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MAY
30-31
2017

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CONFERENCE PROGRAM

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CONTENTS

- 4 Sponsors, Supporters & Partners & Quick Facts
- 5 Conference Proceedings & App
- 6 Conference Committee & Barbecue
- 7 Session Overview & Pricing

PROGRAM

PAGE	MONDAY, MAY 29, 2017 – CONFERENCE SIDE-EVENT	ROOM
26	Power Electronics for Photovoltaics and Battery Systems	3
PAGE	TUESDAY, MAY 30, 2017	ROOM
8	Intersolar & ees Europe Conference Opening	14B
10	Global PV Markets: Europe – A Stable Outlook?	14A
10	Global PV Markets: The Americas – The Future is Solar	14A
11	Global PV Markets: Emerging Asian Markets – New Horizons	14A
11	Global PV Markets: Emerging African Markets – The Awakening Giant	14A
12	Smart Renewable Energy: Virtual Power Plants	14C
12	Smart Renewable Energy: Renewable Energy Hybrid Plants	14C
13	Smart Renewable Energy: Industrial Micro/Mini-Grid Concepts & Technologies	14C
13	Smart Renewable Energy: 100% Renewable Energy Regions/Smart Cities	14C
14	PV Cells: Which Cell Concepts will secure the Future?	5
14	PV Manufacturing: What Development needs to be done to cope with COP21?	5
15	PV Power Plants: Forecasting Technologies	5
15	PV Power Plants: Operation & Maintenance Business	5
16	PV Reliability & Assessment of Technical Risks in PV Investments	4
17	Addressing the Bankability and Investability of Solar	4
17	Innovations@Intersolar Europe	4
18	Off-Grid: Business Models for Dissemination of Solar Systems	2
18	Off-Grid: Storage Systems	2
19	Off-Grid: Innovative Systems and Finance	2
19	Off-Grid: Productive Use	2



PAGE	WEDNESDAY, MAY 31, 2017	ROOM
20	PV Financing: Investment Opportunities in the Global Secondary PV Market	14A
20	Solar Financing Trends in North America	14A
21	Green Bonds and Crowdfunding - The Financial Future?	14A
21	Global Financing Trends: Solar Merchant PV Power Plants/ The Role of Rating Agencies/Insurances?	14A
22	Smart Renewable Energy: Buildings & Energy Management	14C
23	Smart Renewable Energy: Prosumers and Energy Sharing	14C
23	Smart Renewable Energy: Digitalization, Energy Clouds & Big Data	14C
24	PV Power Plants: The Versatility and Impact of Drones & Robots	5
24	Floating PV Power Plants: Concepts, Technologies & Case Studies	5
25	Balance of Systems: Unlimited Versatility of PV Power Plants	5
25	Balance of Systems: Inverters – The Pacemaker of PV Power Plants	5
PAGE	THURSDAY, JUNE 1, 2017 – CONFERENCE SIDE-EVENTS	ROOM
27	Recent Developments and Opportunities in the Brazilian PV Market	14B
27	PV/Energy Storage Market Brief Asia	14C
28	DNICast – Presenting the Nearly Final FP7 Project Results	22
28	Scaling Solar PV and Battery Storage	14C
28	Intersolar Study Program	4
29	The Secret Success Factors for Renewable Energy Projects in Iran	14C
29	How can Companies Profit from Mena's Solar Market Momentum?	14C
29	Mexico – Solar Market Opportunities	14A
30	Indo-German Dialogue on PV-Rooftop Development in India	12
30	Workshop Solare Mieterstromangebote	11
31	World Small Wind Conference (WSWC)	13
31	Future PV	5
31	5 th pv magazine Quality Roundtable	5
32	Venue & Exhibition Quick Facts	
33	Intersolar & ees AWARD Ceremony	

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| CONFERENCE QUICK FACTS

Dates	May 30–31, 2017
Hours	9:00am–6:00pm
Venue	ICM – Internationales Congress Center München, Messe München 81823 Munich, Germany
Program	→ www.intersolar.de → Program → Conference
Contact	Ms. Banu Bektas bektas@solarpromotion.com Tel. +49 (0) 7231 58598-211
Registration	→ www.intersolar.de → Tickets

CONFERENCE ORGANIZER



CONFERENCE PROCEEDINGS

Dear Conference Attendee,

All presentations of the Intersolar Europe Conference for which we have obtained the respective permission from the speakers, will be uploaded to our conference system during the conference.

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from your conference badge to access the conference proceedings. Access is only granted to Intersolar Europe & ees Europe Conference participants. Please note that the Side-Event and Workshop presentations are not included.

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The global app offers an overview of all Intersolar and ees events worldwide and will help you plan your visit both during the run up to the event as well as when you have arrived.

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- matchmaking for registered conference participants

- the latest tweets and social media updates
- current bus and subway times
- information on tickets, opening hours, travel services and places to eat

All this and lots more useful information on visiting the exhibition.

→ www.intersolarglobal.com/App



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UK



Uwe Ilgemann
Managing Director,
invecco, Germany



Gerhard Stryi-Hipp
Head of Energy Policy,
Fraunhofer Institute for Solar
Energy Systems ISE, Germany

CONFERENCE BARBECUE

Mark the evening of May 30 in your calendar – the date of the traditional Conference Barbecue in the ICM garden.
Save your spot and register on-site for €95.

CONFERENCE PROGRAM

SEMINAR

Monday, May 29, 2017

9:00am–
5:45pm

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Power Electronics
for Photovoltaics and
Battery Systems
PAGE 26 ROOM 3

Tuesday, May 30, 2017

9:00am–
10:00am

Intersolar & ees Europe Conference Opening
PAGE 8 ROOM 14B

10:15am–
11:15am

Global PV Markets: Europe – A Stable Outlook? PAGE 10 ROOM 14A	PV Reliability & Assessment of Technical Risks in PV Investments PAGE 16 ROOM 4	PV Cells: Which Cell Concepts will secure the Future? PAGE 14 ROOM 5	Smart Renewable Energy: Virtual Power Plants PAGE 12 ROOM 14C	Off-Grid: Business Models for Dissemination of Solar Systems PAGE 18 ROOM 2
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Coffee Break

11:45am–
1:15pm

Global PV Markets: The Americas – The Future is Solar PAGE 10 ROOM 14A	PV Reliability & Assessment of Technical Risks in PV Investments PAGE 16 ROOM 4	PV Manufacturing: What Development is needed to meet COP21-Targets? PAGE 14 ROOM 5	Smart Renewable Energy: Renewable Energy Hybrid Plants PAGE 12 ROOM 14C	Off-Grid: Storage Systems PAGE 18 ROOM 2
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Lunch Break

2:30pm–
4:00pm

Global PV Markets: Emerging Asian Markets – New Horizons PAGE 11 ROOM 14A	Addressing the Bankability and Investability of Solar PAGE 17 ROOM 4	PV Power Plants: Forecasting Technologies PAGE 15 ROOM 5	Smart Renewable Energy: Industrial Micro/Mini-Grid Concepts & Technologies PAGE 13 ROOM 14C	Off-Grid: Innovative Systems and Finance PAGE 19 ROOM 2
--	--	--	--	--

Coffee Break

4:30pm–
6:00pm

Global PV Markets: Emerging African Markets – The Awakening Giant PAGE 11 ROOM 14A	Innovations @Intersolar Europe PAGE 17 ROOM 4	PV Power Plants: Operation & Maintenance Business PAGE 15 ROOM 5	Smart Renewable Energy: 100% Renewable Energy Regions & Smart Cities PAGE 13 ROOM 14C	Off-Grid: Productive Use PAGE 19 ROOM 2
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6:00pm–
9:30pm

Conference Barbecue
PAGE 6 ICM – Garden

Power Electronics
for Photovoltaics and
Battery Systems

Wednesday, May 31, 2017

9:00am–
10:30am

PV Financing: Investment Opportunities in the Global Secondary PV Market PAGE 20 ROOM 14A	PV Power Plants: The Versatility and Impact of Drones & Robots PAGE 24 ROOM 5			
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Coffee Break

11:00am–
12:30pm

Solar Financing Trends in North America PAGE 20 ROOM 14A	Floating PV Power Plants: Concepts, Technologies & Case Studies PAGE 24 ROOM 5		Smart Renewable Energy: Buildings & Energy Management PAGE 22 ROOM 14C	
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Lunch Break

2:00pm–
3:30pm

Green Bonds and Crowdfunding – The Financial Future? PAGE 21 ROOM 14A	Balance of Systems: Unlimited Versatility of PV Power Plants PAGE 25 ROOM 5		Smart Renewable Energy: Prosumers & Energy Sharing PAGE 23 ROOM 14C	
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Coffee Break

4:00pm–
5:30pm

Global Financing Trends: Solar Merchant PV Power Plants, The Role of Rating Agencies & Insurances? PAGE 21 ROOM 14A	Balance of Systems: Inverters – The Pacemaker of PV Power Plants PAGE 25 ROOM 5		Smart Renewable Energy: Digitalization, Energy Clouds & Big Data PAGE 23 ROOM 14C	
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SIDE-EVENT PROGRAM

Participation at these programs is not included in the regular conference tickets. Please purchase a side-event ticket.

