Renewable Energy Grid Integration Week

E-MOBILITY WIND & SOLAR

25-28 SEPT 2023

COPENHAGEN DENMARK

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BACKGROUND INFORMATION

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INTRODUCTION

Renewable Energy Grid Integration Week

The Renewable Energy Grid Integration Week comprises two high-quality conferences on grid integration of renewable energies in one week and attracts participants from all over the world. The conference series takes place in a different location each year highlighting that region's particular grid integration issues in keynotes and presentations throughout the week.

Thus, the conferences are designed to provide a platform for power system operators, transmission and distribution grid operators, wind turbine, gas turbine and solar inverter manufacturers, electrolyzer and fuel cells as well as charging station manufacturers, universities and research institutes, and consulting companies to exchange technical and economic developments. With several accompanying events such as the networking poster sessions for each of the events, the wind and solar networking dinner, study trips and tutorials, the renewable energy conference series provides not only a great learning experience but also the perfect opportunity for energy experts to network with their peers from all around the world.





HISTORY

How it all began

The Renewable Energy Grid Integration Week looks back to a year-long history. Back in 1999, two Ph.D. students at KTH-Royal Institute of Technology, Stockholm, Sweden, one of them Energynautics CEO Dr. Thomas Ackermann, spent hours discussing the integration of wind power into power systems and possible applications of HVDC technology for offshore wind farms. These academic discussions led to the "International Workshop on Feasibility of HVDC Transmission Networks for Offshore Wind Farms" in 2000 and already included many experts from the wind industry.

This Workshop then developed into the annual "International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants" and has from 2011 to 2021 been conducted in conjunction with the Solar & Storage Integration Workshop. In 2017, the first E-Mobility Power System Integration Symposium joined these renowned conferences and together they formed the original Renewable Energy Grid Integration Week.

In 2022, the Wind and Solar & Storage Integration Workshops merged to the Wind & Solar Integration Workshop and the 1st Hydrogen Power System Integration Symposium was added as the third conference of the Renewable Energy Grid Integration Week. The new Hydrogen Symposium is to be established as a biennial event, thus the next edition will take place in 2024. In 2023, the topic of hydrogen will take center stage at the 22nd Wind & Solar Integration Workshop.





EVENTS 2023



Renewable Energy Grid Integration Week 2023

The Renewable Energy Grid Integration Week will start with the E-Mobility Power System Integration Symposium, followed by the Wind & Solar Integration Workshop.

PRELIMINARY TIMETABLE



7th E-Mobility Integration Symposium

Monday, 25 September >> Symposium >> Networking Event



22nd Wind & Solar Integration Workshop

Tuesday, 26 September

- >> Workshop Day 1
- >> Wind & Solar Dinner

Wednesday, 27 September

- Workshop Day 2
- >> Wind & Solar Poster & Networking Reception

Thursday, 28 September > Workshop Day 3

DATE & LOCATION



25-28 September 2023



Copenhagen, Denmark



Expected participants:

>120 E-Mobility >250 Wind & Solar





WIND & SOLAR INTEGRATION WORKSHOP

Development of the Wind & Solar Integration Workshop

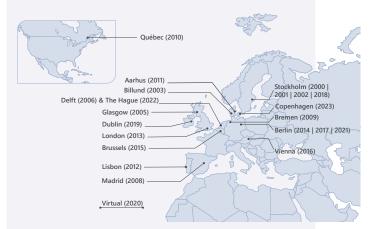
More than 20 years after its first edition, the Wind & Solar Integration Workshop has developed into one of the premier conferences in its field, providing an excellent platform for discussing the subject of grid integration of wind and solar power into power systems.

It has been organized by Energynautics and its CEO, Thomas Ackermann, since 2006. From 2011 to 2021, the Wind Integration Workshop has been conducted back to back with the Solar & Storage Integration Workshop. In 2022,

Participants Wind

the Wind and Solar & Storage Integration Workshops merged to the Wind & Solar Integration Workshop (with Special Topics Sector Coupling & Storage) in order to take into account the many possible synergies and to meet the wishes of the participants.

