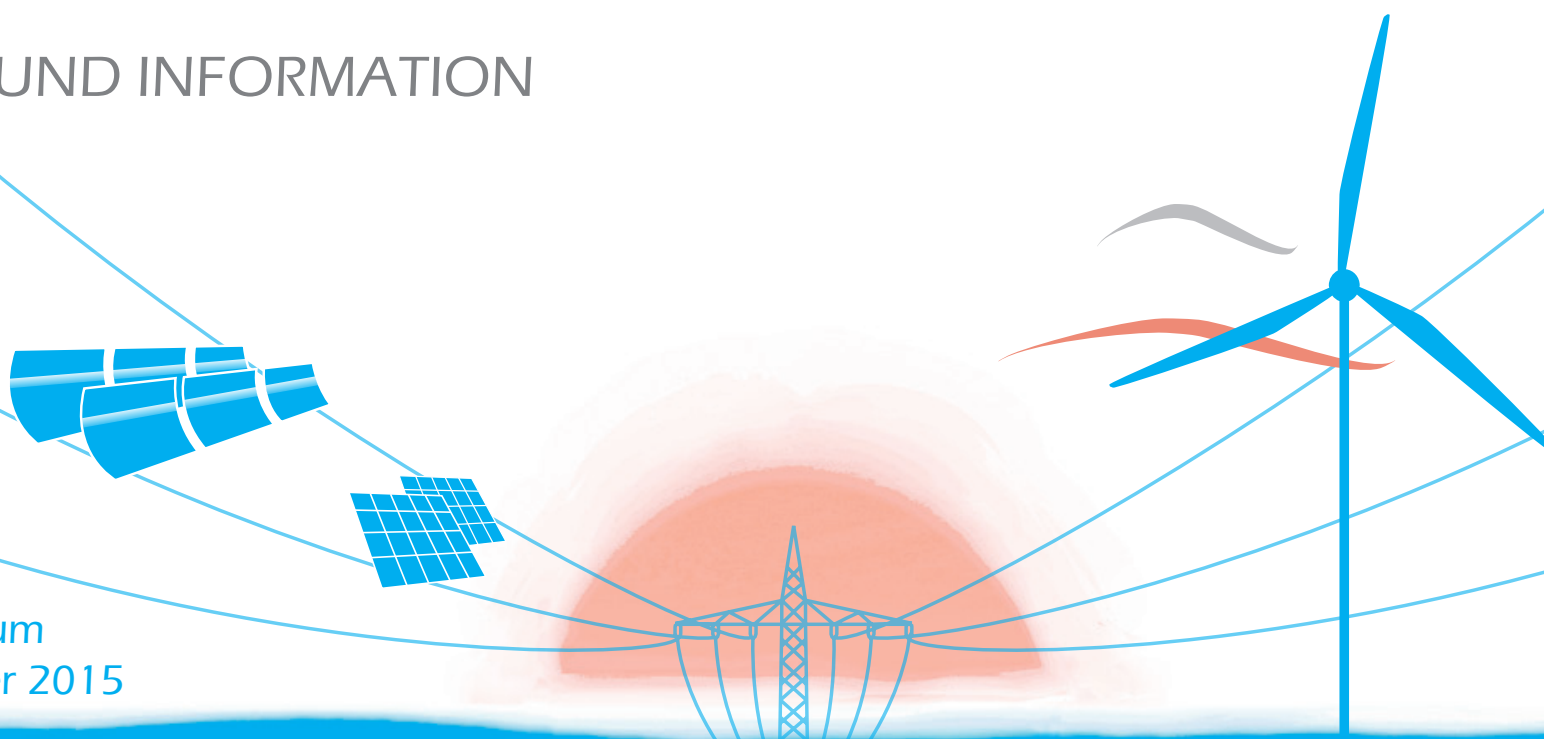


SOLAR & WIND INTEGRATION WORKSHOP

BACKGROUND INFORMATION

Brussels, Belgium
19 - 22 October 2015



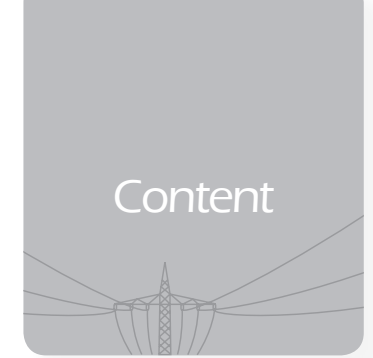
CONTACT

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Energynautics GmbH, Germany
www.energynautics.com

www.solarintegrationworkshop.org
www.windintegrationworkshop.org

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Introduction

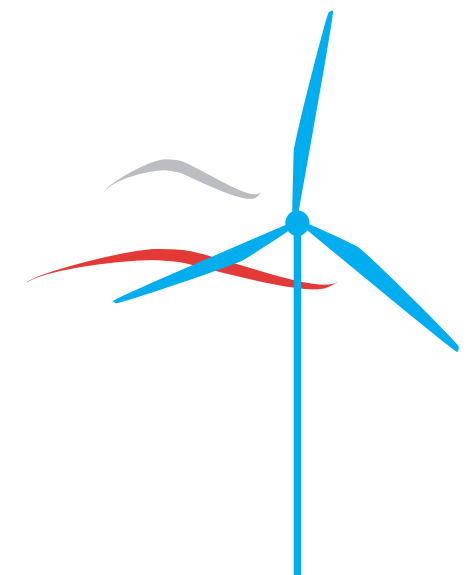
The “International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants” looks back to a year-long history. Its **main target** is to *stimulate interdisciplinary thinking* between *wind energy & power transmission industries* as well as *universities* by providing a platform for discussion and for sharing ideas and knowledge regarding the key issues in the field of large-scale integration of wind power.

History

In the fall of 1999, two Ph.D. students who were working at the Department for Electric Power Systems of the Royal Institute of Technology, *Stockholm, Sweden* spent many hours discussing the integration of wind power into power systems and possible applications of HVDC technology for offshore wind farms.

It soon became clear that these topics would interest and require a wider audience including experts from the wind industry. The result was the *International Workshop on Feasibility of HVDC Transmission Networks for Offshore Wind Farms* organized at the Royal Institute of Technology in spring 2000.

After having been organized for three consecutive years in Sweden, the workshop has since taken place in a different city each year, mostly in Europe but also in Canada in 2010.