Thursday, June 1, 2017

9:00am–
11:00am

PV/Energy Storage Market Brief Asia PAGE 27 ROOM 14C	Recent Developments & Opportunities in the Brazilian PV Market and Matchmaking PAGE 27 ROOM 14B	Intersolar Study Program (for Students only) PAGE 28 ROOM 4	Scaling Solar PV and Battery Storage PAGE 28 ROOM 2	DNICast – Presenting the Nearly Final FP7 Project Results PAGE 28 ROOM 22
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11:30am–
1:30pm

The Secret Success Factors for Renewable Energy Projects in Iran PAGE 29 ROOM 14C				
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2:00pm

How can Companies Profit from MENA's Solar Market Momentum? PAGE 29 ROOM 14C	Mexico – Solar Market Opportunities PAGE 29 ROOM 14A	Indo-German Dialogue on PV-Rooftop Development in India PAGE 30 ROOM 21	Workshop Solare Mieterstromangebote PAGE 30 ROOM 11	
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World Small Wind
Conference (WSWC)
PAGE 31 ROOM 13

Subject to change

CONFERENCE TICKETS

Each ticket includes the three day exhibition pass.

Tickets	
Full Conference ¹	€1,105
Full Conference incl. Barbecue ²	€1,200
Day Ticket Tuesday ³	€745
Day Ticket Tuesday incl. Barbecue ⁴	€840
Day Ticket Wednesday ⁵	€540
Off-Grid Package ⁶	€470
Conference Barbecue	€95
Side-Event MENA or Iran	€150
Workshop Solare Mieterstromangebote	€150
Power Electronics for Photovoltaics Seminar	€1,050
World Small Wind Conference (WSWC)	€350

1 Includes the regular Intersolar & ees Europe sessions. Side-Events, Conference Barbecue and Seminar are not included. **2** Includes the regular Intersolar & ees Europe sessions and the Conference Barbecue. Side-Events and Seminar are not included. **3** Includes the regular Intersolar & ees Europe sessions from Tuesday. Side-Events, Conference Barbecue and Seminar are not included. **4** Includes the regular Intersolar & ees Europe sessions from Tuesday and the Conference Barbecue. Side-Events and Seminar are not included. **5** Includes the regular Intersolar & ees Europe sessions from Wednesday. Side-Events and Seminar are not included. **6** Includes the Conference Opening and the Off-Grid sessions from Tuesday. Side-Events and Seminar are not included.

TUESDAY, MAY 30, 2017

Time 9:00am–10:00am

Room 14 B

Summary

The future of energy supply is decentralized and intelligent! The combination of power generation, storage and energy management is constantly gaining in importance – but what does this mean for the photovoltaic and energy storage industry? Which role do digitalization and big data play in the context of energy transition? The conference opening will give vital insights in what affects the whole industry. Top-notch keynote speaker will outline which role the energy and transportation sector will play in the new energy world.

INTERSOLAR & EES EUROPE CONFERENCE OPENING

- 9:00am** Conference Welcome
Dr. Florian Wessendorf, Managing Director, Solar Promotion GmbH, Germany
- 9:10am** Global Market Outlook
Dr. Christian Westermeier, President, SolarPower Europe, Belgium
- 9:25am** PV/Wind+Storage: A Sustainable Way for Continuous Growth
Tom Zhao, Managing Director Solar Division, BYD Company LTD., China
- 9:40am** Energiewende – Transmission Grids in Tomorrow's Renewable World
Dr. Werner Götz, Chief Executive Officer, TransnetBW GmbH, Germany



Dr. Florian Wessendorf



Dr. Christian Westermeier



Tom Zhao



Dr. Werner Götz

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POWER of INNOVATION



Visit us at **booth B3.110** to get a firsthand look at our new products.
Learn how our complete residential and commercial solutions maximize the performance of your PV business.



TUESDAY, MAY 30, 2017

Time 10:15am–11:20am

Room 14 A

Summary

PV is at the heart of the fundamental transformation in Europe's power market. While regulatory changes lead to a rise in demand, there is also a trend towards new applications such as PV systems combined with electrical energy storage in both the residential and the commercial/industrial sector. These have led to the emergence of new business models. Against this backdrop, a stable demand of approx. 7 GW annually across Europe has been forecast for the foreseeable future. This session will shed light on how selected markets such as Germany, the Netherlands, and Turkey are expected to develop within their respective framework conditions.

GLOBAL PV MARKETS: EUROPE – A STABLE OUTLOOK?

- 10:15am** Welcome and Introduction
Dr. Pierre-Jean Alet, Project Manager,
Centre Suisse d'Electronique et de Microtechnique (CSEM), Switzerland
- 10:20am** EU Market Development
James Watson, Chief Executive Officer, Executive Advisor, SolarPower Europe, Belgium
- 10:35am** The German Market – Tenders, Tenants and Tenuous Growth
David Wedepohl, Director Communications and Markets,
German Solar Association (BSW-Solar), Germany
- 10:50am** Dutch PV-Market 2017–2023
Jaap Baarsma, President, Holland Solar, Netherlands
- 11:05am** Turkish PV Market
Lara Hayim, Solar Analyst, Bloomberg New Energy Finance, U.K.

Dr. Pierre-Jean
AletJames
WatsonDavid
WedepohlLara
Hayim

Time 11:45am–1:10pm

Room 14 A

Summary

In the coming years, double-digit gigawatt growth figures are expected in the Americas each year. With the ITC extension until 2021, the US alone is expected to witness massive deployment turning them into the second largest market world-wide over the next couple of years. Markets across Central and South America are also predicted to see growing installation figures. This session sheds light on how markets across the Americas are forecast to evolve in response to the framework conditions they find themselves in. Presentations cover markets such as the US, Mexico, and Brazil.

GLOBAL PV MARKETS: THE AMERICAS – THE FUTURE IS SOLAR

- 11:45am** Welcome and Introduction
Dr. Rodrigo Lopes Sauaia, Chief Executive Officer,
Brazilian Photovoltaic Solar Energy Association – ABSOLAR, Brazil
- 11:50am** Solar in the Americas: Market Conditions, Policy, and Finance Outlook
Benjamin Attia, Analyst, GTM Research, U.S.
- 12:10pm** California's Solar & Storage Market: A 2017 Market and Public Policy Update
Bernadette Del Chiaro, Executive Director,
California Solar Energy Industries Association (CALSEIA), U.S.
- 12:30pm** Brazil's Solar PV Market Development: Current Scene for Large-Scale Projects
Javier Landero, Chief Executive Officer, GPTech, Spain
- 12:50pm** Mexico's Push for Solar: Power Plants and Distributed Generation
Joscha Rosenbusch, Advisor, Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) mbH, Mexico

Dr. Rodrigo
Lopes SauaiaBenjamin
AttiaBernadette
Del ChiaroJavier
LanderoJoscha
Rosenbusch

GLOBAL PV MARKETS: EMERGING ASIAN MARKETS – NEW HORIZONS

- 2:30pm** Welcome and Introduction
Frank Haugwitz, Head of Intersolar Conference Development, Solar Promotion International GmbH, China
- 2:35pm** Overview ASEAN Member States: Indonesia & Malaysia – Recent Developments and Future Market Prospects
Izumi Kaizuka, Manager, RTS Corporation, Japan
- 2:50pm** Pakistan Solar Boom – New Tariff Regime & China-Pakistan Economic Corridor (CPEC)
Nauman Khan, Chief Executive Officer, Grace Solar Pakistan, Pakistan
- 3:05pm** Philippine Solar PV Market: A Dying Tiger, or Sleeping Dragon?
Tetchi Capellan, President, Philippine Solar Power Alliance (PSPA), Philippines
- 3:20pm** Thailand: Spearheading Solar PV Market Development in Southeast Asia
Thomas Chrometzka, Director Renewable Energy, GIZ Thailand, Thailand
- 3:35pm** Vietnam – The Next Hot Spot PV Market in South East Asia
Frank Haugwitz, Head of Intersolar Conference Development, Solar Promotion International GmbH, China
- 3:50pm** Q&A Round



Frank Haugwitz



Izumi Kaizuka



Nauman Khan



Tetchi Capellan



Thomas Chrometzka

Time 2:30pm–4:00pm
Room 14 A

Summary
Asia is the global PV center of gravity for both production and deployment today and in future. Last year, approximately 70% of the total global demand came from Asia. Surging power consumption, persistently high levels of air pollution and low PV system prices have led national governments across the region to endorse incentive policies designed to create a favorable business environment for solar PV. Today, Asia's main markets are China, India, and Japan, but the next wave of demand will be triggered from countries like the Philippines, Vietnam, Indonesia, Pakistan, and Thailand. Presentations feature legislative landscapes, opportunities and a forecast of market developments.

