



© Aerial view of 2.36 MW solar PV array on roof of Atlantic City Convention Center

PV Rollout

**European American
Solar Deployment Conference**

**Omni Parker House, Boston, USA
February 10th/11th, 2011**



www.pvrollout.us



www.otti.eu

Conference Location



Boston offers a wonderful blend of stylish sophistication and historic New England charm. You can easily uncover the city's past while enjoying its modern edge.

Conference Venue:

Omni Parker House Hotel
60 School Street
Boston, MA 02108, USA

Chairman

Prof. Eicke Weber

Fraunhofer ISE, Freiburg, Germany

Eicke Weber is director of the Fraunhofer Institute for Solar Energy Systems ISE and Professor of Physics and Applied Sciences at the Albert-Ludwig University of Freiburg, Germany. From 1983-2006 he was on the faculty of the Department of Materials Science and Engineering of the University of California, Berkeley, and was a Professor of Materials Science beginning in 1991. Dr. Weber is a leading expert in the field of photovoltaic energy conversion. Recently he studied specifically how well solar cells may be produced from upgraded metallurgical ("dirty") silicon. He is a co-founder of CaliSolar in Sunnyvale, CA, Berlin, Germany and Ontario, Canada, which sells 16% efficiency solar cells based on its own umg-Si.



Co-Chairman

Juris Kalejs PhD

American Capital Energy, North Chelmsford, MA, USA

Juris Kalejs is Chief Technology Officer of the US Solar PV systems integrator American Capital Energy, specializing in large commercial and utility-scale PV installations. Dr. Kalejs co-founded the company with two partners five years ago. He has held various positions in R&D and management during his 35 years in the photovoltaic industry. His scientific work has concentrated on development and commercialization of silicon ribbon technology for photovoltaic applications, and this has led to over 100 publications and a number of patents. He has served on the organizing committees of the IEEE PVSC as well as other national and international conferences and workshops. He has been a member of the US Photovoltaic Roadmap Committee.



Advisory Council

Prof. Travis Bradford

President Prometheus Institute, Chicago, IL, USA and Adjunct Professor of Entrepreneurship and Renewable Energy, Booth School of Business, University of Chicago, IL, USA

Nolan Browne

Managing Director Fraunhofer Center for Sustainable Energy Systems CSE, Cambridge, MA, USA

Craig Cornelius

Managing Director Hudson Clean Energy, Teaneck, NY, USA

Charles Hanley

Manager, Photovoltaics and Grid Integration, Sandia National Laboratories, Albuquerque, NM, USA

Dr. Winfried Hoffmann

Vice President EPIA, Brussels, Belgium

Dr. Harry Wirth

Fraunhofer ISE, Freiburg, Germany

Perspectives

- Financing/Costs
- Project Development
- Electrical Standards/Structural Requirements

Topics

- PV Markets
- Modules
- Inverters
- Grid Integration
- Financing and Risk Management
- PV Power Plants

Conference Goals

- You will receive comprehensive information about the state of technology as well as the latest results from research and development.
- The scope of the conference is intended to encourage an open discussion of applications and practical experience in Solar Deployment.
- Speakers will be leading experts in the science, technology and business aspects of the solar industry
- The program structure and the conference venue will ensure intensive experience-sharing between participants, presenters and exhibitors.

In the last ten years, the field of photovoltaics (PV) has grown explosively from a niche market to an important international industry. The sector is currently valued at \$35 billion and is rapidly lowering costs through advances in technology and economies of scale. Germany has been the major driver of this trend with their attractive, uncapped feed-in rate structures. However, the market in the United States is now beginning its long-anticipated growth. Recent extensions and revisions of the 30% Federal Investment Tax credit make investment into PV more attractive for both investors and system owners. Additionally, more regions of the US are debating and passing legislation to broaden incentives at both the State and city levels and to create favorable investment conditions.