Development of the Wind Integration Workshop

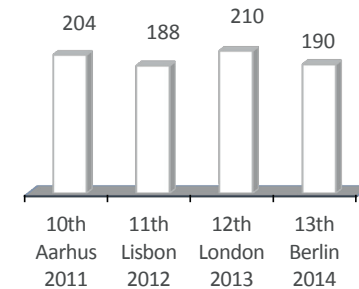
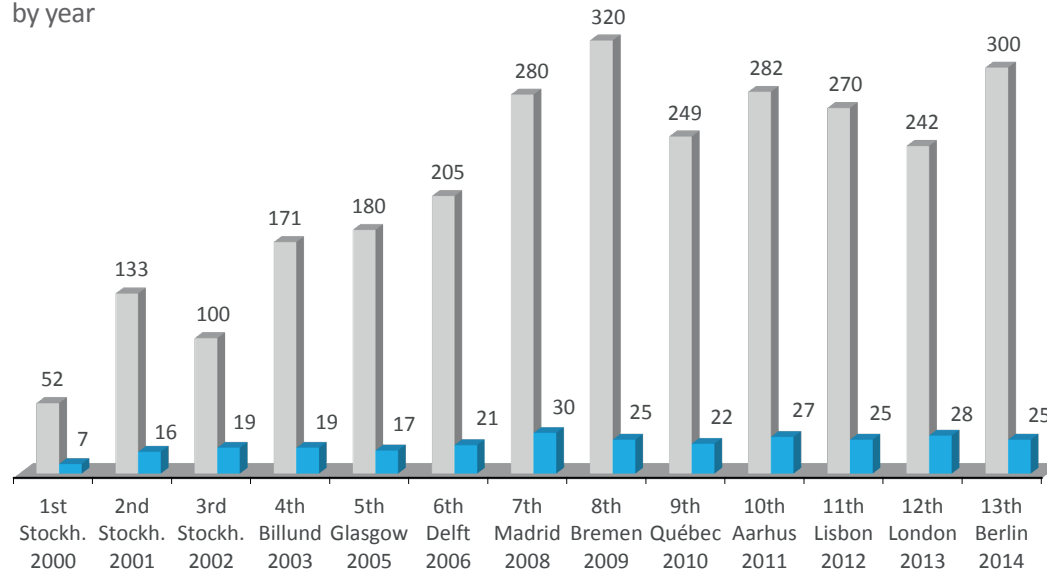
15 years after its first edition, the Wind Integration Workshop has developed into one of the premier conferences in its field, providing an excellent platform for discussing the subject of grid integration of wind power into power systems.

It has been organized by Energynautics and its CEO, Thomas Ackermann, since 2006.

Having started with only 52 participants from 7 countries, the Wind Integration Workshops attracts nowadays between 250 and 300 participants each year from around 25 countries.



