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North America's Premier
Exhibition and Conference
for the Solar Industry,
San Francisco

JULY 11-13 2016

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CONFERENCE PROGRAM

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CONFERENCE PROGRAM

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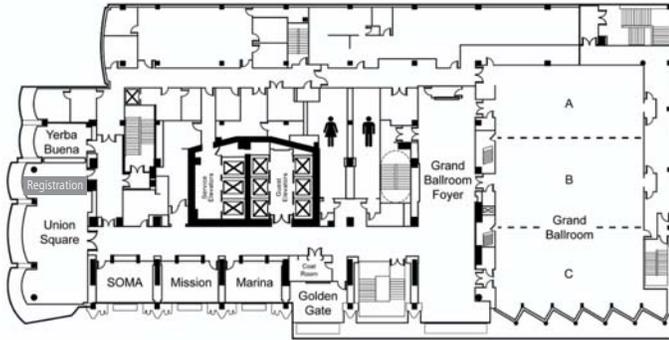
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EXHIBITION PROGRAM

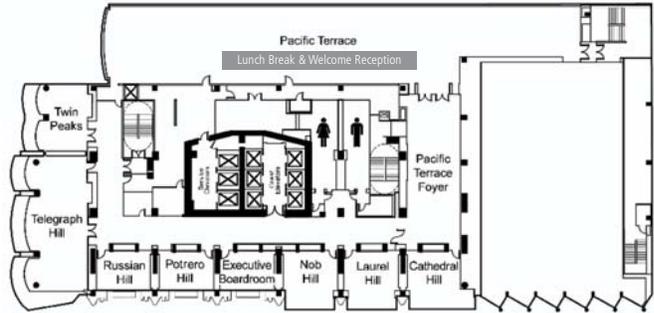
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FLOOR PLANS INTERCONTINENTAL HOTEL

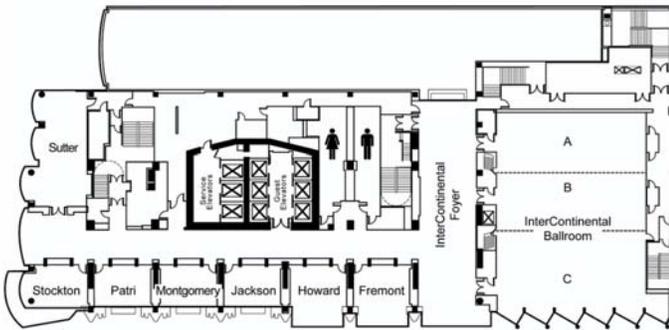
LEVEL 3



LEVEL 4



LEVEL 5



Mobile App

The Intersolar and ees Mobile App is your on-the-go guide for Intersolar and ees North America 2016. Access detailed floor plans, exhibitor descriptions, and information on accompanying exhibition and conference programs straight from your mobile device. Download the Intersolar and ees App at → www.intersolarglobal.com/App



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CONFERENCE QUICK FACTS

Dates	July 11–13, 2016	Speakers	220+
Hours	Monday 9am–7pm Tuesday & Wednesday 9am–6pm	Attendees	1,600 (estimated)
Venue	InterContinental Hotel 888 Howard Street, SF, CA 94103 Conference Area – Levels 3–5	Program	→ www.intersolar.us → Program → www.ees-northamerica.com → Program
		Registration	→ www.intersolar.us → Registration → www.ees-northamerica.com → Registration

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INTERSOLAR NORTH AMERICA CONFERENCE

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Monday July 11, 2016

9:00am–10:30am	Global PV Markets: Emerging Markets Across the Americas: Honduras/Guatemala/Panama	Smart Energy Market Transformation, Financing the Future	
Coffee			
11:00am–12:30pm	Global PV Markets: Growth Stage Markets Across the Americas: Mexico/Chile/Brazil/Argentina	Residential and C&I Developer Focus: What's Working? Who's Winning?	
Lunch			
1:30pm–3:00pm	Global PV Markets: Asia's Support Policies Changed the Global PV Dynamics	Investor Focus: What's In? What's Out?	
Coffee			
3:30pm–5:00pm	Global PV Markets: A Sustained Boom across North-America?	Financing the Future of Solar Energy, from Dumb Solar to Energy Trader?	
5:30pm–7:00pm	Opening Ceremony – The 25 th Anniversary of Intersolar		
7:00pm	Welcome Reception (Pacific Terrace)		