Having started with only 52 participants from 7 countries, the Wind & Solar Integration Workshop attracts nowadays between 230 and 300 participants each year from around 25 to 34 countries.







WIND & SOLAR INTEGRATION WORKSHOP

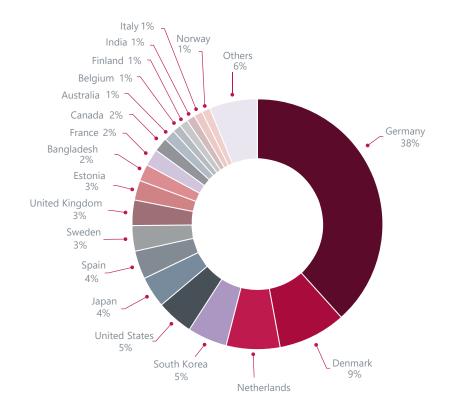


Facts & Figures

The following charts about our previous workshops show the origin of the participants regarding their country and the type of organization / company they work for.

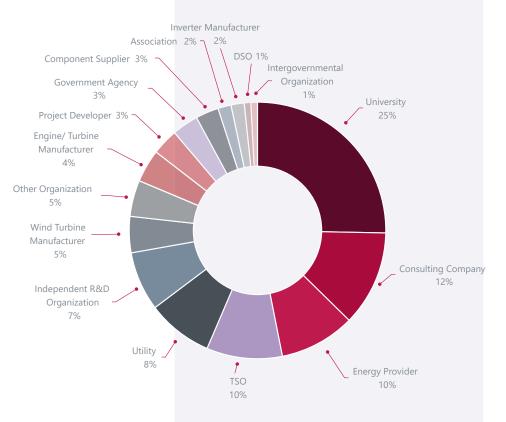
PARTICIPANTS BY COUNTRY

Wind & Solar Integration Workshop | The Hague 2022



PARTICIPANTS BASED ON ORGANIZATION

Wind & Solar Integration Workshop | The Hague 2022



WIND & SOLAR INTEGRATION WORKSHOP



Main Topics of the Workshop

- Project Experience with Grid Integration of Wind Power / PV / Batteries
- Grid Forming Aspects and Experience
- Power System Studies
- Distribution Grid Issues
- Transmission Grid / Power System Issues
- Power Quality Issues
- Grid Code Issues and Future Aspects
- Wind / Solar Power & Battery Modelling Issues
- Power System Balancing Issues
- Ancillary Services
- Forecasting
- Smart Grid / IT Innovations
- Energy Market and Regulatory Issues
- AI and Machine Learning for Grid Integration
- Decarbonization of Energy Sectors
- Hybrid Power Systems
- Hybrid Power Plants
- Battery Aspects (Operation, Modelling)
- Sector Coupling Based on Wind / PV incl. Hydrogen
- Fuel Cell Modelling / Fuel Cell Systems Modelling
- Electrolyzer Modelling
- Hydrogen Systems Modelling
- Renewable Hydrogen Technologies and Applications
- Decarbonizing the Industrial Processes
- Energy System Management with Hydrogen

- Hybrid Power Systems
- Smart Grid / IT Innovations
- Energy Market and Regulatory Issues
- Decarbonization of Energy Sectors
- Forecasting

Hydrogen Topics

- Fuel Cell Modelling / Fuel Cell Systems Modelling
- Electrolyzer Modelling
- Hydrogen Systems Modelling
- Renewable Hydrogen Technologies and Applications
- Decarbonization of Transport with Green Hydrogen
- Decarbonizing the Industrial Processes
- Energy System Management with Hydrogen















International Advisory Committee

Besides giving general advice for content and topics of the workshop, and working as reviewers of submitted abstracts during the Call for Paper process, they are acting as multipliers for the workshop idea and date. All members receive a media package to support the workshop communication.