Number of Participants ■
& Countries ■
by year



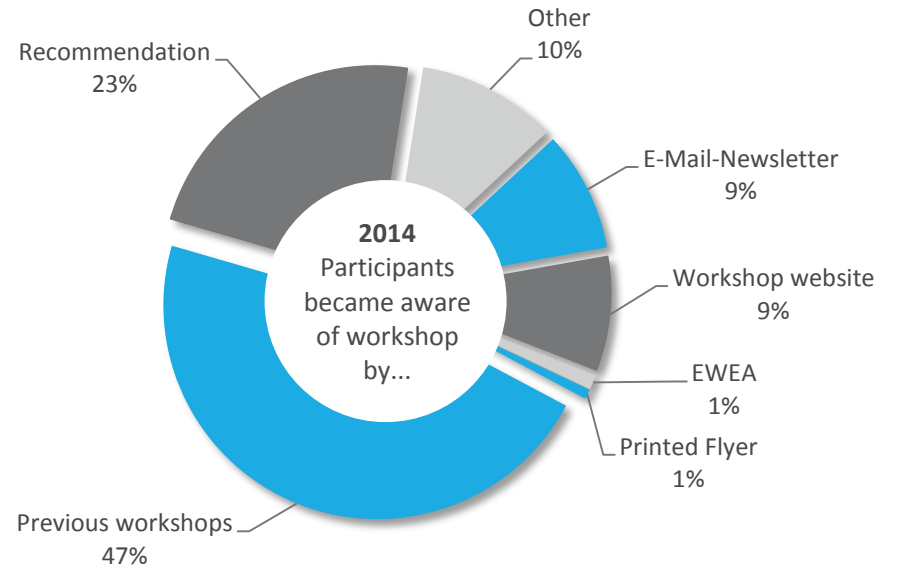
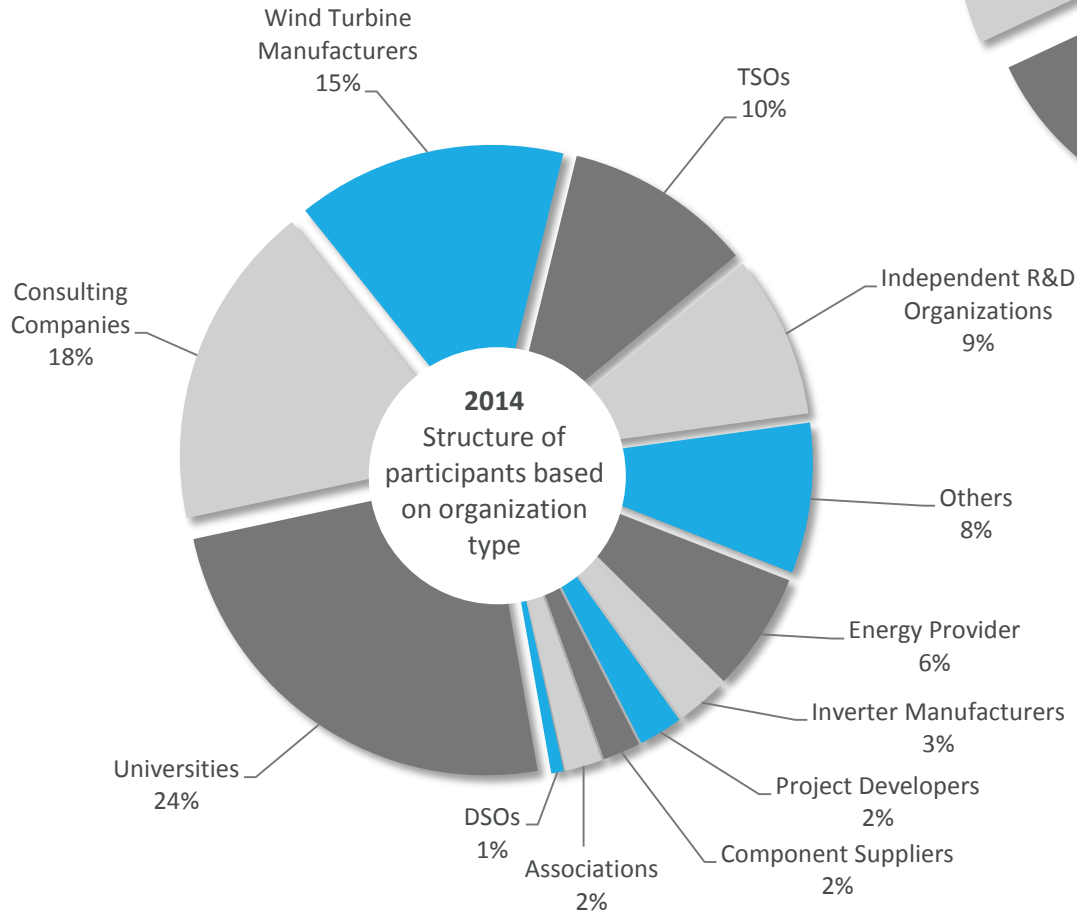
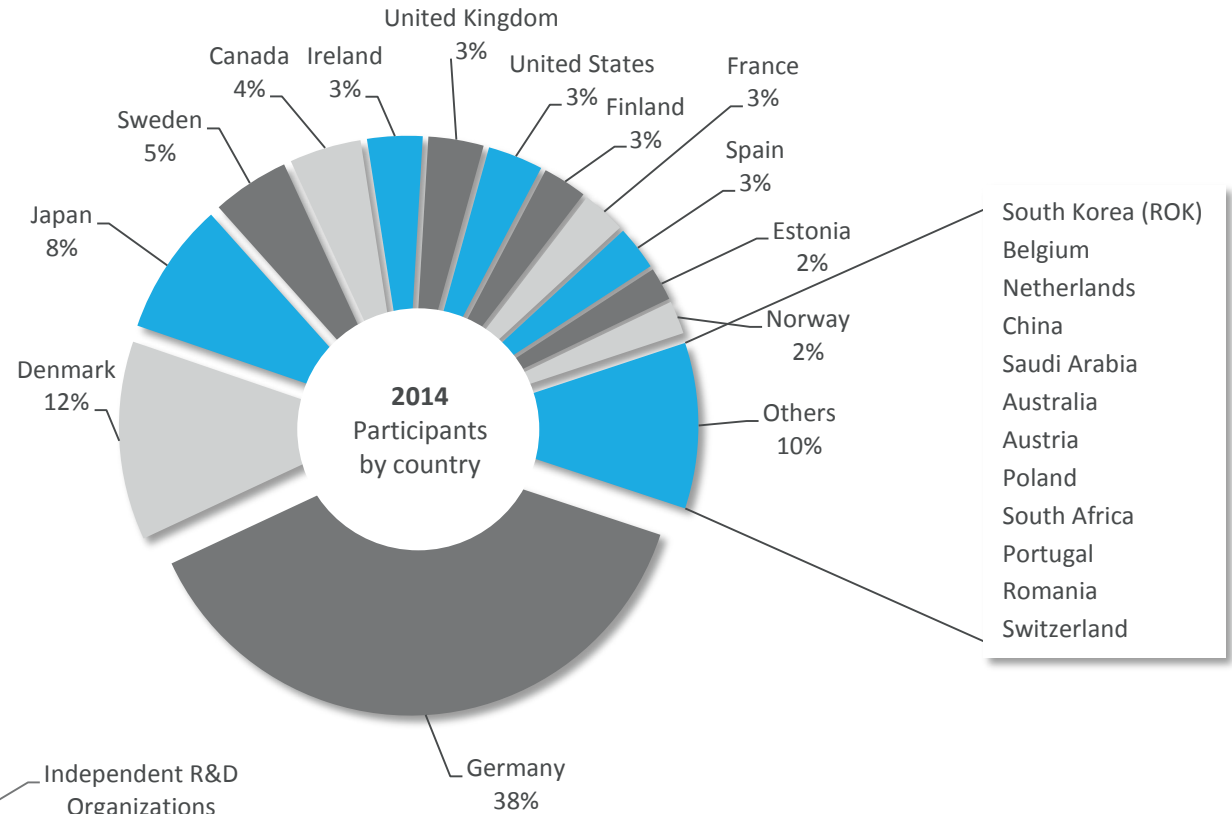
Number of submitted abstracts "Wind" by year

Involvement of TSOs

The following table provides an overview of the involvement of TSOs at the past workshops and the upcoming workshop in Brussels:

Location, Year	Role of TSO	Comment
Billund 2003	Eltra (now Energinet.dk): Sponsor, Co-organiser for Field Trip, Presenter and Partner in Opening Session, Special Eltra Day	We organized the Eltra day for Eltra
Glasgow 2005	Scottish and Southern Energy as well as Scottish Power: Sponsor, Presenter and Partner in Opening Session	
Delft 2006	Tennet: Sponsor, Presenter and Partner in Opening Session	
Madrid 2008	REE: Sponsor, Presenter and Partner in Opening Session	
Bremen 2009	Transpower, Germany; EnBW, Germany; Energinet.dk, Denmark; National Grid, UK; REE, Spain: Presenters	
Québec 2010	Hydro Québec: Sponsor, Co-organizer for field trip, Presenter and Partner in Opening Session	
Aarhus 2011	Energinet.dk: Supporter, Co-organizer for Field Trip, Presenter and Partner in Opening Session, Special Energinet.dk day.	We organized the Energinet.dk day for Energinet.dk
Lisbon 2012	REN: Supporter, Presenters and Partner in Opening Session	
London 2013	National Grid: Sponsor, Presenters, Partner in Opening Session and dedicated National-Grid session	
Berlin 2014	50Hertz: Sponsor, Presenter in Opening Session	
Brussels 2015	Elia Group/50Hertz: Sponsor and Study Trip Organizer	