GLOBAL PV MARKETS: EMERGING AFRICAN MARKETS – THE AWAKENING GIANT

- 4:30pm** Welcome and Introduction
Dr. Nabih Cherradi, Chief Technology Officer, Desert Technologies, Saudi Arabia
- 4:35pm** Recent and Upcoming Solar PV Project Costs in Africa
Michael Taylor, Senior Energy Analyst, IRENA International Renewable Energy Agency, Germany
- 4:55pm** Development of Large-Scale PV Generation in Africa
Guido Agostinelli, Senior Industry Specialist, Solar Energy, IFC – International Finance Corporation, U.S.
- 5:15pm** Market Trends and Business Opportunities in Kenya and Tanzania
Andreas Kaiser, Head of Energy Desk, AHK Kenya, Kenya
- 5:35pm** Nigerian PV Market
Segun Adaju, President & Chief Executive Officer, Consistent Energy Limited, Nigeria *sponsored by RECP



Dr. Nabih Cherradi



Michael Taylor



Guido Agostinelli



Andreas Kaiser



Segun Adaju

Time 4:30pm–6:00pm
Room 14 A

Summary
Surging power consumption and exceptionally low PV system prices have been prompting national governments across the African continent to pursue incentive policies designed to create favorable business environments for solar PV. In this context, countries like Nigeria, Ghana, Uganda and Kenya are expected to drive demand for on-grid solar PV applications. Presentations feature legislative landscapes, opportunities and a forecast of market development.

TUESDAY, MAY 30, 2017

Time 10:15am–11:20am

Room 14 C

Summary

This session examines practical examples and experiences with virtual power plants across Europe and takes a look at the future. What challenges are these projects facing today? Does participation in a virtual power plant enhance the market value of decentralized renewable energy and flexible assets? Who operates such plants and what does their market participation mean for different players in the electricity system? What impact do they have on the electricity market and trading patterns?

SMART RENEWABLE ENERGY: VIRTUAL POWER PLANTS

- 10:15am** Welcome and Introduction
Frauke Thies, Chief Policy Officer, Smart Energy Demand Coalition, Belgium
- 10:20am** Intraday-Optimized Dispatch of Decentralized Supply, Demand and Storage Resources
Daniel Hölder, Director Energy Policy and Communications, Clean Energy Sourcing AG, Germany
- 10:35am** Holistic Flex Management of Distributed Energy Resources
Jan-Willem Rombouts, Co-Founder & Co-Chief Executive Officer, REstore, Benelux
- 10:50am** Optimising PV and Storage through Virtual Power Plant Technology
Doug Taylor, Vice President Industry Solutions Europe, AutoGrid, Germany
- 11:05am** A Smart Energy Solution: From Central to Decentral with the E.ON VPP Platform
Jean-Baptiste Cornefert, Head of Flexibility & Renewable Marketing, E.ON Connecting Energies GmbH, Germany



Frauke Thies



Daniel Hölder



Jan-Willem Rombouts



Doug Taylor



Jean-Baptiste Cornefert

Partner



Time 11:45am–1:10pm

Room 14 C

Summary

An increasing number of power generation projects no longer utilize just one, locally available, form of renewable energy. This session focuses on hybrid renewable energy power plants which combine various renewables. Which technical challenges are these projects facing today? What are the benefits of local integration schemes? This session provides answers to these questions and showcases some projects that are already operational.

SMART RENEWABLE ENERGY: RENEWABLE ENERGY HYBRID PLANTS

- 11:45am** Welcome and Introduction
Gaëtan Masson, Director, Bequerel Institute, Belgium
- 11:50am** Renewable Energy Hybrid Projects including Utility-Scale solar PV – Pushing the Boundaries
Christian Scholz, Technical Consultant – PV-Hybrid, Fichtner GmbH & Co. KG, Germany
- 12:10pm** PV@Wind – The Benefits of Hybrid Power Plants Towards a Fully Sustainable Energy System
Diederik Apotheker, Team Lead Solar, Business Development, Vattenfall, Netherlands
- 12:30pm** Stacking Strategies for Combining Various Revenue Streams for Hybrid Solar + Wind + Storage Plants
Haïke van de Vegte, Consultant, DNV GL – Energy, Netherlands
- 12:50pm** Next Generation Hybrid CSP for Off-Grid Applications
Bruce Anderson, Chief Executive Officer, 247Solar Inc., U.S.



Gaëtan Masson



Christian Scholz



Diederik Apotheker



Haïke van de Vegte



Bruce Anderson

**SMART RENEWABLE ENERGY:
INDUSTRIAL MICRO/MINI-GRID CONCEPTS & TECHNOLOGIES**
Time 2:30pm–4:00pm
Room 14 C

- 2:30pm** Welcome and Introduction
Kai-Philipp Kairies, Head of Section Grid Integration and Storage System Analysis, RWTH Aachen, Institute for Power Electronics and Electrical Drives, Germany
- 2:35pm** Global Microgrid Market Trends and Deployments
Roberto Rodriguez Labastida, Senior Research Analyst, Navigant Energy, UK
- 2:55pm** Case Study: Microgrid Solution Provides Uninterrupted Power Supply to South-African Industrial Facility
Erika Velazquez, Product Marketing Manager Microgrid, ABB Switzerland, Switzerland
- 3:15pm** The Value of Microgrids: Stacking Up the Benefits
Scott Dwyer, Principal Analyst – Microgrids, Delta Energy & Environment Ltd., UK
- 3:35pm** Q&A Round


 Kai-Philipp
Kairies

 Roberto
Rodriguez
Labastida

 Erika
Velazquez

 Scott
Dwyer

Summary

This session focuses on industrial micro/mini-grids which are designed to be interconnected with the central grid, meaning that under normal conditions they operate as part of the central grid. Such grids are flexible and support the integration and utilization of renewable energy sources as well as electrical energy storage devices. The integration of distributed generation sources into the grid has raised concerns around reliability of the power supply. This session explores the concepts and technologies used, and present case studies of micro/minigrids.

SMART RENEWABLE ENERGY: 100% RENEWABLE ENERGY REGIONS/SMART CITIES
Time 4:30pm–6:00pm
Room 14 C

- 4:30pm** Welcome and Introduction
Dominik Noeren, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 4:35pm** Solutions for Key Pillars of Smart Cities
Dominik Noeren, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 4:55pm** 100% Renewable Energy Integrated Solutions
Georgina Grenon, Director, 100%RE Solutions, ENGIE, France
- 5:15pm** Renewable Energy Integration in Smart Cities powered by Big Data
Franz Ivo Winterauer, Vice President, OMNETRIC Group, Austria
- 5:35pm** Energy Projects in the Smart City Munich
Ramón Arndt, Senior Expert, City of Munich, Germany


 Dominik
Noeren

 Georgina
Grenon

 Franz Ivo
Winterauer

 Ramón
Arndt

Summary

Which design concepts and design tools are able to ensure a cost-optimized relationship between energy efficiency buildings and renewable energy generation? What are district energy management systems which cover electricity, heating, local transportation, CHP, PV, solar thermal, heat pumps, etc.? How can the growing fleet of electric vehicles be integrated into such district energy systems? What are the ICT solutions and technologies for smart cities in future? This session features the emergence of smart districts and smart cities across Europe.

Partner



TUESDAY, MAY 30, 2017

Time 10:15am–11:20am

Room 5

Summary

Crystalline silicon technology has a share of more than 90% of the expanding global PV market. Recent technological advances have boosted cell efficiency and contributed to the development of new cell concepts. This session discusses advancements in various cell types. Technological achievements have accelerated the learning curve and reduced costs, so that the cost of solar power generated on people's roofs is now lower than the cost of utility-bought electricity.

PV CELLS: WHICH CELL CONCEPTS WILL SECURE THE FUTURE?

- 10:15am** Welcome and Introduction
Jutta Trube, Managing Director Photovoltaic Equipment, VDMA German Engineering Federation, Germany
- 10:20am** Heterojunction Technologies and Beyond: How to Reach Top Efficiencies at Competitive Prices
Dr. Matthieu Despeisse, Section Head, CSEM SA, Switzerland
- 10:35am** Inline Wet Chemical Black Silicon Texturing for Multicrystalline DWS Wafers
Dr. Peter Fath, Chief Executive Officer, RCT Solutions GmbH, Germany
- 10:50am** Challenges of Process- and Quality Control to achieve High-Efficiency Products at Low Cost for Back-Contact and Other Cell Technologies
Dr. Eric Rüländ, Managing Director, GP Solar GmbH, Germany
- 11:05am** Manufacturing and Cost Challenges for Commercial Scaling of Silicon Perovskite Tandem Solar Cells
Dr. Christopher Case, Chief Technology Officer, Oxford PV, U.K.

Partner



Jutta Trube



Dr. Matthieu Despeisse



Dr. Peter Fath



Dr. Eric Rüländ



Dr. Christopher Case

Time 11:45am–1:20pm

Room 5

Summary

The Paris COP 21 climate objectives require renewable energies to be deployed at an even faster rate. PV manufacturing is constantly improving. This session explores various developments supporting the progress in crystalline silicon PV production by identifying manufacturing and technology issues for each part of the value chain. Will PV power soon be able to compete with the cheapest form of electricity generation?

PV MANUFACTURING: WHAT DEVELOPMENT NEEDS TO BE DONE TO COPE WITH COP21?

