. Join us for an unforgettable ‘Provençale-style’ evening where you can sample local delicacies, including wine and Pastis, and network with other guests over a friendly game of Pétanque.

**Address:** Docks des Suds, 12 Rue Urbain V - 13002 Marseille

This reception is only open to conference delegates and is free of charge. A valid badge and confirmation e-mail must be shown at the entrance.



### EXHIBITION RECEPTION

Tuesday, 17 March 2009 17:30-19:00

#### Gamesa stand (1530) in Hall 1 and Halls 2 and 3 (catering areas)

The Exhibition Reception will take place on Tuesday in the exhibition area. Cocktails and snacks will be served while you take the opportunity of networking with your peers! The reception is free of charge to all conference delegates, exhibitors and exhibition visitors.

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## SOCIAL EVENTS



### PROSECCO PARTY

Wednesday, 18 March 2009 17:00-18:00

#### Hall 1 at the Repower stand (1520)

Conference delegates, exhibitors and exhibition visitors are invited to the Prosecco Party at the Repower Stand to network with other participants and enjoy a cold glass of Prosecco.

Sponsored by: 



### CONFERENCE DINNER

Wednesday, 18 March 2009 20:00-23:00

#### “Palais de la Bourse”

This gala dinner will take place in the Palais de la Bourse, home to the oldest Chamber of Commerce and Industry in France. Its neo-classical style and sculptures depict Marseille’s glorious trade history and will provide a dramatic backdrop to the excellent cuisine.

**Address:** Palais de la Bourse, 9 place du Général de Gaulle - 13001 Marseille

The Conference Dinner is only open to ticket holders (purchased in advance).



### EWEA STAND EVENTS

The EWEA stand (2532) will host a number of special events aimed at giving you an opportunity to meet EWEA’s members and its staff, accompanied by a taste of some regional specialities.

Meet EWEA – Monday 16 March, 16:30

Come and get to know the people behind the European Wind Energy Association and try some of the many varieties of Pastis, one of the most popular liqueurs in France and a specialty of Marseille.

EWEA members spotlight – Tuesday 17 March, 16:30

Several high-level representatives from key member companies will share their experiences of EWEA membership with the event participants over a tasting of fine French wines and cheeses.

Focus on EWEC 2010 – Wednesday 18 March, 16:30

The 2010 edition of EWEC will take place in Poland, one of Europe’s emerging wind energy markets. Discover more about the event or book your exhibition stand, and sample some of Poland’s famous vodka.





# EUROPEAN OFFSHORE WIND 2009 Conference & Exhibition

## Stockholm, 14-16 September 2009



**European Offshore Wind** is the largest offshore wind energy conference and exhibition in the world, attracting 2,000 participants and over 100 exhibitors.

**Conference:** share your latest projects and developments with delegates from all parts of the offshore wind industry and beyond – **submit your abstract before 31 March 2009.**

**Exhibition:** showcase your products and services to purchasers and key decision makers, and develop your business leads.

**Sponsorship opportunities:** give your company unrivalled exposure to the entire offshore wind community.

Contact **Christi Newman:** +32 2 400 10 56, [cn@ewea.org](mailto:cn@ewea.org) to reserve exhibition space or become a sponsor.

[www.offshorewind2009.info](http://www.offshorewind2009.info)

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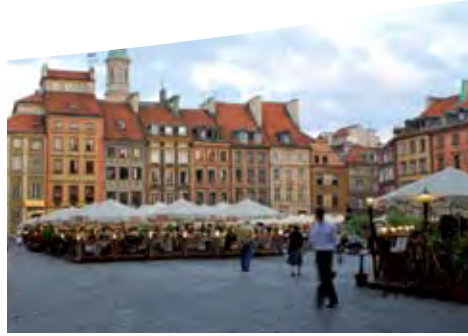


# ewec 2010

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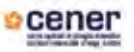
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Warsaw, Poland, 20-23 April 2010



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The **European Wind Energy Conference & Exhibition (EWEC)** is widely regarded as the most professional, comprehensive and informative in the wind sector. Do not miss the opportunity to take part in the annual general meeting for wind industry.

Contact **Sanna Heinonen**: sh@ewea.org, + 32 2 400 1093 to reserve your stand.



*"EWEC 2010 in Poland is a unique opportunity to exchange views and experiences related to the use of renewable energy sources, identify the obstacles currently facing the industry and develop solutions to overcome them."*

**Waldemar Pawlak**, Deputy Prime Minister, Minister of Economy, Poland

[www.ewec2010.info](http://www.ewec2010.info)

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THE EUROPEAN WIND ENERGY ASSOCIATION

# Become part of the most powerful wind energy network



EWEA is the voice of the wind industry, actively promoting the use of wind power in Europe and worldwide. It has over 500 members from more than 50 countries, including companies, research institutions and associations, making it the world's largest and most powerful wind energy network.