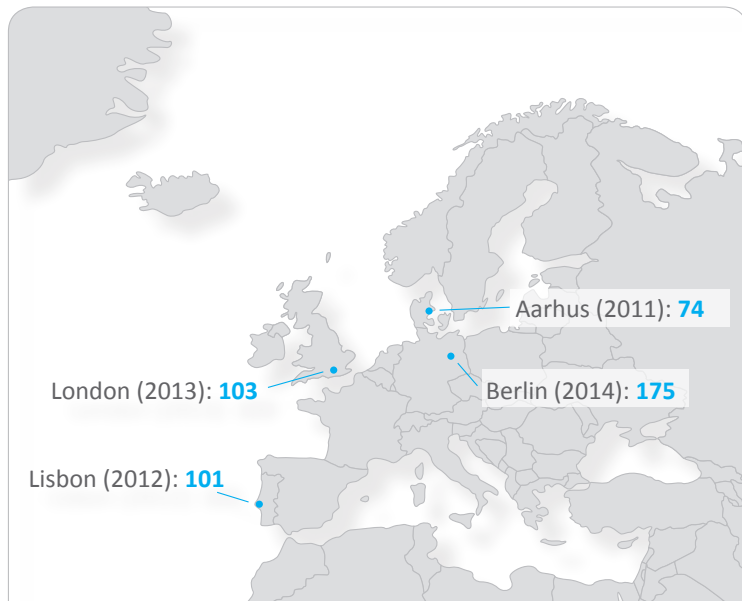
Wind Integration Workshop 2014, Berlin, Germany



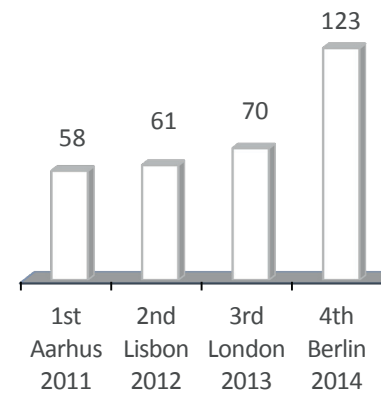
Solar Integration Workshop

The increasing interest in solar integration issues motivated us to organize the first Solar Integration Workshop in Aarhus in 2011, welcoming 74 participants. By 2014 the number of solar participants has more than doubled.

This year's 5th Solar Integration Workshop will be held in Brussels/Belgium with a duration of 1.5 days, followed by the 14th Wind Integration Workshop.