These factors are enabling PV to become competitive and profitable, leading us to the threshold of a major PV deployment. The technology promises to significantly impact how power is generated in the United States in addition to providing an important economic boost to the US manufacturing sector. Wide PV deployment will also encourage discussion about the different aspects of US energy security. However, there are still obstacles that need to be overcome before PV can be successful on a wide scale.

The PV Rollout workshop, a European American Solar Deployment Conference, will examine the technical, economic, and political hurdles to rapid and widespread PV deployment. Various perspectives, including political and commercial, will be considered. The conference will also provide participants with strategies and know-how to address these hurdles effectively. In doing so, we expect that this conference will augment the North American PV Rollout by providing industry leaders the roadmap they need to understand these challenges and help them develop profitable projects.

We invite you to participate in our conference and to join in the growing excitement about PV. Hear from developers of new PV concepts and from system integrators who implement these concepts to drive innovation and cost reduction. Due to different levels of PV deployment between Europe and the US, this binational conference seeks to leverage the European experience. Experts active in the European market will be presenting at our event and will be available to network with guests interested in tapping into their experience. At the same time, this conference will consider the distinctive aspects of the North American markets to ensure that the correct solutions are found for different areas. Conference speakers will address topics such as political issues, financing and risk management. Additionally, they will provide an overview of new trends in module design and balance of system components in the PV supply chain.

We are looking for you – the experts in the field of PV from both sides of the Atlantic!

Prof. Eicke Weber, Fraunhofer ISE, Freiburg, Germany
Juris Kalejs PhD, American Capital Energy, North Chelmsford, MA, USA

You will meet

- Solar Developers
- Independent Power Producers
- Utilities
- Project Developers
- System Integrators
- PV-Suppliers and Consultants
- Inspection and Certification Experts
- Module Manufacturers
- Module Equipment Suppliers
- Policy Makers
- Architects
- Lawyers
- Banks
- Investors
- Insurance Firms
- University Representatives
- Researchers

Thursday, February 10th, 2011

08.00 Registration and Continental Breakfast

OPENING SESSION

Chair: Eicke Weber, Conference Chairman, Fraunhofer ISE, Freiburg, Germany

09.00 Opening Address

Eckardt Günther, OTTI, Regensburg, Germany
Eicke Weber, Conference Chairman, Fraunhofer ISE, Freiburg, Germany
Juris Kalejs, Conference Co-Chairman, American Capital Energy, North Chelmsford, USA

Welcome Speeches

John Lushetsky, Department of Energy Washington, USA
Benno Bunse, President & CEO, German American Chamber of Commerce, Inc., New York, USA
Ian Bowles, Secretary of Energy Massachusetts, USA (tbc.)

Presentation of the Sponsor

Schletter

German High Tech Champions (GHTC)

Gilbert Kalb, Headquarters of the Fraunhofer-Gesellschaft, Munich, Germany

PV MARKETS

**Chair: John Lushetsky, Department of Energy Washington, USA
Bettina Weiss, Executive Director, PV Group, SEMI PV Group, San Jose, USA**

10.00 Global Solar Market Overview: Future Competitiveness

Paula Mints, Navigant Consulting, Palo Alto, USA

Insights into the US Downstream Market

Markus A.W. Hoehner, EuPD Research, Bonn, Germany

PV Supply and Demand in the U.S. Market

Shayle Kann, GTM Research/Greentech Media, Cambridge, USA

Discussion

11.00 Coffee Break

MODULES

**Chair: Nolan Browne, Fraunhofer Center for Sustainable Energy Systems, Cambridge, MA, USA
Harry Wirth, Fraunhofer ISE, Freiburg, Germany**

11.30 PV Module Technology - Between 25 Years Warranty and Innovation

Christian Höpfner, Fraunhofer Center for Sustainable Energy Systems, Cambridge, USA

Evaluation of PV Performance Models and their Impact on Project Risk

Christopher P. Cameron, Sandia National Laboratories, Albuquerque, USA

PV Module Efficiency Analysis and Optimization

Ingrid Hädrich, Fraunhofer ISE, Freiburg, Germany

Implications of the Environmental Durability of PV Modules
Dr. David Dumbleton, Atlas Material Testing Technology LLC,
Chicago, USA