EWEA helps to create a better business environment for the entire wind industry.

Explore the wide range of EWEA publications, including EWEA's bi-monthly Wind Directions, to position your company among key decision makers and wind industry players.

Exhibit at EWEA's key events to showcase your latest product developments and services.

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- **European Offshore Wind Energy Conference and Exhibition 2009** in Stockholm, Sweden, 14–16 September 2009. Call for abstracts open until 31 March 2009. [www.Offshorewind2009.info](http://www.Offshorewind2009.info)
- **European Wind Energy Conference and Exhibition 2010** in Warsaw, Poland, 20–23 April 2010. [www.ewec2010.info](http://www.ewec2010.info)

For membership, publications or event enquiries, please contact Christi Newman at [cn@ewea.org](mailto:cn@ewea.org) or +32 2.400.1056.

Register in our database at [www.ewea.org](http://www.ewea.org) to be regularly informed about EWEA activities.











LUNDI, 16 MARS 2009

08:00	Inscription, Café de bienvenue, Visite de l'espace posters		
10:00	AP1: Séance d'ouverture (Auditorium)		
12:00	Inauguration officielle de l'exposition + Conférence de presse + Dejeuner buffet - Palais 2 & 3		
14:00	AP2: Vision des leaders mondiaux (Auditorium)		
15:30	Pause café - Palais 2 & 3		
16:00-17:30	AP3A: Renforcer le cadre de la politique UE: intégration rapide de grandes quantités d'énergie éolienne. (Auditorium)	AP3B: Porter la technologie de l'énergie éolienne à un niveau supérieur (Les Goudes)	AP3C: Opportunités et défis du nouvel environnement financier (Callelongue)
17:00-18:00	Réception bière - Palais 1		
17:30	Séminaire de motivation : Maximisez votre expérience EWEC (Callelongue)		
19:30-21:00	Réception de conférence (Docks des Suds)		

SALLE	AUDITORIUM	ENDOUME	LES GOUDES	CALLELONGUE
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MARDI, 17 MARS 2009

	AFFAIRES & POLITIQUES	SCIENTIFIQUE	TECHNIQUE	FINANCE
08:00	Inscription, Café de bienvenue, Visite de l'espace posters			
09:00	BB1: Les marchés UE dominants: comment réaliser cette vision ?	BS1: SWT and hybrid systems	BT1: TP Wind	BF1: Financement de projet
10:30	Pause café - Palais 2 & 3			
11:00	BB2: Marchés UE émergents : 20% - rêve ou réalité ?	BS2: Reliability, materials and lubrication	BT2: Sillages	BF2: Evaluation des risques
12:30	Buffet Lunch - Palais 2 & 3			
14:00	PO: Session consacrée aux posters - Espace posters			
15:30	Pause café - Palais 2 & 3			
16:00	BB4: Les marchés méditerranéens: défis et opportunités	BS4: Aerodynamics & aeroelastic stability	BT4: Télédétection	BF4: Capitaux privés et capital-risque
17:30	Réception du salon - Palais 1, 2 & 3			

MERCREDI, 18 MARS 2009

	AFFAIRES & POLITIQUES	SCIENTIFIQUE	TECHNIQUE	RÉSEAUX
08:00	Inscription, Café de bienvenue, Visite de l'espace posters			
09:00	CB1: Stratégies et opportunités mondiales	CS1: Condition monitoring of turbines and components	CT1: Aérodynamique et aéroacoustique	CG1: Intégration des centrales éoliennes
10:30	Pause café - Palais 2 & 3			
11:00	CB2: Les politiques de changement climatique: un vecteur pour les investissements dans l'éolien	CS2: Control strategies	CT2: Conception structurelle et aéroélasticité	CG2: Intégration du vent dans les marchés de l'électricité
12:30	Buffet Lunch - Palais 2 & 3			
14:00	CB3: Développement du marché Offshore et perspectives	CS3: Resource assessment and siting	CT3: Transmission sous différents angles	CG3: Transport et énergie éolienne
15:30	Pause café - Palais 2 & 3			
16:00-17:30	CB4: Comment les retombées locales stimulent l'acceptation publique de l'énergie éolienne	CS4: Wind turbine design and components	CT4: Prévisions en matière d'énergie éolienne	CG4: Gestion énergétique
17:00-18:00	Soirée Prosecco - Palais 1			
18:00-20:00	Projection du film - Callelongue			
20:00	Dîner de conférence - Palais de la Bourse			