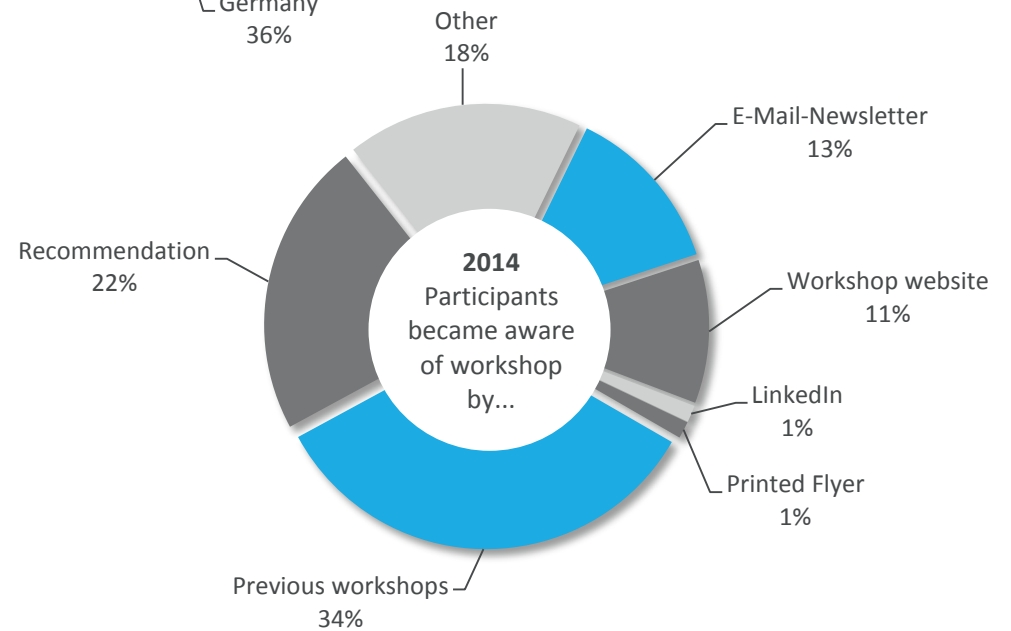
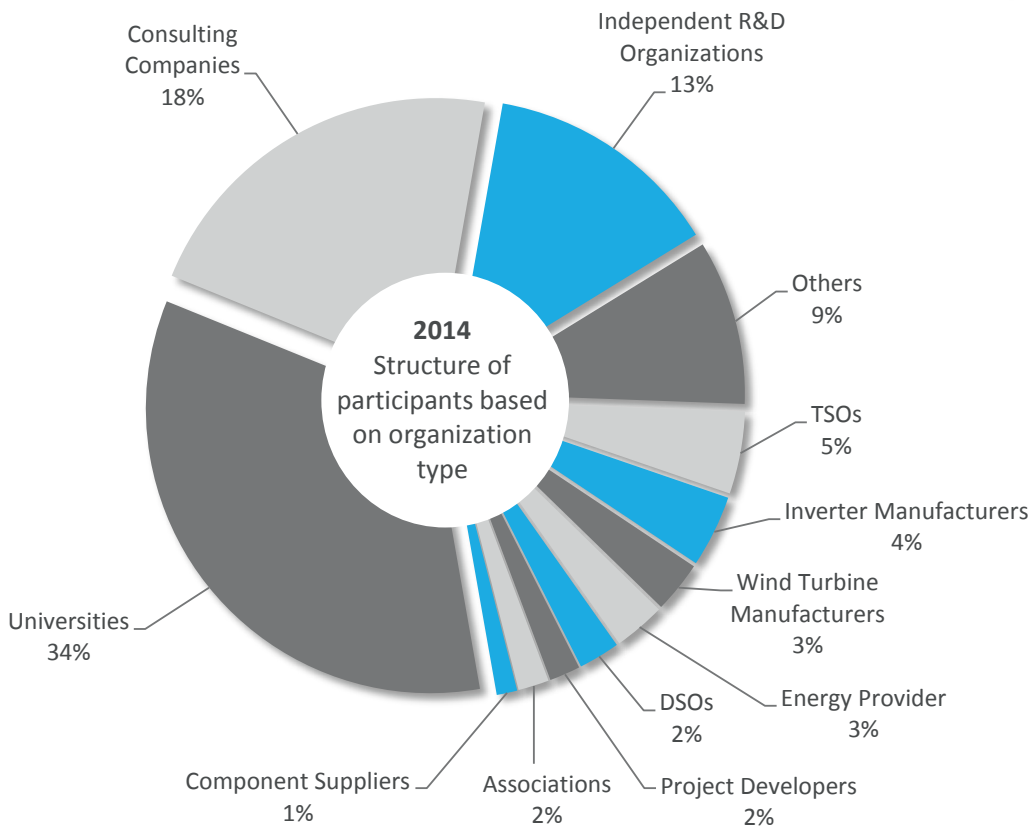
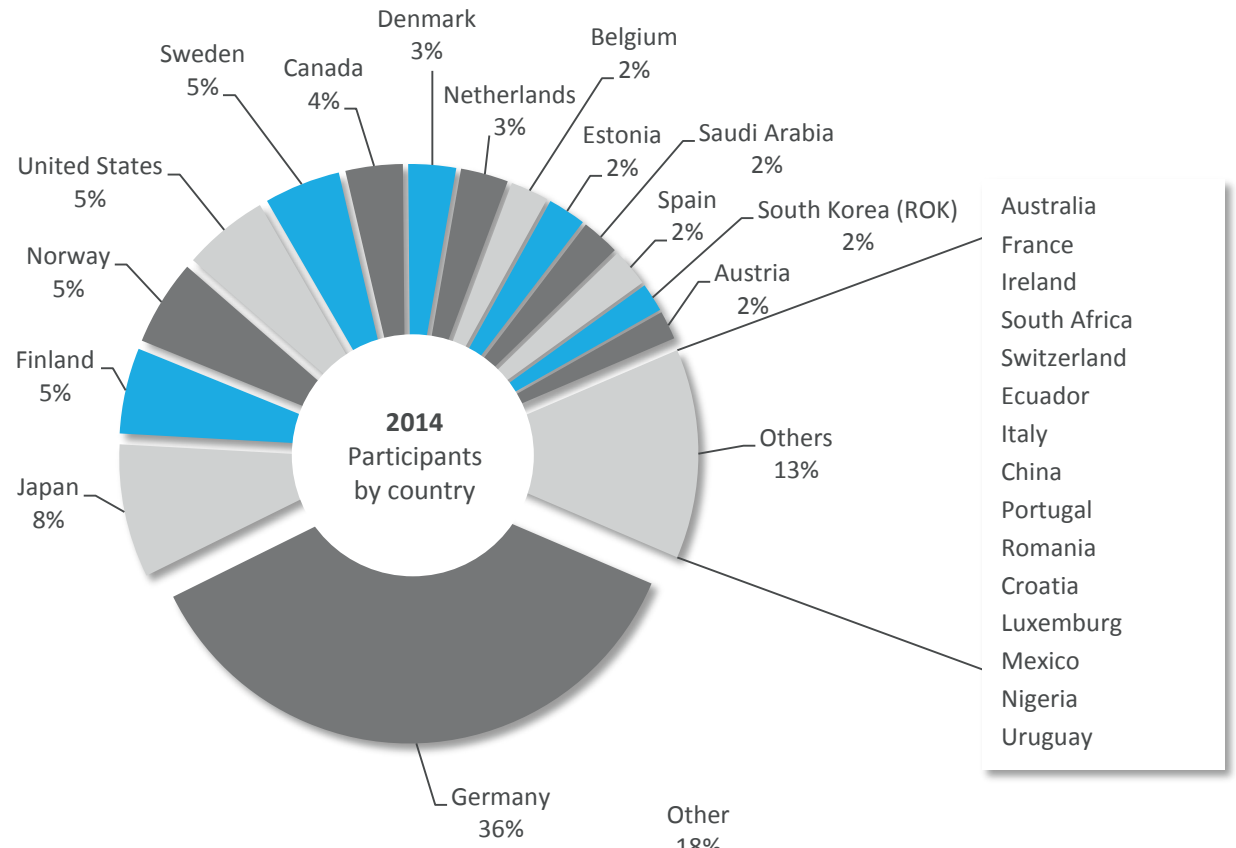


Locations & number of participants "Solar"



Number of submitted abstracts "Solar"

Solar Integration Workshop 2014, Berlin, Germany





Solar & Wind Integration Workshop 2015

The 5th Solar Integration Workshop will be held again in conjunction with the 14th Wind Integration Workshop:

- Date & Location: 19-22 October 2015 in Brussels, Belgium
- Expected number of participants: 150-200 Solar / 250-300 Wind

For the Berlin Workshops 2014 we received 187 wind abstracts/123 solar abstracts and allowed about 2/3 to 3/4 of the papers for either oral or poster presentations. We expect about the same number for our workshops in Brussels.

Preliminary Workshop Structure:

Day	Schedule
Sunday, 18 October	Solar Tutorials
Monday, 19 October	Solar Workshop – Day 1 Wind Tutorials Late Afternoon: Solar Poster Reception Evening: Solar Workshop Dinner
Tuesday, 20 October	Until Midday: Solar Workshop – Day 2 Afternoon: Start of Wind Workshop – Day 1 Late Afternoon: Wind Poster Reception
Wednesday, 21 October	Wind Workshop – Day 2 Evening: Wind Workshop Dinner
Thursday, 22 October	Wind Workshop – Day 3
Friday, 23 October	Study Trip



For further details visit:

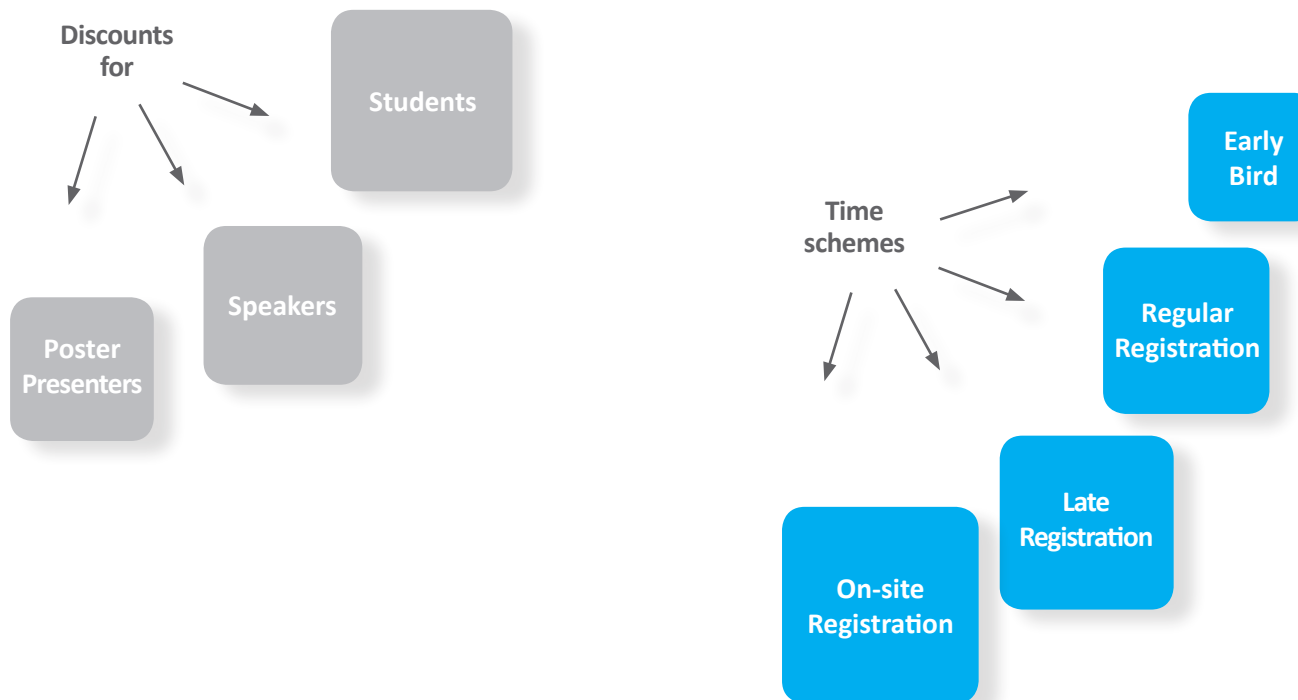
www.solarintegrationworkshop.org



www.windintegrationworkshop.org

Structure of Registration 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 registration fees are based on a mixed calculation to address the needs of every **target group** specifically: **students, university staff, associations, N.G.O.s, 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.



Communicating the Workshops



Communicating the Workshops

Although a large portion of the workshop participants are “repeaters” (almost 50%) or came by recommendation (almost 25%), we constantly strive for gaining new participants. Therefore, the workshop communication makes use of different communication channels:

- **Workshop Websites**

The basis for all information regarding the workshop are the websites www.solarintegrationworkshop.org and www.windintegrationworkshop.org. They compile information about the workshop’s history, past programs, proceedings and the information about the current program, venue, and accommodation opportunities.

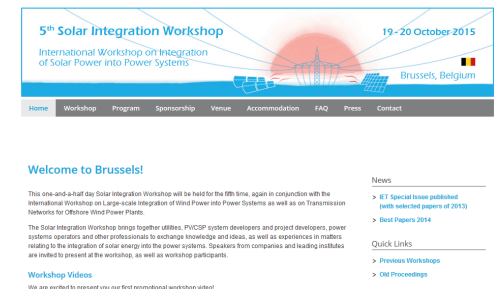
Throughout the whole year the websites are viewed by:

	Unique visitors per month	Unique visitors per day
www.solarintegrationworkshop.org	average of 4,000	average of 130
www.windintegrationworkshop.org	average of 8,000	average of 260

The page views spread evenly over the time of the day (24h around the world) and the days of the week (week/weekend = 4:3).

Website Screenshots:

Solar “Home” Wind “Home”



- **Newsletters**

The main means of communication to disseminate the workshop are workshop newsletters, sent monthly/ fortnightly to about 16,000 potential visitors. It contains the current basic information linking to the workshop website for more detailed information.

- **Social Media**

Different aspects of the workshop are communicated on several social media platforms and their groups such as: LinkedIn > <http://www.linkedin.com/groups/Solar-Wind-Integration-Workshop-Renewables-4813626>
Twitter > <https://twitter.com/SolarWindIntWS>

- **Online Event Lists**

The workshop date is listed on several renewable energy event lists and calendars.

- **Leaflets**

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

- **Advertisements**

In addition, the workshop is communicated in advertisements in different printed magazines and online platforms.



- **International Advisory Committees**

The workshop's Wind Advisory Committee consists of 32 members from 12 different countries. The Solar Advisory Committee has now 12 members from 6 different countries. 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 the paper leaflets and support the workshop communication.

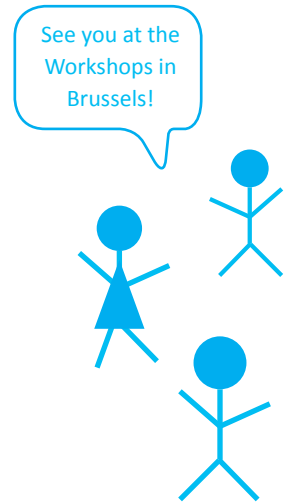
Wind

- Thomas Ackermann (Energynautics, Germany)
- Sigrid Bolik (Senvion, United Kingdom)
- Peter W. Christensen (Vestas, Denmark)
- Ana Estanqueiro (LNEG, Portugal)
- Jens Fortmann (Senvion, Germany)
- Michael Nørtoft Frydensbjerg (Siemens Wind Power, Denmark)
- Paul Gardner (DNV GL - Energy, United Kingdom)
- Gregor Giebel (Risø DTU, Denmark)
- Jutta Hanson (TU Darmstadt, Germany)
- Bo Hesselbæk (Dong Energy, Denmark)
- Hannele Holttinen (VTT, Finland)
- Reza Iravani (University of Toronto, Canada)
- Lawrence E. Jones (Alstom Grid, USA)
- Wil L. Kling (TU Eindhoven, the Netherlands)
- Julija Matevosyan (ERCOT, USA)
- Barbara O'Neill (NREL, USA)
- Antje Orths (Energinet.dk, Denmark)
- Kirsten Orwig (Private Consultant, USA)
- Markus Pöller (M.P.E., Germany)
- Eckard Quitmann (Enercon, Germany)
- Christian Rehtanz (TU Dortmund University, Germany)
- Jenny Riesz (University of New South Wales, Australia)
- J. Charles Smith (UVIG, USA)