Hot Spots of the U.S. Storage Market
Battery Technologies: Next Generation of Cells Achieving Cost Targets and Safety Requirements
Battery System Development: Addressing Key Topics in Terms of Safety, Reliability & Efficiency
Applications: Self-consumption and Autonomy (Resi/Com PV Storage Systems, Mini-grids)

Tuesday July 12, 2016

9:00am–10:45am	Net Metering Present and Future	Smart Energy Asset Management: From Project After-Thought to Billion Dollar Industry	Crystalline Silicon PV: Addressing the Future
Coffee			
11:15am–1:00pm	Making Virtual Net Metering Work in California	Asset Management and O&M: Success and Challenges from the Field	PV Production: A Wealth of Innovation Creating Untapped Potential
Lunch			
2:00pm–3:45pm	Scaling Shared Solar: What's Working, What's Not, and What's Next?	Operations Data Technology and IT Convergence or Collision?	PV Plants: Design, Reliability and Monitoring
Coffee			
4:15pm–6:00pm		Advanced Topics for New Business Models and Operations: Are You Ready?	Balance of Systems: Inverter – The Pacemaker of PV Power Plants
5:00pm	Solar Summerfest "Back to the 80s" (Metreon Rooftop)		

Applications: Storage Systems for Renewable Power Plants
Panel: Economic Viability of Battery Storage – Where are we today (One Year after Tesla Announcements)?
The Role of Storage in the E-mobility Market Segment
Financing Storage Projects

Wednesday July 13, 2016

9:00am–10:45am	Financing from the Customer Perspective	Improving the Bankability and Investability of Solar	Smart Renewable Energy: System Integration
Coffee			
11:15am–1:00pm	Growth Company Forum: From the Idea to a Multi-Billion Dollar Business	The Future of PV: Executive Panel	Smart Renewable Energy: Building a Smarter Grid
Lunch			
2:00pm–3:45pm		Renewable Energy Hybrid Systems: Coming of Age	Smart Renewable Energy: Grid Structure & Big Data
Coffee			
4:15pm–6:00pm		Energy Fuels, Storage and Desalination Technologies in the Context of the Power Grid Towards the Transition a 100% Renewable Energy System	Smart Renewable Energy: State Approaches to Distributed Energy Resources

Storage Standards: Turbocharge Storage Adoption and the Solar Industry

■ Markets
 ■ Finance
 ■ Photovoltaic Technology
 ■ Smart Renewable Energy

Subject to change

PRICING INTERSOLAR/EES NORTH AMERICA

Tickets	Regular June 4–July 8	On-site July 9–14
Full Conference Package	\$950	\$975
Conference Day Ticket	\$550	\$575
Exhibition Ticket	\$100	\$150
Solar Summerfest	\$110	\$140
Exhibition & Solar Summerfest	\$200	\$250

The Full Conference Pass includes all Intersolar & EES sessions plus catering (coffee breaks/lunches) on all 3 conference days. Conference Day Tickets are sessions (Intersolar & EES) only of the day(s) selected. Any conference registration grants you full access to the expo halls, Opening Ceremony and Welcome Reception. Intersolar attendees with a valid badge (Full Package/Day Ticket) can visit ASES Solar2016's concurrent conference tracks free of charge.

WORKSHOPS AT INTERCONTINENTAL HOTEL

Monday July 11, 2016

9:00am– 12:30pm	Power Electronics for Photovoltaics	National Electric Code PV	
Lunch			
1:30pm– 5:00pm			Fundamentals of Energy Storage Systems
5:30pm– 7:00pm	Official Opening Ceremony		
7:00pm	Welcome Reception (Pacific Terrace)		

Tuesday July 12, 2016

9:00am– 6:00pm	Advanced Design: PV with Energy Storage Systems for Residences	Fundamentos Técnicos de Diseño e Instalación de Sistemas FV Interconectados	
5:00pm	Solar Summerfest "Back to the 80s" (Metreon Rooftop)		

Wednesday July 13, 2016

9:00am– 1:00pm	Megawatt-Scale PV: Design and Installation		
Lunch			
2:00pm– 6:00pm	PV System Operations and Maintenance		

Subject to change

WORKSHOP PRICING

Workshop Tickets	Regular June 4–July 8	On-site July 9–14
Full Day Workshop	\$550	\$575
Half Day Workshop	\$315	\$335

Any workshop registration grants you full access to the expo halls, Opening Ceremony and Welcome Reception.