JEUDI, 19 MARS 2009

	AFFAIRES & POLITIQUES	SCIENTIFIQUE	TECHNIQUE	RÉSEAUX
08:00	Inscription, Café de bienvenue, Visite de l'espace posters			
09:00	DB1: L'éolien et les prix de l'électricité	DS1: Offshore	DT1: Nouveaux concepts	DG1: Tradewind
10:30	Pause café - Palais 2 & 3			
11:00	DB2: Environnement et planification	DS2: Grid planning and operation	DT2A: Défis des localisations	DT2B: Les éoliennes de moyenne puissance et les systèmes autonomes
12:30	Buffet Lunch - Palais 2 & 3			
14:00	DB3: Logistique	DS3: Wind power plants and grid integration	DT3A: Modélisation des flux d'air	DT3B: Contrôle réparti des pales
15:30	DP4: Séance de Clôture (Auditorium)			
16:30	Fin			



Une interprétation simultanée EN/FR sera proposée pour toutes les sessions portant un titre et une description en français. Il n'y aura pas d'interprétation pour les sessions scientifiques.

MONDAY, 16 MARCH 2009

08:00	Registration, Welcome Coffee, Poster Session		
10:00	AP1: Opening Session (Auditorium)		
12:00	Press Conference and Official Exhibition Opening + Buffet Lunch - Halls 2 & 3		
14:00	AP2: Global leaders' vision		
15:30	Coffee Break - Halls 2 & 3		
16:00-17:30	AP3A: Strengthening the EU policy framework: rapid integration of large quantities of wind power (Auditorium)	AP3B: Taking wind power technology to the next level (Les Goudes)	AP3C: Opportunities and challenges in the new financial environment (Callelongue)
17:00-18:00	Beer Reception - Hall 1		
17:30	Motivational Seminar: Maximise your EWEC experience – new seminar for EWEC 2009 (Callelongue)		
19:30-21:00	Conference Reception (Docks des Suds)		

ROOM	AUDITORIUM	ENDOUME	LES GOUDES	CALLELONGUE
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TUESDAY, 17 MARCH 2009

	BUSINESS AND POLICY	SCIENTIFIC	TECHNICAL	FINANCE
08:00	Registration, Welcome Coffee, Poster Session			
09:00	BB1: Leading EU markets: achieving the vision	BS1: SWT and hybrid systems	BT1: TP Wind	BF1: Project finance
10:30	Coffee Break - Halls 2 & 3			
11:00	BB2: Emerging EU markets: 20% - dream or reality?	BS2: Reliability, materials and lubrication	BT2: Wakes	BF2: Risk assessment
12:30	Buffet Lunch - Halls 2 & 3			
14:00	PO: Poster Session - Poster Area			
15:30	Coffee Break - Halls 2 & 3			
16:00	BB4: Mediterranean markets: challenges and opportunities	BS4: Aerodynamics & aeroelastic stability	BT4: Remote sensing	BF4: Private equity and venture capital
17:30	Exhibition Reception - Halls 1, 2 & 3			

WEDNESDAY, 18 MARCH 2009

	BUSINESS AND POLICY	SCIENTIFIC	TECHNICAL	GRID
08:00	Registration, Welcome Coffee, Poster Session			
09:00	CB1: Global strategies and opportunities	CS1: Condition monitoring of turbines and components	CT1: Aerodynamics and aerocoustics	CG1: Integration of wind power plants
10:30	Coffee Break - Halls 2 & 3			
11:00	CB2: Climate Change policies as a driver for wind energy investments	CS2: Control strategies	CT2: Structural design and aeroelasticity	CG2: Integrating wind in electricity markets
12:30	Buffet Lunch - Halls 2 & 3			
14:00	CB3: Offshore market deployment and prospects	CS3: Resource assessment and siting	CT3: Drive train from different angles	CG3: Transmission with wind power
15:30	Coffee Break - Halls 2 & 3			
16:00-17:30	CB4: How local benefits foster public acceptance of wind energy	CS4: Wind turbine design and components	CT4: Forecasting of wind power	CG4: Energy and power management
17:00-18:00	Prosecco party - Hall 1			
18:00-20:00	Film Screening			
20:00	Conference Dinner			

THURSDAY, 19 MARCH 2009

	BUSINESS AND POLICY	SCIENTIFIC	TECHNICAL	GRID
08:00	Registration, Welcome Coffee, Poster Session			
09:00	DB1: Wind power and electricity prices	DS1: Offshore	DT1: New concepts	DG1: Tradewind
10:30	Coffee Break - Halls 2 & 3			
11:00	DB2: Environment and planning	DS2: Grid planning and operation	DT2A: Siting challenges	DT2B: Small wind turbines and autonomous systems
12:30	Buffet Lunch - Halls 2 & 3			
14:00	DB3: Supply chain	DS3: Wind power plants and grid integration	DT3A: Modelling wind flow	DT3B: Distributed blade control
15:30	DP4: Closing Session (Auditorium)			
16:30	End			



Live English-French interpretation will be provided for all sessions with a French title and session description. Interpretation will not be provided for the Scientific sessions.