- Poul Sørensen (DTU Wind Energy, Denmark)
- Jian Sun (Rensselaer Polytechnic Institute, USA)
- Pieter Tielens (KU Leuven, Belgium)
- Adrian Timbus (ABB, Switzerland)
- Helge Urdal (National Grid, United Kingdom)
- Patrick van de Rijt (TenneT TSO, the Netherlands)
- Frans Van Hulle (XP Wind, Belgium)
- Lennart Söder (KTH, Sweden)
- Alain Forcione (Hydro-Québec, Canada)

Solar

- Thomas Ackermann (Energynautics, Germany)
- Bernhard Ernst (SMA Solar Technology, Germany)
- Lars Landberg (DNV GL, Denmark)
- Debra Lew (GE Energy Consulting, USA)
- Lise Nielson (Linie P, Denmark)
- Barbara O'Neill (NREL, USA)
- Kirsten Orwig (Swiss Re America/Private Consultant, USA)
- Dezso Sera (Aalborg University, Denmark)
- J. Charles Smith (UVIG, USA)
- Adrian Timbus (ABB, Switzerland)
- Julio Usaola (Carlos III Madrid University, Spain)
- Dirk Van Hertem (KULeuven, Belgium)

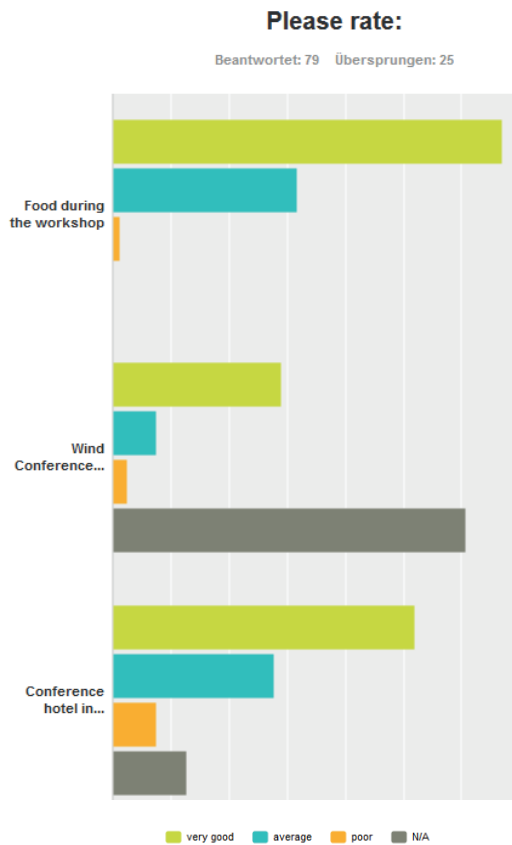




Quality Control & Feedback

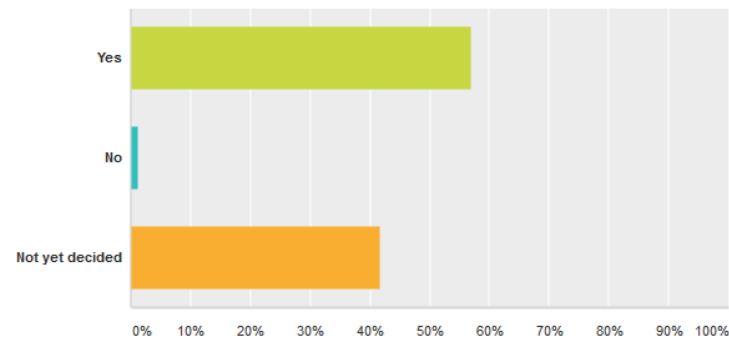
The participants of every workshop receive the opportunity to give their feedback after the event answering a number of questions regarding the quality of the workshop program, venue, location and organization.

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



Are you considering participating in the next Wind Integration Workshop (October 20-22, 2015, Brussels/Belgium)?

Beantwortet: 79 Übersprungen: 25



Feedback Examples "Wind"
by surveymonkey.com

Sponsor Packages “Wind Integration Workshop”

- Small company logo on Wind Workshop website, newsletters, flyers, proceedings, rollups etc.
- **One** participant of the sponsor can join the wind workshop free of charge (including wind dinner/excluding field trip & tutorials)
- Up to 3 additional workshop proceedings free of charge
- One page advertisement in the proceedings in b/w*

Mega Sponsor

Sponsorship fee for this option: [Please contact us!](#)

- Large company logo on Wind Workshop website, newsletters, flyers, proceedings, rollups etc.
- **Three** participants of the sponsor can join the wind workshop free of charge (including wind dinner/excluding field trip & tutorials)
- Up to 5 additional workshop proceedings free of charge
- One page advertisement in the proceedings in b/w*

Giga Sponsor

Sponsorship fee for this option: [Please contact us!](#)

- Large company logo on Wind Workshop website, newsletters, flyers, proceedings, rollups etc.
- **One special additional logo arrangement** (see page 17 for all options)
- **Corporate roundtable** for technical discussions during breaks and poster session
- **Five** participants of the sponsor can join the wind workshop free of charge (including wind dinner/excluding field trip & tutorials)
- Up to 5 additional workshop proceedings free of charge
- One page advertisement in the proceedings in b/w*

Tera Sponsor

Sponsorship fee for this option starts at: [Please contact us!](#)

*Additional option: For color instead of b/w a surcharge will apply.



Sponsor Packages “Solar Integration Workshop”

- Small company logo on Solar Workshop website, newsletters, flyers, proceedings, rollups etc.
- **One** participant of the sponsor can join the solar workshop free of charge (including solar dinner/excluding field trip & tutorials)
- Up to 3 additional workshop proceedings free of charge
- One page advertisement in the proceedings in b/w*

Mega Sponsor

Sponsorship fee for this option: [Please contact us!](#)

-
- Large company logo on Solar Workshop website, newsletters, flyers, proceedings, rollups etc.
 - **Three** participants of the sponsor can join the solar workshop free of charge (including solar dinner/excluding field trip & tutorials)
 - Up to 5 additional workshop proceedings free of charge
 - One page advertisement in the proceedings in b/w*

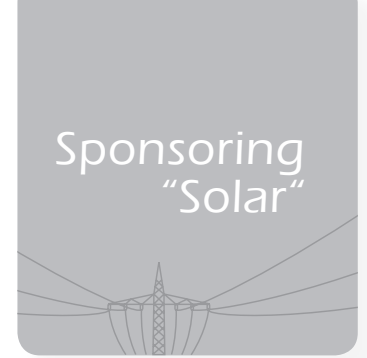
Giga Sponsor

Sponsorship fee for this option: [Please contact us!](#)

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 - Up to 5 additional workshop proceedings free of charge
 - One page advertisement in the proceedings in b/w*

Tera Sponsor

Sponsorship fee for this option starts at: [Please contact us!](#)



*Additional option: For color instead of b/w a surcharge will apply.