- Thomas Ackermann
 Energynautics, Germany
- Sigrid Bolik
 Siemens, United Kingdom
- Roland Bründlinger
 AIT Austrian Institute of Technology, Austria
- Peter W. Christensen
 SWECO Danmark, Denmark
- Kaushik Das DTU, Denmark
- Jaap de Boer Energy Watch, Netherlands
- Julian Eggleston DIgSILENT Pacific, Australia
- Bernd Engel SMA Solar Technology, Germany
- Bernhard Ernst Bernhard Ernst Energy Consulting, Germany
- Ana Estanqueiro
 LNEG, Portugal
- Andreas Falk SMA, Germany
- Alain Forcione IREQ Hydro Québec, Canada
- Jens Fortmann HTW Berlin – University of Applied Sciences, Germany

- Michael Nørtoft Frydensbjerg Vattenfall Vindkraft, Denmark
- Gregor Giebel
 DTU Wind Energy, Denmark
- Jutta Hanson
- Technical University Darmstadt, Germany
- Craig Hart IEA, France
- Bri-Mathias Hodge
 NREL, USA
- Hannele Holttinen
- recognis, Finland
- Reza Iravani
 University of Toronto, Canada
- Tomas A. Kåberger
 Chalmers University of Technology, Sweden
- Jako Kilter Tallinn University of Technology – TalTech, Estonia
- Vasiliki Klonari
 WindEurope, Belgium
- Łukasz H. Kocewiak Ørsted Offshore, Denmark
- Lars Landberg DNV GL, Denmark
- Debra Lew ESIG, USA

- Oskar Lindberg
 Uppsala University, Sweden
- Frank Martin
 Siemens Gamesa, Denmark
- Julia Matevosyan ESIG, USA
- Nickie Menemenlis Hydro Québec-IREQ, Canada
- Rossano Musca University of Palermo, Italy // Neplan, Switzerland
- Lise Nielson Linie P. Denmark
- Lars Nordström KTH – Royal Institute of Technolohgy, Sweden
- Kazuhiko Ogimoto
 University of Tokyo
- Antje Orths
 Energinet.dk, Denmark
- Hassan Qazi
 EirGrid, Ireland
- Eckard Quitmann
 Enercon, Germany
- César Saiz
 Hitachi ABB Power Grids, Switzerland
- Nigel Schofield
 University of Huddersfield, United Kingdom

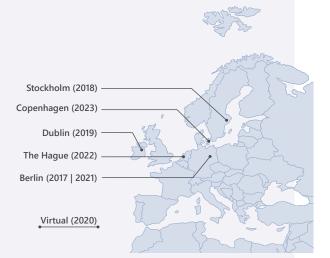
- Inga Skrypalle
 Vestas Wind Systems, Denmark
- J. Charles Smith ESIG, USA
- Lennart Söder KTH – Royal Institute of Technology, Sweden
- Poul Ejnar Sørensen
 DTU Wind Energy, Denmark
- Jian Sun Rensselaer Polytechnic Institute, USA
- Pieter Tielens Engie Impact, Belgium
- Helge Urdal Urdal Power Solutions, United Kingdom
- Julio Usaola Charles III University of Madrid, Spain
- Marta Val Escudero
 EirGrid, Ireland
- Dirk Van Hertem KU Leuven, Belgium
- Patrick van de Rijt TenneT TSO, Netherlands
- Yoh Yasuda
 Kyoto University, Japan

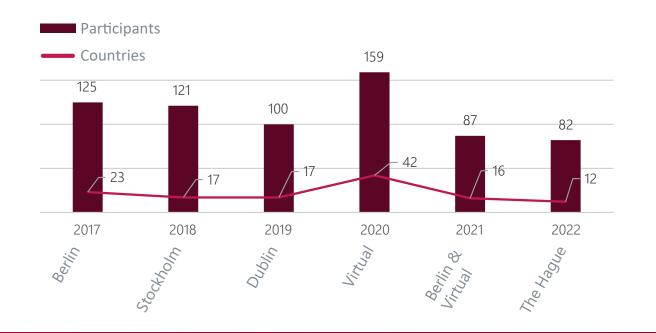
E-MOBILITY POWER SYSTEM INTEGRATION SYMPOSIUM