INTERSOLAR NORTH AMERICA CONFERENCE COMMITTEE

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Tim Keating
Director and Advisor
SunSpec Alliance, U.S.



Minh Le
Deputy Director, Solar Energy Technologies Office, U.S.
Department of Energy, U.S.



Paula Mints
Founder, Chief Market Research Analyst
Solar PV Market Research, U.S.



Carly Rixham
Executive Director, American Solar Energy Society (ASES), U.S.



Larry Sherwood
Vice President and COO
Interstate Renewable Energy Council (IREC), U.S.



Dr. Jutta Trube
 Director Photovoltaic Equipment
 German Engineering Federation
 (VDMA), Germany



Bettina Weiss
 Vice President Product Management
 and Business Development, SEMI, U.S.



Prof. Dr. Sean White
 PV Professor and Solar Entrepreneur
 Interstate Renewable Energy Council
 Trainer of the Year 2014, U.S.



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Howard Wenger
 President, Business Units
 Sunpower, U.S.

Time 9:00am–10:30am

Room

**Grand Ballroom C,
InterContinental Hotel****Summary**

The global solar PV market is expected to remain bullish in the foreseeable future, i.e. in a double digit growth range. In this context, markets in regions like Central America are witnessing a surprisingly strong demand. Honduras, Panama and Guatemala are such shining examples. Interestingly, these rather small countries are expected to install more than Brazil in 2015 and likely in 2016. This session will focus on how selected markets across Central America are anticipated to evolve within their respective legislative frameworks.

**GLOBAL PV MARKETS: EMERGING MARKETS ACROSS THE AMERICAS:
HONDURAS/GUATEMALA/PANAMA**

- 9:00am** Welcome and Introduction
Dana Younger, Chief Renewable Energy Specialist, International Finance Corporation, U.S.
- 9:05am** Accelerating New Market Development: How Integrating Projects that Combine Efficiencies, Renewables, and Controls Can Open Up New Markets Faster
Ted Torre-Bueno, President, Empowered Energy Solutions, U.S.
- 9:25am** Managing the Complexities of International Portfolios
Michael Maulick, President & Chief Executive Officer, SunLink Corporation, U.S.
- 9:45am** Solar in Central America
Elee Muslin, Fund Manager, Canadian Climate Fund for the Private Sector in the Americas (C2F), Inter-American Investment Corporation, Member of the IDB Group, U.S.
- 10:05am** Financing Utility-Scale Solar PV Projects in Central America:
The Role of IFC and a Regional and Global Market Perspective
Dana Younger, Chief Renewable Energy Specialist, International Finance Corporation, U.S.

Dana
YoungerTed
Torre-BuenoMichael
MaulickElee
Muslin

Time 11:00am–12:30pm

Room

**Grand Ballroom C,
InterContinental Hotel****Summary**

Chile/Brazil/Mexico and Argentina are considered the most promising markets across South and Latin America. High level of solar radiations, high power consumption growth rates thanks to a strong economical growth/ economy and high retail electricity prices have turned solar PV systems into a financially viable attractive alternative. These and other reasons are the main driver why these governments have formulated corresponding support policies encouraging local deployment. Representatives from the region will share their views regarding the emerging opportunities and the expected long term market perspectives.

**GLOBAL PV MARKETS: GROWTH STAGE MARKETS ACROSS THE AMERICAS:
MEXICO/CHILE/BRAZIL/ARGENTINA**

- 11:00am** Welcome and Introduction
Glenna Wiseman, Founding Principal, Identity3, U.S.
- 11:05am** Brazil Commercial DG and Utility Scale Focus
Dries Bruyland, Managing Director LATAM, Origis Energy, U.S.
- 11:25am** Mexico Revs up for Solar PV
Raquel Bierzwinsky, Partner, Chadbourne & Parke LLP, U.S.
- 11:45am** Renewable Energy Policies and Solar Power Growth Potential for Argentina
Angelina M. Galiteva, Board Member, California Independent System Operator (CAISO), U.S.
- 12:05pm** Solar Market Drivers in Chile
Stephen Abbott, Senior Associate, Rocky Mountain Institute, U.S.