- 11:45am** Welcome and Introduction
Jutta Trube, Managing Director Photovoltaic Equipment, VDMA German Engineering Federation, Germany
- 11:50am** Enabling Production Tools and Methods for Low Cost IBC Cell and Module Manufacturing
Christian Buchner, Vice President BU Photovoltaics, SCHMID Group, Germany
- 12:05pm** PV kWh Cost Reduction: Influence of Technology and Lifetime
Dr. Wilma Eerenstein, R&D Manager, Exasun, Netherlands
- 12:20pm** Active Buildings to Solve the Climate Energy Dilemma
Dr. Patrick Hofer-Noser, Head of Energy Systems, Meyer Burger Technology AG, Switzerland
- 12:35pm** Stringing Technology for Multi-Busbar and Half-Cell Modules – Solar Modules with Higher Power Output at Reduced Costs per Watt
Sven Kramer, Vice President Sales Solar Technology, teamtechnik Maschinen und Anlagen GmbH, Germany
- 12:50pm** CIGS Manufacturing: A Competitive Solution for High Volume Production
Bernhard Dimmler, Senior Expert Funded Projects, Manz CIGS Technology GmbH, Germany
- 1:05pm** GENERIS – New Vacuum Deposition Platform for Crystalline Silicon Solar Cells
Dr. Marco Huber, Product Manager Solar, Singulus Technologies AG, Germany

Partner



Jutta Trube



Christian Buchner



Dr. Wilma Eerenstein



Dr. Patrick Hofer-Noser



Sven Kramer



Bernhard Dimmler



Dr. Marco Huber

PV POWER PLANTS: FORECASTING TECHNOLOGIES

- 2:30pm** Welcome and Introduction
Dr. Pierre-Jean Alet, Project Manager,
Centre Suisse d'Electronique et de Microtechnique (CSEM), Switzerland
- 2:35pm** State of the Art and International Collaboration in PV Forecasting
Jan Remund, Head of Solar Energy and Climatology, Meteotest, Switzerland
- 2:55pm** PV Power Forecasting and Challenges in Various Climate Zones
Dr. Jose A. Ruiz-Arias, Weather and Solar Radiation Modelling Expert, Solargis s.r.o, Slovakia
- 3:15pm** From Weather to Power: Forecasting PV Generation on Multiple Time Scales
Frederik Kurzrock, Meteorologist, Reuniwatt, Reunion
- 3:35pm** Machine-Learning Algorithms for Regional Forecast of PV Production
Dr. Marco Pierro, Phd Student, EURAC Research Institute, Italy

Dr. Pierre-Jean
AletJan
RemundDr. Jose A.
Ruiz-AriasFrederik
KurzrockDr. Marco
Pierro

Time 2:30pm–4:00pm
Room 5

Summary

Forecasting methods can be either physical or statistical. What's more, different uses of PV forecasts require different types of forecasts. Forecasts may apply to a single PV system, or refer to aggregated systems spread over an extended geographic area. Forecasts may focus on the output power of systems or on its rate of change. The technologies currently available allow for the creation of up to ten-day-forecasts based on the post-processing of meteorological outputs and the application of global numerical weather prediction (NWP) models. It will soon be possible to forecast cloud motion using processing satellite images from multiple geostationary meteorological satellites. This session highlights the latest developments in forecasting technologies, approaches and models used in the industry.

PV POWER PLANTS: OPERATION & MAINTENANCE BUSINESS

- 4:30pm** Welcome and Introduction
Manfred Bächler, Energy Solutions PV, E.ON Energie Deutschland GmbH, Germany
- 4:35pm** Digital Plant Lifecycle Record – A New DIN Standard for Efficient PV O&M
Christian Bertsch-Engel, Managing Director, CEE Operations GmbH, Germany
- 4:50pm** Lifetime Extension Analysis for Solar PV Plants
César Hidalgo, Principal Engineer, DNV GL, Spain
- 5:05pm** Novel Soiling Detection System for PV Panels
Joop Mes, Manager Research & Development, Kipp & Zonen BV, Netherlands
- 5:20pm** Control of PV Power Plants to Guarantee Compliance with Grid Regulations
Monika Hennessen, Partnership Development –
Solar PV, African Countries, skytron® energy GmbH, Germany
- 5:35pm** Executing Recall Actions – From Initial Communication to Final Intervention
Samir Merzoug, Managing Director, Suncycle Solar Services GmbH, Germany
- 5:50pm** Q&A Round

Manfred
BächlerChristian
Bertsch-EngelCésar
HidalgoJoop
MesMonika
HennessenSamir
Merzoug

Time 4:30pm–6:00pm
Room 5

Summary

O&M service provision is an increasingly attractive business across the globe. The number of O&M centers designed to remotely monitor the operation of PV plants, track performance, detect and diagnoses issues, schedule and manage on-site maintenance activities to optimize plant profitability is on the rise. The wide range of services and solutions in this area include monitoring, data analysis, contract management, warranty enforcement, innovative performance-based pricing structures and ensuring legal compliance. This session focuses on the growth of the O&M business from a service provider's perspective.

TUESDAY, MAY 30, 2017

Time 10:15am–1:15pm

Room 4

Summary

New technologies, ground-breaking ideas and innovative solutions are buzz words at Intersolar 2017. The International Energy Agency (IEA) Photovoltaic Power Systems Programme (PVPS) Task 13 presents a workshop on PV Reliability and Assessment of Technical Risks in PV. The workshop covers the state of the art on PV module degradation, common problems in connection with material properties and failure risk estimates as well as the assessment of technical risks in PV projects. Presentations also cover the outcome of the work carried out by Task 13 experts to provide best practices for PV module energy yield benchmarking and guidelines for outdoor qualification of PV systems.

PV RELIABILITY & ASSESSMENT OF TECHNICAL RISKS IN PV INVESTMENTS

- 10:15am** Welcome and Introduction
Ulrike Jahn, Senior Expert R&D, TÜV Rheinland Energy GmbH, Germany
- 10:20am** Degradation Rates in PV Systems for Different PV Module Failures
Dr. Marc Köntges, Head of PV Module Technologies Group, Institute for Solar Energy Research Hamelin (ISFH), Germany
- 10:40am** Guidelines for EL Outdoor Qualification of PV Systems
Marco Paggi, Associate Professor of Structural Mechanics, IMT School for Advanced Studies Lucca, Italy
- 10:55am** PV Module Energy Yield Benchmarking – Existing Approaches and Best Practice
 - Gabi Friesen, Photovoltaic Systems Quality, SUPSI, Switzerland
 - Dr. Christian Reise, Senior Scientist, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 11:15am** Coffee Break
- 11:45am** Welcome and Introduction
Thomas Nordmann, Company Founder, Chief Executive Officer, TNC Consulting AG, Switzerland
- 11:50am** Review and Analysis of Technical Assumptions Used in PV Financial Models
Mauricio Richter, PV Expert R&D, 3E sa, Belgium
- 12:10pm** Classification and Mitigation of Technical Risks in PV Projects
 - Magnus Herz, Project Manager, PV Power Plants, TÜV Rheinland Energy GmbH, Germany
 - Ulrike Jahn, Senior Expert R&D, TÜV Rheinland Energy GmbH, Germany
- 12:30pm** Mitigating Financial Risks of a PV Investment
Mike Green, Consultant and Owners Engineer, M.G. Lightning, Israel
- 12:50pm** Outlook – Future Work of IEA PVPS Task 13
Ulrike Jahn, Senior Expert R&D, TÜV Rheinland Energy GmbH, Germany
- 1:00pm** Feedback & Discussion Round



Ulrike Jahn



Dr. Marc Köntges



Marco Paggi



Gabi Friesen



Dr. Christian Reise



Thomas Nordmann



Mauricio Richter



Magnus Herz



Mike Green

Partner



ADDRESSING THE BANKABILITY AND INVESTABILITY OF SOLAR

Time 2:30pm–4:00pm

Room 4

- 2:30pm** Welcome and Introduction
Burkhard Holder, Head of Division, Energy & Smart Technologies, VDE Testing and Certification Institute, Germany
- 2:35pm** Building on Insurability to Achieve Investability for Solar Projects
Andreas Liewald, Allianz Climate Solutions GmbH, Germany
- 2:50pm** The Potential for Project Ratings and Capital Market Financing for Renewable Energy Projects
Torsten Schellscheidt, Senior Rating Analyst, Euler Hermes Rating GmbH, Germany
- 3:05pm** Cutting-Edge Quality Assurance and Risk Mitigation to Support Bankability
Boris Farnung, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 3:20pm** Panel Discussion: Improving the Bankability and Investability of Solar
- Boris Farnung, Fraunhofer Institute for Solar Energy Systems ISE, Germany
 - Sebastian Hack, Business Development Manager, ib vogt GmbH, Germany
 - Burkhard Holder, Head of Division, Energy & Smart Technologies, VDE Testing and Certification Institute, Germany
 - Andreas Liewald, Sales Manager, Allianz Climate Solutions GmbH, Germany
 - Bertram Uecker, Founder, Prospaera, Germany



Burkhard Holder



Andreas Liewald



Torsten Schellscheidt



Boris Farnung



Sebastian Hack



Bertram Uecker

Partner

VDE
RENEWABLES

Summary

As established solar markets mature and new markets emerge, it is important to recognize the varied and evolving criteria for bankability and investability of solar projects, and how these criteria can be fulfilled. This session presents the latest best practices and solutions for developing high-quality, risk-mitigated solar projects. It also explores financing trends, such as project ratings which enable funds to be raised through capital markets.