Development of the Symposium

The purpose of the E-Mobility Power System Integration Symposium is to discuss the challenges that arise with increased power demand due to electric vehicle charging, and how they can be met by coordinating with renewable power production in the electrical system (hence the combination with the Wind & Solar Integration Workshop). The selection of topics also highlights the need for integrating the required electric vehicle charging infrastructure with the expansion of the distribution and transmission system. The Symposium offers a prime opportunity to discuss the significant future impact of E-Mobility on power system design and operation. It aims to bring together experts on electric vehicles, charging infrastructure, power system operators, and stakeholders of the renewable energy industry as well as power system regulators and universities.





E-MOBILITY POWER SYSTEM INTEGRATION SYMPOSIUM



Facts & Figures

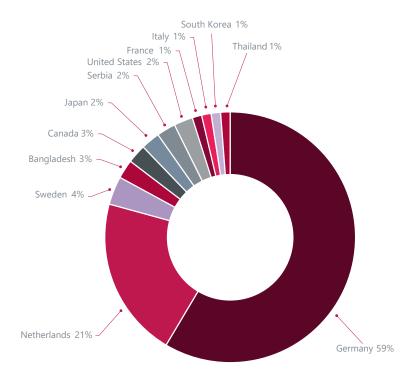
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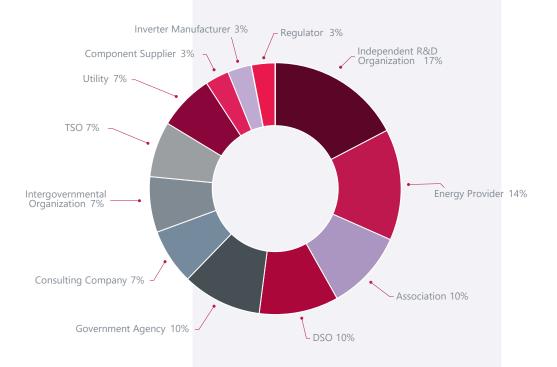
PARTICIPANTS BY COUNTRY

E-Mobility Power System Integration Symposium | The Hague 2022

PARTICIPANTS BASED ON ORGANIZATION

E-Mobility Power System Integration Symposium | The Hague 2022





E-MOBILITY POWER SYSTEM INTEGRATION SYMPOSIUM



Main Topics of the Symposium

- Project Experience with EV Grid Integration
- Grid Forming Aspects and Experience
- Power System Aspects with High Shares of EVs
- Distribution Grid Issues
- Market and Regulatory Aspects
- Charging Infrastructure Planning & Smart Charging
- High Power Charging

- Vehicle to Grid incl. Ancillary Service Participation
- Charging Methods (AC, DC, Wireless) + Standardization of charging modes / communication
- Communication and Security Aspects
- Grid Integration Modelling Aspects
- Grid Code Issues and Future Aspects

- Decarbonization of Energy Sectors
- Decarbonization of Transport with Green Hydrogen
- Electrification of Urban Mobility
- Mobility as a Service
- AI and Machine Learning for Grid Integration
- E-Mobility and Renewable Energy Integration

International Advisory Committee

Besides giving general advice for content and topics of the event, and working as reviewers of submitted abstracts during the Call for Paper process, they are acting as multipliers for the symposium idea and date. All members receive a media package to support the symposium communication.