Discussion

13.10 Lunch

INVERTERS

Chair: Charles Hanley, Manager, Photovoltaics and Grid Integration, Sandia National Laboratories, Albuquerque, USA

14.30 Grid Interaction Inverter Systems – Perspectives from North America and Europe

Tucker Ruberti, Advanced Energy, Fort Collins, USA

Challenges and Opportunities for Companies Bringing European Technology to North America

Jurgen Krehnke, SMA America, Rocklin, USA

Module Power Optimizers – Latest Developments in Distributed Power Harvesting Technology

John Berndner, SolarEdge, Grass Valley, USA

PV Systems Reliability: Developing Integrated Tools through Industry Partnerships

Michael Quintana, Sandia National Laboratories, Albuquerque, USA

Inverter Development for Utility-Scale PV

Phil Vyhanek, Solelectria Renewables, Lawrence, USA

Discussion

16.15 Coffee Break

GRID INTEGRATION

Chair: Juris Kalejs, Conference Co-Chairman, American Capital Energy, North Chelmsford, USA

Roland Schindler, Fraunhofer Center for Sustainable Energy Systems, Cambridge, USA

16.45 Micro Grids and Smart Grid Integration

Rolf Bienert, TÜV Rheinland of North America, USA

PV Power Development at National Grid

Ed White, National Grid, Waltham, USA

Policy Development for PV Grid Interconnect at Northeastern US PV Utilities

Carl Frattini, Northeast Utility Group, Hartford, USA

Utility-Scale Systems Integration Experiences with Brownfield PV Installations

Tom Hunton, American Capital Energy, North Chelmsford, USA

Grid-Interconnect Standards Development in US

Abraham Ellis, Sandia National Laboratories, Albuquerque, USA

Discussion

18.30 End of the first Conference Day

18.30 Welcome Reception and Conference Dinner

Dinner Speech

Vertical Integration in Manufacturing through Engineering Networks - Tools for Open Innovation

Ditmar Ihlenburg, FESTO AG, Esslingen, Germany

Friday, February 11th, 2011

FINANCING AND RISK MANAGEMENT

Chair: Craig Cornelius, Managing Director, Hudson Clean Energy, Teaneck, NY, USA

William Farris, NREL, Golden, USA (tbc.)

07.30 Continental Breakfast

08.30 Solar Business Expansion, Finance and Development
Jesse Grossman, Soltage, LLC, Jersey City, USA

Financing PV Projects in the US and Europe – Differences, Similarities and Latest Developments

Stefan Schmitz, McDermott Will & Emery, London, UK

Feed-In Tariff Design: Implications for Financing

Wilson Rickerson, Meister Consultants Group, Boston, USA

Discussion

10.00 Coffee Break

PV POWER PLANTS

Chair: Travis Bradford, President Prometheus Institute, Chicago, USA

10.40 Overview of Interconnect Issues for Grid-Tied PV Power Plants

Juris Kalejs, Conference Co-Chairman, American Capital Energy, North Chelmsford, USA

Existing Building Codes and Optimization Potential of PV Mounting Systems

Wolfgang Fritz, Schletter Inc., Tucson, USA

Complete Documentation of PV Mounting Systems with the Help of Building Standards

Dirk Herfurth, Mounting Systems GmbH, Rangsdorf, Germany

Experience Building the Largest CPV Solar Power Plant in the US

Clark Crawford, Concentrix Solar Inc., San Diego, USA

Advances in Concentrating Photovoltaic Technology:

Achieving Grid Parity Now

Vahan Garboushian, Amonix, Seal Beach, USA

Information about the Technical Tour

Fraunhofer CSE and National Grid

Discussion

12.45 Closing Remarks

Eicke Weber, Conference Chairman, Fraunhofer ISE, Freiburg, Germany

Juris Kalejs, Conference Co-Chairman, American Capital Energy, North Chelmsford, USA