INNOVATIONS@INTERSOLAR EUROPE

Time 4:30pm–6:00pm

Room 4

- 4:30pm** Welcome and Introduction
- Jonathan Gifford, Editor in Chief, pv magazine Deutschland, Germany
 - Dr. Michael Fuhs, Chief Editor, pv magazine Deutschland, Germany
- 4:35pm** From Googles Little Box Challenge to The True AC-Module
Henk Oldenkamp, Owner, OKE-Services, Netherlands
- 4:45pm** Developing a more Complete PV Safety Solution by Extending Safety to the Connector Level
Lior Handelsman, Vice President Marketing & Product Strategy, SolarEdge Technologies, Inc., Israel
- 4:55pm** Innovative PV-Offgrid Module Manufacturing
Robert Händel, Founder & Chief Executive Officer, OPES Solutions GmbH, Germany
- 5:05pm** Swarm Power beyond Smart Grid
Alessandro Medici, Chief Executive Officer & Co-Founder, Power-Blox AG, Switzerland
- 5:15pm** Necessity of Virtual Power Plants for Europe and the Integration of Photovoltaics into the Next Pool
Dr. Hans-Joachim Röhl, Next Kraftwerke GmbH, Germany
- 5:25pm** Q&A Round



Jonathan Gifford



Dr. Michael Fuhs



Henk Oldenkamp



Lior Handelsman



Robert Händel



Alessandro Medici



Dr. Hans-Joachim Röhl

Partner

pv magazine group

Summary

Innovations@Intersolar Europe offers a highly concise glimpse into the vast amount of new products and services launched by exhibiting companies in Munich. Company representatives will be introducing innovative products and solutions for PV applications which are showcased to the industry for the first time.

TUESDAY, MAY 30, 2017

Time 10:15am–11:15am

Room 2

Summary

Solar PV is an economical viable technology to provide off-grid systems with clean energy. Especially in comparison with diesel generators high cost reductions can be achieved. Nevertheless the implementation of solar systems faces some challenges due to missing business models. Thus, it is important to research, improve and discuss various potential business models.

OFF-GRID: BUSINESS MODELS FOR DISSEMINATION OF SOLAR SYSTEMS**10:15am** Opening Addresses

- Prof. Peter Adelman, Professor, Ulm University of Applied Sciences, Germany
- Dr. Tania Rödiger-Vorwerk, Deputy Director General Directorate 31, Federal Ministry of Economic Cooperation and Development (BMZ), Germany

10:35am The VITALITE Experience – Lessons from

Building Zambia's First Pay as You go Solar Service Company

- John Fay, Co-Founder and Director, VITALITE Zambia Limited, Zambia
- Dr. Molihi Shale, Training Manager, Shared Value Africa (SVA), Zambia

10:45am Africa Leapfrogs the Grid

Marianne Walpert, Chief Executive Officer, Simusolar Ltd., Tanzania

10:55am Discussion

Prof. Peter Adelman



Dr. Tania Rödiger-Vorwerk



John Fay



Dr. Molihi Shale



Marianne Walpert

Time 11:45am–1:15pm

Room 2

Summary

The implementation of fluctuating renewable energies into off-grid diesel grids requires certain storage technologies to increase the overall renewable share and to improve the system stability. Different technologies exist to fulfill these tasks by e.g. electrochemical or thermal storage application.

OFF-GRID: STORAGE SYSTEMS**11:45am** Welcome and Introduction

Georg Bopp, Team Head Autonomous Systems and Mini-Grids, Fraunhofer Institute for Solar Energy Systems ISE, Germany

11:50am Technological Advances in Off-Grid Storage Systems

Georg Bopp, Team Head Autonomous Systems and Mini-Grids, Fraunhofer Institute for Solar Energy Systems ISE, Germany

12:10pm Different Li-Ion Technologies and Their Applications

Daniel Föhr, Chief Engineer, Leclanché GmbH, Germany

12:30pm A New Charge Controller for Different Battery Technologies

Michael Müller, Director PV Off Grid, Head of Research, Steca Elektronik GmbH, Germany

12:50pm Q&A Round

Georg Bopp



Daniel Föhr



Michael Müller

OFF-GRID: INNOVATIVE SYSTEMS AND FINANCE

Time 2:30pm–4:00pm

Room 2

- 2:30pm** Welcome and Introduction
Dr. Philipp Blechinger, Teamleader Off-Grid Systems,
Reiner Lemoine Institut gGmbH, Germany
- 2:35pm** How Risk Mitigation Methods for Off-Grid Solar Projects
can Positively Influence Financing Cost
Martin Baart, Co-Founder and Chief Executive Officer, ecoligo GmbH, Germany
- 2:55pm** Energy Contracting for Grid Independent Hybrid Systems
Timon Herzog, Chief Operating Officer, GRIPS Energy AG, Germany
- 3:15pm** Beating the Grid – Off Grid Systems are Competitive against the Grid
Prof. Peter Adelman, Professor, Ulm University of Applied Sciences, Germany
- 3:35pm** Discussion

Dr. Philipp
BlechingerMartin
BaartTimon
HerzogProf. Peter
Adelman**Summary**

Hybrid off-grid systems and decentralized energy supply systems are complex systems requiring detailed planning and engineering. Aside from the technical challenges financing such projects become even more crucial. Within this session we discuss certain approaches to solve the financing challenge of hybrid projects.

OFF-GRID: PRODUCTIVE USE

Time 4:30pm–6:00pm

Room 2

- 4:30pm** Welcome and Introduction
Prof. Peter Adelman, Professor, Ulm University of Applied Sciences, Germany
- 4:35pm** Solar Powered Chicken Farm
Eliza Hogan, Freelance Consultant Off-Grid Energy, Consultancy, Kenya
- 4:55pm** Experiences of a Pico PV Assembly Line in the Ethiopian Environment
Thomas Köpke, General Manager, Fosera Manufacturing PLC, Ethiopia
- 5:15pm** Dairy Value Chains Supported by Solar! Field Experience in
Implementing a Small-Scale PV Milk Cooling System in Tunisia and Kenya
Victor Torres Toledo, Junior Researcher, University of Hohenheim, Germany
- 5:35pm** Discussion
- 5:50pm** Closing Remarks
Prof. Peter Adelman, Professor, Ulm University of Applied Sciences, Germany

Prof. Peter
AdelmanThomas
KöpkeVictor Torres
Toledo**Summary**

Rural electrification is one of the Sustainable Development Goals. The implementation is challenging due to e.g. low specific electricity consumption. The enhancement of productive users can improve both the financial viability of electrification projects and the local living conditions.

WEDNESDAY, MAY 31, 2017

Time 9:00am–10:30am

Room 14 A

Summary

With bond yields falling globally, institutional investors are diversifying their portfolios and expanding their presence in the PV sector dramatically, either by buying up projects or by purchasing equity in private or listed PV funds globally. As a result the downstream segment is experiencing undersupply of PV projects and investors must be ready to squeeze their returns in order to outbid competitors. This session will allow participants to get first experience from a range of top solar-specialized funds and to understand their strategy and outlook in the secondary market. The session will also provide detailed insight into the global PV asset acquisition activity with particular focus on transaction volumes and investors' targeted returns.

PV FINANCING: INVESTMENT OPPORTUNITIES IN THE GLOBAL SECONDARY PV MARKET

- 9:00am** Welcome and Introduction
Pietro Radoia, Analyst, Bloomberg New Energy Finance, U.K.
- 9:05am** The Global PV Investment Status
Pietro Radoia, Analyst, Bloomberg New Energy Finance, U.K.
- 9:20am** Investing in Solar Globally, The Case for a Consistent Asset Class
Aldo Beolchini, Managing Partner and Chief Financial Officer, NextEnergy Solar Fund Limited, U.K.
- 9:35am** Commercial Improvements of Existing and New Assets
Stefan Müller, Chief Operating Officer & Co-Founder, Enerparc AG, Germany
- 9:50am** Challenges in the Renewable Energy Business – Is Vertical Integration a Solution?
Mario Schirru, Investment Director, Capital Stage AG, Germany
- 10:10am** Q&A Round



Pietro Radoia



Aldo Beolchini



Stefan Müller



Mario Schirru

Partner

Bloomberg
NEW ENERGY FINANCE

Time 11:00am–12:30pm

Room 14 A

Summary

Find out how changing regulations in the U.S., Canada and Mexico are opening up new opportunities for investors. The session explores investment opportunities in the US, Canada and Mexico.

SOLAR FINANCING TRENDS IN NORTH AMERICA

- 11:00am** Welcome and Introduction
Tom Tansy, Chairman, SunSpec Alliance, U.S.
- 11:05am** Panel Discussion
- Ram Akella, Managing Director and Chairman, CentroSolar America, Inc., U.S.
 - Kevin Feldman, Director, Green Giraffe, France
 - Nathan Gabig, Managing Director – Securitization & Risk Consulting, KPMG US, U.S.
 - Prashant Khorana, Renewable Energy Analyst – Global Solar Lead, MAKE, Denmark



Tom Tansy



Kevin Feldman



Ram Akella



Nathan Gabig



Prashant Khorana

Partner



SUNSPEC
ALLIANCE

GREEN BONDS AND CROWDFUNDING – THE FINANCIAL FUTURE?