- Thomas Ackermann Energynautics, Germany
- Jann Binder Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany
- Sigrid Bolik Siemens, United Kingdom
- Johannes Brombach eMIS, Germany
- Karsten Burges RE-xpertise, Germany

- Markus Dietmannsberger Hamburger Hochbahn, Germany
- Bernd Engel SMA Solar Technology, Germany
- Bernhard Ernst Bernhard Ernst Energy Consulting, Germany
- Craig Hart IEA, France
- Tomas A. Kåberger
 Chalmers University of Technology, Sweden

- Sonja Klingert University of Mannheim, Germany
- Nickie Menemenlis Hydro Québec – IREQ, Canada
- Lars Nordström KTH – Royal Institute of Technology, Sweden
- Lennart Söder KTH – Royal Institute of Technology, Sweden
- Bernhard Wille-Haussmann Fraunhofer ISE, Germany

INVOLVEMENT OF TSOs

The Renewable Energy Grid Integration Week takes place in a different location each year in order to highlight that region's renewable energy grid integration challenges and solutions as well as the features of the hosting transmission grid. The local transmission system operators have the unique opportunity to represent their host country and share their lessons learned with the international audience during the week.

The following table provides an overview of the involvement of TSOs at past workshops:

	Location, Year	Role of TSO	Number of Presentations by TSOs
	The Hague 2022	TenneT TSO: Sponsor, Presentations, Partner in Opening / Keynote Session, Organizer of dedicated sessions	23 i.e. Energinet.dk, EPRI, Fingrid Oyj, RTE France, TenneT TSO, TransnetBW WZDCL Bangladesh
	Berlin / Virtual 2021	Elia / 50Hertz, Sponsor, Presenters and Partner in Opening Session, Organizer in dedicated session	15 i.e. Amprion, Transnet BW, TenneT, Elia / 50Hertz, Fingrid, REN
	Virtual 2020	-	11 i.e. Amprion, Elia, National Grid, Energinet, REE, TenneT TSO, Svenska kraftnät, ScottishPower Renewables, ERCOT, National Grid, RTE France
	Dublin 2019	EirGrid / SONI: Sponsor, Presenters, Partner in Opening Session, Study Trip Organizer	22 i.e. EirGrid, SONI, National Grid, Amprion, REE, Energinet.dk, ERCOT
	Stockholm 2018	-	28 i.e. Vattenfall, TenneT, Eirgrid, Ercot
	Berlin 2017	TenneT: Sponsor, Presenters and Partner in Opening Session	21 i.e. REE, Energinet.dk, ERCOT, HEDNO
	Vienna 2016	Austrian Power Grid: Sponsor, Presenters, Study Trip Organizer	17 i.e. Nationalgrid, Hydro Québec, TRE France
	Brussels 2015	Elia Group / 50Hertz: Sponsor and Study Trip Organizer	10 i.e. Amprion, ENTSO-E, Elia
	Berlin 2014	50Hertz: Sponsor, Presenter in Opening Session	11 i.e. FinGrid, Vattenfall, Amprion, TenneT

















WHAT WE OFFER



Holding Keynote presentations



Giving several presentations in the course of the events



Organizing entire sessions





Organizing study trips to project sites or their facilities

Taking part in the panel discussions at the end of the event



We are very open to **YOUR** preferred involvement in the conference. Just let us know in which way you would like to contribute !

TARGET GROUP & PRICING

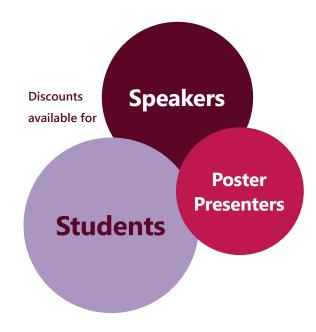


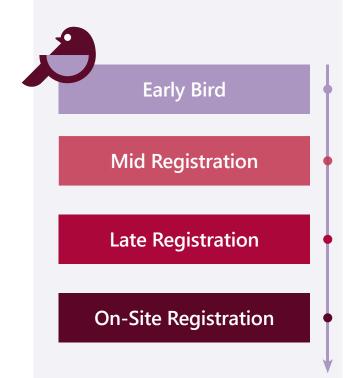
Structure of Participation Fees

In order to win participants of every target group to form the inspiring mixture of **speakers**, **poster presenters and regular visitors** from different research sectors and institutions the participation fees are based on a mixed calculation to address the needs of every target group specifically: **students**, **university staff**, **associations**, **NGOs**, **public institutions**, **companies**.