“Tera” Sponsoring Options



Solar & Wind Options for the “Tera Sponsor” Package

Use this opportunity to get a higher visibility at our workshops in Brussels by choosing **one** of the following options to be included in your “Tera Sponsor” Package. Further options can be booked for an additional charge. Please contact us for a quote.

Options	
Logo on displays during dinner	“Dinner Sponsor”
Logo on coffee table displays	“Coffee Break Sponsor”
Logo on displays at the wardrobe	“Wardrobe Sponsor”
Logo on internet log-in webpage	“Internet Sponsor”
Banner in the workshop guide handed to participants	
Logo on lanyards worn by participants	



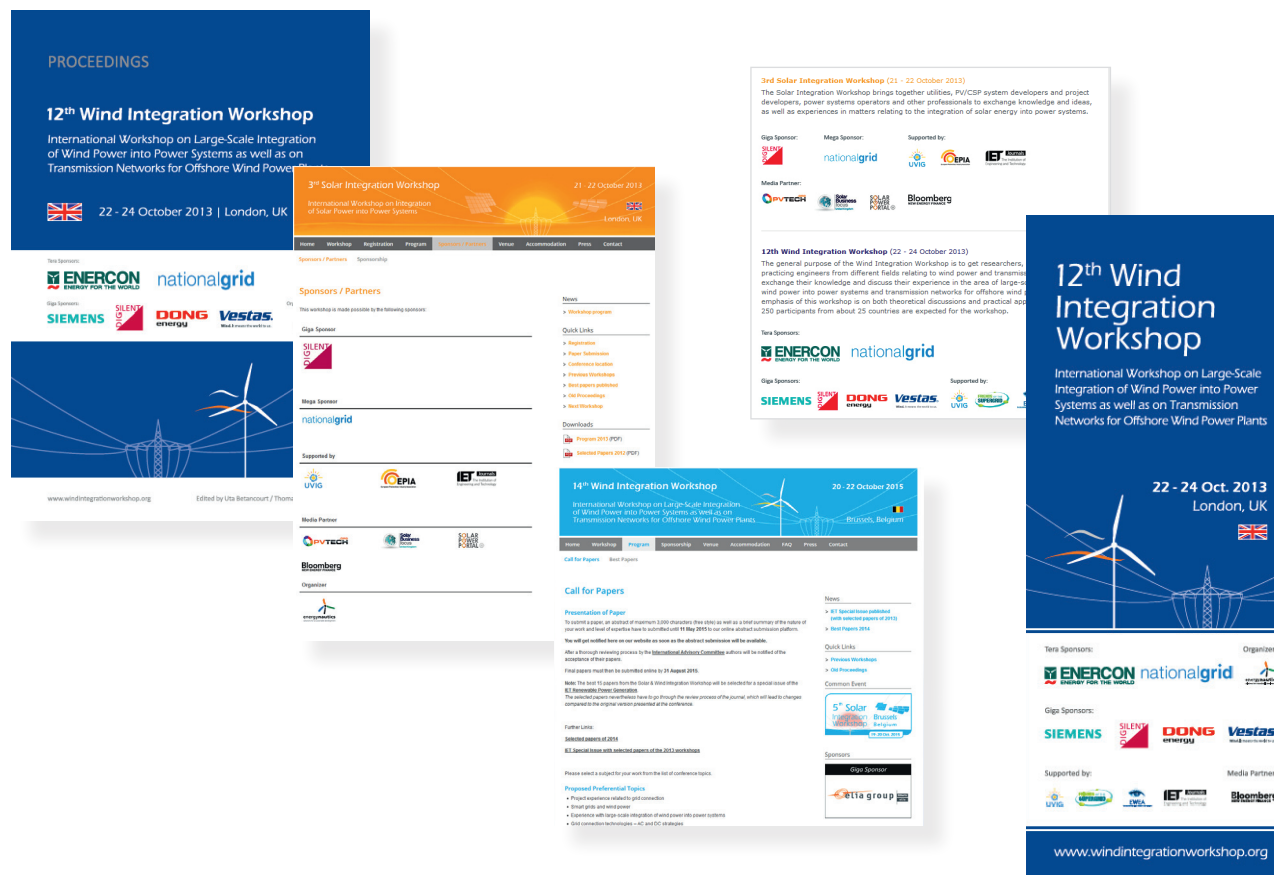
Sponsoring Discount & Logotype

Sponsoring Discount

Sponsoring the Solar and the Wind Integration Workshop events will result in a **10% discount** in the total sponsoring fee for both workshops.

Embedding your Logotype

See here some examples from previous workshops on where your logotype could be positioned.





Examples from left to right:

- Proceedings Cover
- Website "Sponsors"
- Website "Call for Papers"
- Newsletter Rollup

Sponsors "Wind Integration Workshop"

	Tera Sponsors	Giga Sponsors	Supporters	Media Partner
Berlin 2014	 	     	  	
London 2013	 	   	   	
Lisbon 2012	 	   	     	
Aarhus 2011	   	  		
Québec 2010	  	     		
Bremen 2009	  	      		

Sponsors “Solar Integration Workshop“

	Giga Sponsors	Mega Sponsors	Supporters	Media Partner
Berlin 2014	   		   	
London 2013			  	   
Lisbon 2012			  	
Aarhus 2011				

Content of the Annex

The annex contains the program of the previous Solar & Wind Integration Workshop, held 2014 in Berlin, Germany.

Click on the listed points to go to the corresponding document on our websites!

Solar:

- [Timetable & Detailed Program](#)

Wind:

- [HVDC Tutorial](#)
- [Timetable & Detailed Program](#)