- 2:00pm** Welcome and Introduction
Eduardo Tobias Ruiz, Director, CELA – Clean Energy Latin America, Brazil
- 2:05pm** Green Bonds Global
Scott Phillips, Vice President – Senior Analyst, Moody's Deutschland GmbH, Germany
- 2:20pm** Green/Climate Bonds: Accessing Debt Capital Markets
Manuel Adamini, Director, Investor Outreach & Partners Programme, Climate Bonds Initiative, Netherlands
- 2:35pm** Green Bonds and the Brazilian Solar PV Sector
Eduardo Tobias Ruiz, Director, CELA – Clean Energy Latin America, Brazil
- 2:50pm** Crowdfinancing Solar in Emerging Markets: Investing in Sustainable Development
Markus Schwaninger, Chief Financial Officer, ecoligo GmbH, Germany
- 3:05pm** Crowdfunding as an Alternative to Financing Energy Projects
Marilyn Heib, Managing Director, bettervest GmbH, Germany
- 3:20pm** Q&A Round



Eduardo Tobias Ruiz



Scott Phillips



Manuel Adamini



Markus Schwaninger



Marilyn Heib

Time 2:00pm–3:30pm

Room 14 A

Summary

In 2016 the issuance of global green bonds reached an all-time high amounting to USD 93 bln, representing an increase of 120% YoY. Attributable to the Paris Climate Change Agreement, momentum is anticipated to remain unchanged and if last years growth can be maintained, 2017 could possibly witness a record issuance of exceeding USD 200 bln. Are green bonds booming so does crowdfunding! Crowdfunding platforms are gaining popularity allowing the financing of for both smaller and larger projects across all continents. This session will shed light on how such financial instruments contribute to the deployment of solar.

GLOBAL FINANCING TRENDS: SOLAR MERCHANT PV POWER PLANTS/ THE ROLE OF RATING AGENCIES/INSURANCES?

- 4:00pm** Welcome and Introduction
Frank Haugwitz, Head of Intersolar Conference Development, Solar Promotion International GmbH, China
- 4:05pm** Merchant PV Plants – Trends and Challenges
Josefin Berg, Senior Research Analyst, IHS Solar, Spain
- 4:25pm** Rating Solar Projects
Christiane Kuti, Director Global Infrastructure & Project Finance, Fitch Ratings Ltd., UK
- 4:45pm** Evolving Parametric Insurance for Solar Power Plants
Franco Ciamberlano, Head Engineering Medi, CEE & Middle East, Swiss Reinsurance Company Ltd., Switzerland
- 5:05pm** Q&A Round



Frank Haugwitz



Josefin Berg



Christiane Kuti



Franco Ciamberlano

Time 4:00pm–5:30pm

Room 14 A

Summary

This session shines the spotlight on global financing trends. Merchant solar plants are selling directly into wholesale markets without PPAs or without any contracted revenue stream. In their simplest form, merchant plants sell their electricity on the spot market at whatever the price happens to be at that moment. Have solar prices fallen to the point where they could be sold into market profitably, bypassing utility contracts altogether? Merchant solar PV power plants have appeared in countries such as Chile, US, China, etc. At the same time, rating agencies can determine the capability of a company raising capital simply via an up or downgrading. Is their role in the context of financing set to increase in future? What about insurances? How have insurance packages evolved over time? How relevant are they today in the context of global financing? Answers to these questions and more will be shared during this session.

Time 11:00am–12:30pm
Room 14 C

Summary

Buildings are being transformed from energy consumers into energy producers, where any excess energy, heat and cooling generated is shared with the surrounding neighborhood. Through the use of storage devices, buildings are becoming active components which support the energy system. Smart building energy management systems go beyond considering the current and expected future demands of the building and the neighborhood. Smart home applications also increase comfort and energy efficiency in residential spaces and offices. The buildings of the future are characterized by modern plant technology and sustainable building designs, combined with intelligent and networked control over smart home applications, buildings and neighborhood energy systems.

SMART RENEWABLE ENERGY: BUILDINGS & ENERGY MANAGEMENT

- 11:00am** Welcome and Introduction
Dr. Robert Kohrs, Head of Group Smart Grid Technology, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 11:05am** Energy Management in Smart Buildings inside Smart Energy Regions
Dr. Winfried Hoffmann, Consultant, Applied Solar Expertise, Germany
- 11:25am** Energy Management in Smart Homes
Carsten Welge, Product Manager PV/Storage B2C, innogy SE, Germany
- 11:45am** Intelligent Network of PV, Electric Mobility and Heat Pumps: First Operating Experience
Thomas Nordmann, Company Founder, Chief Executive Officer, TNC Consulting AG, Switzerland
- 12:05pm** Innovative Methods to Optimize Building Energy Management
Erini Spartinou, Building Performance Optimization, Department Energy Efficient Buildings, Fraunhofer Institute for Solar Energy Systems ISE, Germany



Dr. Robert Kohrs



Dr. Winfried Hoffmann



Carsten Welge



Thomas Nordmann

Partner



SMART RENEWABLE ENERGY: PROSUMERS AND ENERGY SHARING

- 2:00pm** Welcome and Introduction
Jessica Strombäck, General Manager, Senior Vice President Europe, Joule Assets, Italy
- 2:05pm** Sector Coupling in Smart Homes in an "All Electric Society"
Detlef Beister, Business Development Manager, Business Unit Residential, SMA Solar Technology AG, Germany
- 2:25pm** How Commercial & Industrial Buildings are becoming Prosumers – and Integrating within the New Energy Ecosystems
Matthieu Mounier, Vice-President Prosumer Business, Schneider Electric, France
- 2:45pm** PV Schemes for Community Energy
Stanislas d'Herbement, Project Manager, REScoop, Belgium
- 3:05pm** Potential of Energy Cost Optimization by Utilizing Flexibility of Decentral Power Generation Equipment
Detlef Siebert, Head of Department Procurement/Portfolio Management, natGAS Aktiengesellschaft, Germany



Jessica Strombäck



Detlef Beister



Matthieu Mounier



Stanislas d'Herbement



Detlef Siebert

Partner



Time 2:00pm–3:30pm

Room 14 C

Summary

With the introduction of self-generation and self-consumption, demand response and on-site storage, prosumers have become an active part of the modern energy system. What motivates them? What are the financial drivers in different European markets today? Will people, business owners and local communities increasingly go 'off-grid' or will they become an interactive part of a smart energy system? What does consumer empowerment mean for market regulations? These are only some of the questions this session will explore in depth.

SMART RENEWABLE ENERGY: DIGITALIZATION/ENERGY CLOUDS/BIG DATA

- 4:00pm** Welcome and Introduction
Frauke Thies, Chief Policy Officer, Smart Energy Demand Coalition, Belgium
- 4:05pm** Customer Engagement in the Digital Energy Economy
James Miller, Principal Analyst – Customer Strategy & Data Analytics, Delta Energy & Environment Ltd., UK
- 4:20pm** Capturing the Benefits of Distributed Energy Resources through a Holistic and Integrated Data and Automation/Control based Approach
Constantin Ginet, Head of Global Microgrid Department, Siemens AG, Germany
- 4:35pm** New Opportunities through Intelligent Metering and Consumer Participation
Antonio Matamala, Managing Director, KISTERS Nederland BV, Netherlands
- 4:50pm** How Blockchain and Energy Monitors will Create the Decentralized, Renewable Energy Grid
Stefan Grosjean, Chief Executive Officer and Founder, Smappee n.v., Belgium
- 5:05pm** Digitalization, Distributed Energy Resources and Regulatory Conditions
Dr. Kátrín Schweren, Head of Public Affairs, Swisscom Energy Solutions, Switzerland
- 5:20pm** Q&A Round



Frauke Thies



James Miller



Constantin Ginet



Antonio Matamala



Stefan Grosjean



Dr. Kátrín Schweren

Partner



Time 4:00pm–5:30pm

Room 14 C

Summary

In a power system consisting of millions of decentralized renewable energy plants, security of supply will depend on the smart alignment of supply and demand at any given moment. Against this background, digitalization will be key! This session explores the opportunities provided by digitalization and addresses important questions concerning data management, access and security, including: What could a digitalized system look like and what challenges does it pose? Who are the key players in a digital energy economy? How can we ensure timely data access for the various market participants, while respecting the consumers' right to control their own data? How can we guarantee the inter-operability of different solutions and defend cyber-security? This session sheds light on an increasingly digitalized smart renewable energy world.

WEDNESDAY, MAY 31, 2017

Time 9:00am–10:30am

Room 5

Summary

Drones offer plenty of advantages for the inspection and maintenance of solar PV power plants. Thermal diagnosis drones, for instance, are able to inspect both ground-mounted and rooftop photovoltaic systems at a significantly reduced time. Other time and cost-saving options include autonomous cleaning robots, which bring the added benefit of increasing power generated. This session looks at versatility, advantages and potential future applications of drones and robots.

PV POWER PLANTS: THE VERSATILITY AND IMPACT OF DRONES & ROBOTS

- 9:00am** Welcome and Introduction
Christian Shuster, Chief Executive Officer, ucair GmbH, Germany
- 9:05am** Drones in Solar – Trends and Development of UAV Applications in the Solar Industry
Hendrik Bödecker, Founder & Chief Financial Officer, Drone Industry Insights UG, Germany
- 9:25am** Reducing the Waste of Valuable Energy Resources through Drone Inspection Services
Christian Shuster, Chief Executive Officer, ucair GmbH, Germany
- 9:45am** Enabling detailed Solar Cadastre using Drones
Liana Ugnat, Sales Manager, senseFly, Switzerland
- 10:05am** A New Paradigm For Utility-Scale PV:
O&M with Autonomous & Water-Free Robotic Cleaning Technology
Eran Meller, Chief Executive Officer, Ecoppia, Israel

Christian
ShusterHendrik
BödeckerLiana
UgnatEran
Meller

Time 11:00am–12:30pm

Room 5

Summary

Many countries have a shortage of space for large-scale ground-mounted solar systems. One of the most heated controversies concerns the use of farmland for the generation of power instead of crop production. This has led solar PV developers to look for alternative installation surfaces, such as the water surface of reservoirs, ponds, canals and lakes. To date, almost 100 MW of floating PV plants have been realized around the globe. This session explores this relatively new trend by looking at the underlying concepts, appropriate technologies, positive environmental impact and case studies from around the world.