Students may register for the highest discount as well as speakers and poster presenters. Regular participants are offered three different time schemes – early bird, regular registration, late registration.

For last minute participants, we also offer on-site registration.





WORKSHOP INFORMATION CHANNELS



Communicating the Workshops

Although a large portion of our participants from previous workshops are "repeaters" (40-50%) or came by recommendation (30-35%), we constantly strive for gaining new participants. Therefore, the workshop communication makes use of different communication channels:

Cooperations with Universities



In order to maintain our goal of providing a platform not only for industry professionals but also for university members, we have cooperations with several local academic institutions. This will also give other participants the opportunity to learn more about results from ongoing research. For sponsors, this is a great way to network with young professionals who have a strong academic background.

Websites



The basis for all information regarding the symposium and the workshops are the event websites (below right): They compile information about the workshop's history, past agendas, papers and the information about the current program, venue, and accommodation opportunities.

Social Media

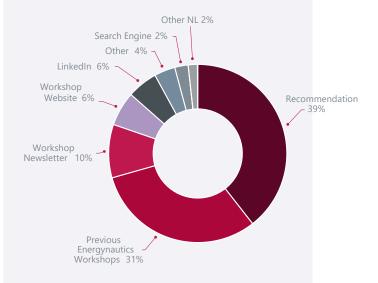


Different aspects of the workshops are communicated on several social media platforms (and their groups) such as:

in LinkedIn



HOW PARTICIPANTS BECAME AWARE





mobilityintegrationsymposium.org 700 - 1,000 visitors per month

windintegrationworkshop.org 1,800 - 2,100 visitors per month

Newsletters

The main means of communication to disseminate the conference are regular workshop newsletters. They contain the current basic information linking to the workshop website for more detailed information.

Online & Print Media

The workshop date is listed on several renewable energy event lists and calendars on- and offline. Furthermore, advertisements get published regularly to promote the workshop.

Leaflets

Paper leaflets / flyers are produced for distribution among interested institutions and participants.

Direct Mailing

Previous workshop participants will receive information about the Call for Papers and later on about the program via mail.





WORKSHOP QUALITY



Quality Control & Feedback

The participants of every workshop receive the opportunity to give their feedback after the event answering a number of questions regarding the quality of the workshop program, venue, location and organization.

The workshop team evaluates the answers thoroughly and initiates changes wherever applicable. Many new ideas are making its way to us this way.

THE RENEWABLE ENERGY GRID INTEGRATION WEEK IS IMPORTANT FOR ME BECAUSE...

I got an overview about the different points of view and a feeling what is common sense.

It gave me the opportunity to interact with industry experts and gained some insightful knowledge related to how to bridge the gap between the work required in industry and work done in academia. To do once a year a step out of the box.

It is an important forum for the exchange of ideas, experience and challenges; where forecasting is still considered part of grid integration and where it is possible to get a better picture of the various challenges we face in the transformation to a sustainable energy system.

Best mixture between scientific depth and relevance to practice

Its the most important event in relation to renewable energy grid connection - very high technical expert participation.

I see which topics are relevant and timely.

I can keep updated about relevant topics regarding the integration of renewable energy sources from highly qualified panelists and audience

SPONSORING



Your Benefits as Sponsor

Being sponsor of one or several events of the Renewable Energy Grid Integration Week not only raises awareness for your company among participants but also gives you several advantages:



Image building in the energy sector

- Get connected with the Renewable Energy Grid Integration Week– a platform where key players of the energy industry meet to share experiences and discuss freely without political agenda or implications
- Gain recognition as a key facilitator of neutral technical communication between competitors and energy suppliers

Meet your future employees & partners

- · Find highly qualified students & professionals among participants
- Network with potential candidates
- Display your job announcements in our conference material
- Meet potential partners for new projects

Capacity Building for your team

- Train your employees on specific topics about the integration of RE
- Share & receive fresh ideas about current issues
- Find solutions for your ongoing projects in industry & academia
- Have serious discussions with worldwide experts