13.00 End of the Conference

13.00 Light Lunch

14.00 Technical Tour

Fraunhofer CSE and National Grid

Organization

Organization Committee

Dipl.-Kfm. Eckardt Günther,
Gabriele Struthoff-Müller

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Registration Questions

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Accommodation

Omni Parker House Hotel

60 School Street Boston, MA
02108, USA
Phone: +1 617 227-8600
Fax: +1 617 742-5729

The Omni Parker House Hotel offers special room rates for our participants:

- \$ 109.00 for Petite Rooms
- \$ 129.00 for Standard Rooms

Reservation via www.pvrollout.us.

You are urged to make your reservations early. A limited number of rooms have been reserved until January 17, 2011 at the Omni Parker House. Please specify that you are enrolled in the PV Rollout program to receive the reduced room rates.

Legal notice:

According to § 22 (rights to one's likeness) of the German "Act on the Protection of the Copyright in Works of Art and Photographs", pictures (photographs) may only be distributed or put on public display with the express consent of those depicted. However, § 23, section 3 makes an exception of pictures of gatherings, public processions, and similar activities such as public events, in which the depicted people have taken part. Should you not agree to the possible publication of such pictures, please contact us in advance.

Conditions of Participation and Cancellation:

You will receive a e-mail confirming your participation in the conference. Entrance to the conference will only be permitted if OTTI has received payment. OTTI reserves the right to make modifications and amendments of any kind for urgent reasons. A handling fee of \$200 will be assessed for cancellations received on or before February 3, 2011. All cancellations after February 3, 2011 or absenteeism will be charged the full conference fee. Cancellation requests must be made in writing and can be emailed to Jennifer@agrimeetings.com. Substitutions are permitted up until February 3, 2011.

Conference Fee

If registered by January 12, 2011:

Per Person: \$ 960.00

If registered after January 12, 2011:

Per Person: \$ 1260.00

At the door: \$ 1360.00

VAT **not** included.

OTTI members and members of supporting organizations will receive a **10 % discount**.

The price includes:

Conference materials, 2 continental breakfasts, coffee breaks, lunches and dinner on Thursday.

**Online Registration
at www.pvrollout.us**

Sponsorship packages

Gold Sponsor (\$15,000)

- **15 m²** area with one table, 2 chairs and electricity
- Free conference entrance for **four** employees
- Large-size publishing of the sponsor's company logo
- Five minutes company presentation in front of all participants
- **Only one package available**
- Details on Sponsoring Registration

Silver Sponsor (\$10,000)

- **10 m²** area with one table, 2 chairs and electricity
- Free conference entrance for **three** employees
- Medium-size publishing of the sponsor's company logo
- Three minutes company presentation in front of all participants
- **Only two packages available**
- Details on Sponsoring Registration

Bronze Sponsor (\$ 7,500)

- **6 m²** area with one table, 2 chairs and electricity
- Free conference entrance for **two** employees
- Medium-size publishing of the sponsor's company logo
- Three minutes company presentation in front of all participants
- **Only three packages available**
- Details on Sponsoring Registration

Lunch Sponsor (\$10,000)

- Give-aways and branded items like napkins, salt/pepper (provided by the sponsor, delivery to the conference venue)
- Free conference entrance for **one** employee
- Two popup displays during lunch
- Small-size publishing of the sponsor's company logo
- **Only two packages available**

Breakfast Sponsor (\$ 6,000)

- Give-aways and branded items like napkins, sugar (provided by the sponsor, delivery to the conference venue)
- Two popup displays during breakfast
- Free conference entrance for **one** employee
- Small-size publishing of the sponsor's company logo
- **Only two packages available**

Should you have special wishes concerning sponsoring, please let us know.

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Sponsors



Supporting Organizations



Media Partners



Timetable

PV Rollout

European American Solar Deployment Conference