FLOATING PV POWER PLANTS: CONCEPTS/TECHNOLOGIES/CASE STUDIES

- 11:00am** Welcome and Introduction
Uwe Ilgemann, Managing Director, invecco, Germany
- 11:05am** The Rising Tide of Floating PV
Bernard Prouvost, Chairman, Ciel & Terre International, France
- 11:25am** Evolution and Future of Floating Photovoltaic Systems
Simone Pausini, Chief Technology Officer, NRG ENERGIA srl, Italy
- 11:45am** Floating PV Systems
Veyis Neo Toprak, General Manager Smart Energy Business Division, LG CNS, South Korea
- 12:05pm** Floating PV Technologies and the Singapore Testbed Experience
Dr. Lu Zhao, Head of PV System Technology Group,
Solar Energy Research Institute of Singapore (SERIS), Singapore

Uwe
IlgemannBernard
ProuvostSimone
PausiniVeyis Neo
ToprakDr. Lu
Zhao

BALANCE OF SYSTEMS: UNLIMITED VERSATILITY OF PV POWER PLANTS

Time 2:00pm–3:30pm
Room 5

- 2:00pm** Welcome and Introduction
Prof. Dr. Bruno Burger, Group Manager Energy Data and Strategic Development, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 2:05pm** MPP-Tracking on Module String Level
Roman Giehl, Technical Business Development Manager, JinkoSolar GmbH, Germany
- 2:25pm** Microinverter with Reactive Power Capability
Paul Wieland, Managing Director, CarpeDiem Energy, Germany
- 2:45pm** Optimized Inverter Cooling: Core One Inverter
Mike Meinhardt, Senior Expert Innovation Management, SMA Solar Technology AG, Germany
- 3:05pm** Grid Stabilization during Abnormal Operation instead of Disconnection according to UL1741 SA, CA Rule 21
Tim Zgonena, Principal Engineer, UL LLC, U.S.

Prof. Dr.
Bruno BurgerRoman
GiehlPaul
WielandMike
MeinhardtTim
Zgonena

Partner

**Summary**

In the context of BoS components, speakers will answer questions on how energy yields can be increased despite continuing cost reductions, and on the current and future role of inverters with regard to different system technologies such as storage devices and hybrid systems. Additionally, they will look at how the global inverter market may evolve in terms of demand and technology.

BALANCE OF SYSTEMS: INVERTERS – THE PACEMAKER OF PV POWER PLANTS

Time 4:00pm–5:30pm
Room 5

- 4:00pm** Welcome and Introduction
Prof. Dr. Bruno Burger, Group Manager Energy Data and Strategic Development, Fraunhofer Institute for Solar Energy Systems ISE, Germany
- 4:05pm** Hybrid Inverter for DC-Coupled High Voltage Lithium-Ion-Batteries
Thomas Vogel, Director R&D PV Electronics, Kostal Industrie Elektrik GmbH, Germany
- 4:25pm** Grid Support and Stabilisation with Inverters and Redox-Flow Batteries
Dr. Andreas Abt, Vice President R&D, TRUMPF Hüttinger GmbH + Co. KG, Germany
- 4:45pm** 1500VDC String Inverters for Utility-Scale Solar Power Plants
Stefan Froböse, Technical Director EMEA, SunGrow Deutschland GmbH, Germany
- 5:05pm** New 2.5MW/ 1500V Central Inverter with SiC MOSFETS
Jörg Janning, Executive – Engineer, GE Energy Power Conversion GmbH, Germany

Prof. Dr.
Bruno BurgerThomas
VogelDr. Andreas
AbtStefan
FroböseJörg
Janning

Partner

**Summary**

Presentations in this session focus on the increasing complexity of inverters, the heart of a PV power plant. Speakers will talk about possible technological trends and concepts of the future, and how inverter technology is being adapted to meet the requirements of an increasingly smart power system. New innovative concepts and technological achievements will be shared.

MONDAY, MAY 29 AND TUESDAY MAY 30, 2017**Time** Monday: 9:00am–5:30pm
Tuesday: 8:30am–6:00pm**Room** 3**Participation:**

€1,050

Register online or on-site.

POWER ELECTRONICS FOR PHOTOVOLTAICS AND BATTERY SYSTEMS SEMINAR**Summary**

The 12th Seminar on power electronics for photovoltaics and battery systems addresses especially electrical engineers working in the PV sector. Specialists in hardware and control electronics give an overview on all relevant topics of power electronics for PV. These include power semiconductors and inductors, PV module integrated electronics, single- and three phase inverters, off-grid and battery inverters, feedback control systems, grid codes and measures for fire protection.

Organizer



THURSDAY, JUNE 1, 2017

RECENT DEVELOPMENTS AND OPPORTUNITIES IN THE BRAZILIAN PV MARKET

Time 9:00am–1:00pm

Room 14 B

Summary

This panel will discuss recent developments in the Brazilian PV sector, including the distributed generation and utility-scale segments. It will bring together decision makers from the public and private sectors. Afterwards a matchmaking meetings between investors interested in the Brazilian PV sector with Brazilian companies will take place.

Organizers



Partner



Supported by



Participation:

Free of charge,
register online or on-site.

PV/ENERGY STORAGE MARKET BRIEF ASIA

Time 9:00am–11:00am

Room 14 C

Summary

Asia is the global PV center of gravity for both production and installations today and in future. In 2016, Asia was responsible for roughly 60–70% of the total global demand. Key drivers for demand are surging power consumption, persistent high levels of air pollution and low PV system prices causing national governments to endorse incentive policies designed to create a favorable business environment for solar PV.

In addition to solar PV, numerous countries across Asia are increasingly promoting the build-up of a domestic electrical energy storage (ees) manufacturing capacities for both e-mobility and stationary purposes along with corresponding deployment schemes. Recent development suggest that in future Asia could be home to the largest ees manufacturing capacities and overtime possibly become the largest global market as well. Presentations will feature legislative landscapes, opportunities and a forecast in terms of market development in the foreseeable future for both solar PV and electric energy storage.

Organizers

The PV Market Alliance



Supporter



Participation:

Free of charge,
register online or on-site.

THURSDAY, JUNE 1, 2017

Time 9:00am–11:20am

Room 2

Participation:Free of charge,
register online or on-site.

Places are limited.

SCALING SOLAR PV AND BATTERY STORAGE**Summary**

Renewable energy is now recognized as a key solution in the global response to climate change. Solar photovoltaic (PV) power generation is at the heart of this transformation, but more can be done to support PV project development, improve quality assurance infrastructure for the sector and plan for the more widespread use of battery storage as costs fall. IRENA will present initiatives that support the development of bankable renewable energy projects & quality infrastructure for different types of PV markets, from nascent to mature markets. In addition, IRENA will present a detailed analysis of the costs and performance of battery electricity storage and the technology and market outlook to 2030.

Organizer



Time 9:00am–11:00am

Room 4

Participation:Free of charge,
for students only.**INTERSOLAR STUDY PROGRAM****Summary**

Through the „Intersolar Study Program“ Intersolar would like to observe its social responsibility to the next generation of the solar industry worldwide by enabling students from all areas of renewable energy to gain access to current industry knowledge free of charge. High-profile speakers give presentations about recent developments in the solar and storage industries, and are available for questions afterwards.

Organizers


 Management
Marketing
FWTM
FREIBURG

Time 9:30am–1:30pm

Room 22

Participation:Free of charge,
registration required
through DNICast website.**DNICAST – PRESENTING THE NEARLY FINAL FP7 PROJECT RESULTS****Summary**

This is the third and last of such end-user workshops, and has the aim to present and discuss overall results, as well as to collect feedback for streamlining before the end of the project, next October.

The focus is to:

- disseminate the results for the benefit of the industry
- present and discuss lessons learnt and areas for further improvement
- move forward to make sure that the results are of use and can be further exploited by the research and industry communities

The agenda will see a mix of presentations and discussions and will allow for an extensive exchange and dialogue among participants.

Organizer



THURSDAY, JUNE 1, 2017

THE SECRET SUCCESS FACTORS FOR RENEWABLE ENERGY PROJECTS IN IRAN

Summary

The PV market in Iran is considered to develop positively in the near future. The growing need for energy demand, especially for utilities, which are continuously facing a higher peak load profile, can be supplied faster by PV power plants than by any other conventional power plant. Still, the solar market in Iran is facing challenges and concerns. This side event provides investors and project developers with first-hand information on the latest developments of the Iranian solar market with a status-quo on policies, regulatory frameworks and new business opportunities, and will then focus on financing and legal aspects of PV projects, including a best-practice presentation.

Supported by



Time 11:30am–1:30pm

Room **14 C**

Participation:

€150

Register online or on-site.

HOW CAN COMPANIES PROFIT FROM MENA'S SOLAR MARKET MOMENTUM?