SPONSORING OPTIONS



Sponsoring Packages

- » Your company logo on conference website, newsletters, digital papers (incl. link to your website) & sponsor overview slides during the conference
- » Your ad in digital papers

ERA

GIGA

MEGA

» Your company information in the digital delegate bag (max. 10 MB)

Additional to MEGA Sponsorship

» Content box in one newsletter issue

- » Dedicated social media post announcing you as a conference sponsor
- » Your company logo on on-site banners and screens, printed flyers, printed conference agenda



SPONSORSHIP FEES



22nd Wind & Solar Integration Workshop

5,500.00 EUR





22nd Wind & Solar Integration Workshop

9,500.00 EUR





Integration Symposium

5,000.00 EUR

7th E-Mobility Power System

Integration Symposium

3,000.00 EUR



22nd Wind & Solar Integration Workshop

12,000.00 EUR

Additional to GIGA Sponsorship

» Your dedicated company slide before two selected sessions

» Your corporate roll-up banner in coffee break area

- » Your company video before a selected session/lunch break (max 30 s/5 min)
- » Display banner in the coffee break area (size and format to be discussed)
- » Corporate roundtable in coffee break area for technical discussions,
- networking during breaks and poster sessions
- » One special additional logo arrangement



ncl Din

7th E-Mobility Power System Integration Symposium

6,500.00 EUR

SPECIAL FOR TERA SPONSOR



Special logo arrangement for Tera Sponsors

Increase the visibility of your company at the conferences and choose one of the following arrangements within your Tera Sponsor Package.

+	Option 1	Wind & Solar Dinner Sponsor (Your logo on displays during dinner)
+	Option 2	Coffee Break Sponsor (Your logo on coffee table displays)
+	Option 3	Study Trip Sponsor
+	Option 4	Logo on internet log-in webpage
+	Option 5	Distribution of labelled pads & pens



All conference sponsoring packages do not include tutorial, study trip or dinner tickets unless explicitly included in the benefits list.

EXAMPLES:







SPONSORING DISCOUNTS

-

Sponsoring two conferences will result in a 10% discount in the total sponsoring fee for both workshops.

Embedding your Logotype

See here some examples from the last workshop on where your logotype could be positioned.

Agenda

H - H OCT NUZ Website: Sponsors FINAL AGEND Rollup Этеппет Sponsors & Partners Wind IBESA TET Papers Cover Этеппет MEDIA SILENT Orsted SIEMENS Gamesa **TENEWS** Papers ACADEM of the TUDelft IET Statement and Balance TUDelft X 21st Wind & Solar ORGAN energymentics Integration Workshop CSIG IEC FA Mind & Solar Workshop agenda (Inst) lea Orsted TUDelft Этеппет Special Thanks to our Sponsors, Ambassadors & Partners renews) electrive.com Этеппет **T**UDelft Orsted Grid hittetive SIEMENS Gamesa ESIG ¢ 🔅 Berendlets 🕅 🚱 🛶 IBESA 🚍 🔣 Wind" Sessionslide



21st Wind & Solar

Integration

Workshop

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CAPACITY BUILDING



Take advantage of this unique opportunity to send a larger group to the events of the Renewable Energy Grid Integration Week at a discount price. We are happy to respond flexibly to your wishes – usually our sponsors prefer one of the following approaches:



Fixed budget

You have a fixed training budget: let us know your desired price and we will make you an offer that allows as many of your staff as possible to participate in the desired workshops and symposia.



Fixed number of employees

You already have an idea of how many employees you want to send? Then we will be happy to make you a cost-effective offer for your group.

The Renewable Energy Grid Integration Week will be conducted as an on-site event as our participants value in-person meetings and discussions on-site.

If, however, you have a very large group that is unable to travel, please contact us about your options. Under certain circumstances, we may be able to provide low-key, non-moderated virtual participation at an additional cost.

SPONSORS OF PREVIOUS WORKSHOPS





AMBASSADORS OF PREVIOUS WORKSHOPS





CONTACT

See you in Denmark – Velkommen



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ORGANIZER

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