Summary

In many of the sun-blessed countries in the Middle East, solar energy generation is at the top of the energy agenda. At around €3 cents per kilowatt hour, solar power is now the most cost-efficient form of power generation in the region. This side event will give insights into the challenges of low-bid pricing faced by solar industry players in the Middle East and closes with a panel discussion on sustainable finance options for renewable energy projects. Participants will make contact with key players which are crucial for expanding business relationships in the MENA region. All attendees of this side event will be given a discount of 20% to the Intersolar Middle East Conference on September 26–27, 2017 in Dubai – get your code onsite!

Supported by



Time 2:00pm–4:00pm

Room **14 C**

Participation:

€150

Register online or on-site.

MEXICO – SOLAR MARKET OPPORTUNITIES

Summary

The Mexican energy transition has created new market opportunities for solar energy. The first two energy auctions of 2016 resulted in contracting energy from new solar power plants with a total capacity of more than 3,5 GW to be built in the next 3 years. The new regulation for distributed generation as of march 2017 will spur a dynamic market development. In this event, public and private sector representatives will deliver firsthand information on different market segments, covering the third round of clean energy auctions, business models for distributed generation and financing options for solar. A matchmaking with representatives of Mexican companies will be facilitated.

Organizers



Time 2:00pm–4:00pm

Room **14 A**

Participation:

Free of charge,
register online or on-site.

THURSDAY, JUNE 1, 2017

Time 2:00pm–5:30pm

Room 12

Participation:Free of charge,
register online or on-site.

Places are limited.

INDO-GERMAN DIALOGUE ON PV-ROOFTOP DEVELOPMENT IN INDIA**Summary**

With 40 GW of grid connected solar rooftop installations as part of India's overall solar target of 100 GW by 2022, grid-connected solar rooftop but also off-grid applications are considered to have an enormous development in the upcoming years. In 2016 approximately 5 GW PV capacity has been added in India. The annual growth rate of the market is higher than 50 % per year. As per the last renewable energy country attractiveness index by Ernst and Young, India is now rated the 2nd most attractive market in solar energy worldwide. Which rooftop market segments will boost within the next 5 years? Which new business opportunities will come up with as much as 30 % of grid connected rooftop investment costs being eligible for public funding? This Indo-German dialogue focuses on upcoming business models for solar rooftop, financing possibilities, public support schemes and tenders as well as trends in self-consumption. Well-known market players will share up to date sector insights directly from the market.

Organizers



Supported by



Time 2:00pm–3:30pm

Room 11

Participation:€150
Register online or on-site.**WORKSHOP SOLARE MIETERSTROMANGEBOTE: NEUES GESCHÄFTSMODELL & WIN-WIN-LÖSUNG FÜR VERMIETER, MIETER, ENERGIE- UND SOLARWIRTSCHAFT****Summary**

In light of the most recent developments around supplying tenant solar power and the legislation proposed by the German Federal Ministry for Economic Affairs and Energy, representatives from the German Solar Association and the German Association of Local Utilities will be discussing win-win solutions for all players involved in the business model. Experienced representatives from the solar, energy and real estate industries will be presenting examples of best practice and their experiences with collaboration when implementing PV tenant power projects.

This workshop will be held in German only.

Im Zuge der jüngsten Entwicklungen um solare Mieterstromangebote und den Gesetzesentwurf des Bundeswirtschaftsministerium diskutieren Vertreter des Bundesverband Solarwirtschaft und der Verband kommunaler Unternehmen Win-win-Lösungen für die am Geschäftsmodell beteiligten Akteure. Praxiserfahrene Vertreter der Solar- Energie- und Immobilienbranche präsentieren Best-Practice Beispiele und ihre Kooperationserfahrungen bei der Umsetzung von PV-Mieterstromprojekten.

Dieser Workshop findet in Deutsch statt.

Organizers



FUTURE PV

Summary

Pushing the boundaries: the latest steps to decrease LCOE

Future PV at Intersolar Europe 2017 will focus on the cost reduction potential of technological developments on the cell or module level and also within the EPC sector. The technologies featured are being newly applied today, or are just around the corner of commercialization.

Register under → <https://www.pv-magazine.com/future-pv/registration/>

Organizer



Initiative Partner



Gold Sponsor



Time Thursday: 12:00pm–2:00pm

Room **5**

Participation:

Free of charge

5TH PV MAGAZINE QUALITY ROUNDTABLE

Summary

Quality counts: field tests reveal the key to PV performance.

At the 2017 Quality Roundtable Europe, key questions regarding quality will be defined in granular detail in interviews with investors and a survey on quality, with invited experts providing input into how quality can be maintained, and poor outcomes avoided. As with previous Quality Roundtable events, all participants will be invited into this crucial discussion.

Register under → <https://www.pv-magazine.com/quality-roundtables/registration/>

Organizer



Initiative Partner



Gold Sponsors



Time Thursday: 2:30pm–4:30pm

Room **5**

Participation:

Free of charge

WORLD SMALL WIND CONFERENCE (WSWC)

Summary

The World Wind Energy Association (WWEA) and Intersolar Europe are pleased to invite the small and medium wind stakeholders as well as the Solar PV and Energy Storage industry to participate in the World Small Wind Conference (WSWC2017). The World Small Wind Conference is the main international event for the small wind industry. The main theme of the conference is Small Wind & Solar Hybrid Systems – Key to a self-sufficient energy future. The conference is aimed at jointly exploring the current status and future developments of the wind & solar hybrid technology as well as to present new innovative business models that could exploit the market of self-supply electricity.

The program is divided in four sections:

- Markets around the World: Opportunities for Small Wind and Hybrid Systems
- Small Wind Technology: Current Trends and Challenges
- Optimising Small Wind Hybrid Systems
- Developing New Markets: Global and Local Strategies

Organizer



Welt Windenergie Verband
Asociación Mundial de la Energía Eólica
세계풍력협회
세계풍력에너지협회
Svetska Vetroprometna Akademiya

Time Thursday: 10:00am–5:15pm

Friday: 9:30am–2:15pm

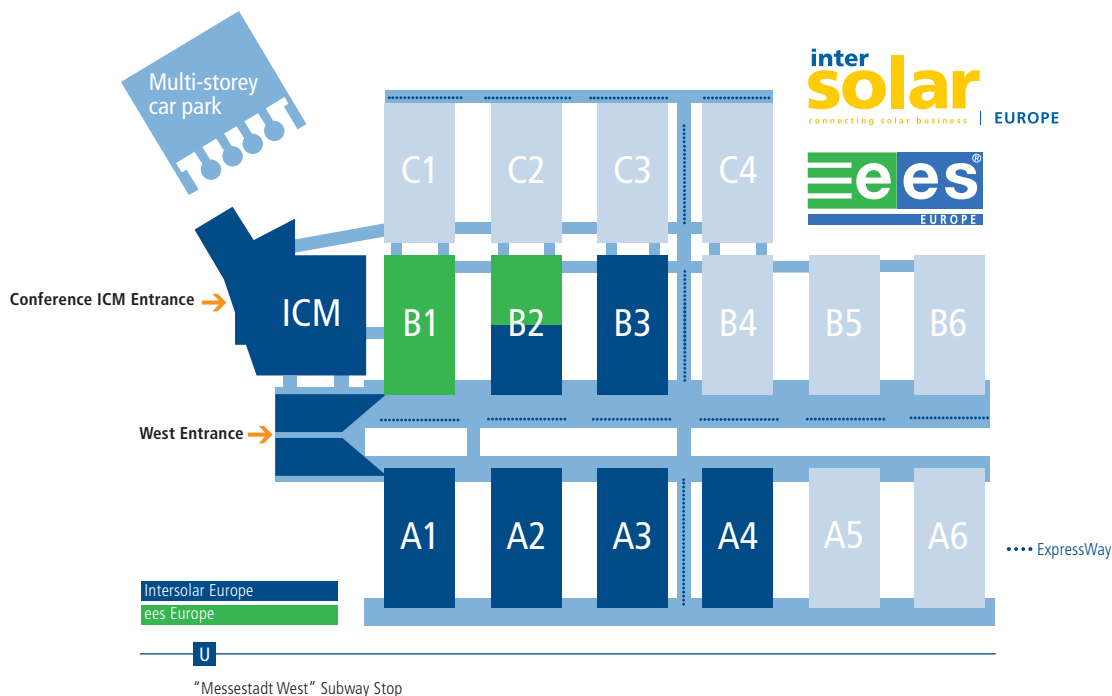
Room **13**

Participation:

€300

Register online or on-site.

VENUE



EXHIBITION QUICK FACTS

Dates	May 31–June 2, 2017
Hours	Wednesday, May 31, 2017 9:00am–6:00pm Thursday, June 1, 2017 9:00am–6:00pm Friday, June 2, 2017 9:00am–5:00pm
Venue	Messe München 81823 Munich, Germany Halls A1–A4, B1–B3
Areas of Focus	Photovoltaics, Energy Storage, Renewable Heating, Products and Solutions for Smart Renewable Energy

Organizers



Invitation to the
Intersolar AWARD and
ees AWARD 2017 Ceremony

Wednesday, May 31, 2017, 5:00pm
Innovation and Application Forum
Hall A4, Booth A4.530



Who is among the finalists 2017?
Find out here!

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