Glenna
WisemanDries
BruylandRaquel
BierzwinskyAngelina M.
GalitevaStephen
Abbott

GLOBAL PV MARKETS: ASIA'S SUPPORT POLICIES CHANGED THE GLOBAL PV DYNAMICS

- 1:30pm** Welcome and Introduction
Burkhard Holder, Head of Division ET – Energy and Smart Technology, VDE Testing and Certification Institute, Germany
- 1:35pm** Understanding the Market and Opportunities in the Emerging Indian Solar Industry
Raj Prabhu, Chief Executive Officer, Mercom Capital Group, U.S.
- 2:00pm** PV Market in Japan – Impacts of the Revision of the FIT Law
Izumi Kaizuka, Manager, RTS Corporation, Japan
- 2:25pm** China's 13th Five-Year-Plan (2016–2020) – Age of Ambition
Frank Haugwitz, Head of Intersolar Conference Development, Solar Promotion International GmbH, China



Burkhard Holder



Raj Prabhu



Izumi Kaizuka



Frank Haugwitz

Time 1:30pm–3:00pm
Room

**Grand Ballroom C,
InterContinental Hotel**

Summary

Asia is expected to remain the global PV center for both production and deployment in the foreseeable future. Since 2013 Asia is responsible for roughly 50% of the total global demand. Historically low prices for PV systems combined with surging power consumption, are two reasons why national support policies encourage the deployment of PV across Asia. Presentations will feature regulatory landscapes, opportunities, and an outlook in terms of market development in the foreseeable future in selected countries such as Japan, China, India, and Thailand.

GLOBAL PV MARKETS: A SUSTAINED BOOM ACROSS NORTH-AMERICA?

- 3:30pm** Welcome and Introduction
Bernadette Del Chiaro, Executive Director, California Solar Energy Industries Association (CALSEIA), U.S.
- 3:35pm** A New World of Challenges and Opportunities for Solar, Post ITC Extension
Jesse Grossman, CEO & Co-Founder, Soltage, U.S.
- 3:40pm** Renewables Portfolio Standards: A Lynchpin of U.S. Solar Market Growth with an Uncertain Future
Galen L. Barbose, Research Scientist, Lawrence Berkeley National Laboratory, U.S.
- 3:45pm** A Focus on the Eastern USA
Tom Thompson, Secretary, Solar Energy Business Association of New England (SEBANE), Policy Director, New York Solar Energy Society (NYSES), U.S.
- 3:50pm** California's Solar Market 2016: The Good, the Bad and the Ugly
Bernadette Del Chiaro, Executive Director, California Solar Energy Industries Association (CALSEIA), U.S.
- 3:55pm** Manufacturing for Renewables in the U.S. Market
Will the Boom in the U.S. Market be Supported by U.S. Manufacturing?
Mark Turley, Market Leader Renewable Energy, Alexandria Industries, USA
- 4:00pm** Supplying Solar Industry Demands through Workforce Development
Andrea Luecke, President and Executive Director, The Solar Foundation, U.S.
- 4:05pm** U.S. Industry Growth Overtime and End User Concerns
Paula Mints, Founder, Chief Market Research Analyst, Solar PV Market Research, U.S.
- 4:10pm** Panel: Global PV Markets: A Sustained Boom across North-America?
Moderator: Bernadette Del Chiaro, Executive Director, California Solar Energy Industries Association (CALSEIA), U.S.
- Mark Turley, Market Leader Renewable Energy, Alexandria Industries, USA
 - Tom Thompson, Secretary, Solar Energy Business Association of New England (SEBANE), Policy Director, New York Solar Energy Society (NYSES), U.S.
 - Paula Mints, Founder, Chief Market Research Analyst, Solar PV Market Research, U.S.
 - Andrea Luecke, President and Executive Director, The Solar Foundation, U.S.
 - Jesse Grossman, CEO & Co-Founder, Soltage, U.S.
 - Galen L. Barbose, Research Scientist, Lawrence Berkeley National Laboratory, U.S.

Time 3:30pm–5:00pm
Room

**Grand Ballroom C,
InterContinental Hotel**

Summary

In 2015 the U.S. was the 3rd largest market and in 2016 possibly even the 2nd. Main drivers are e.g. net metering, solar leasing, PPA's, solar communities, federal and state tax credits, REC's, soft cost developments, among others. With the certainty of the ITC locked in, the American solar market is free to grow. Recently analysts suggest that in 2016 approx. 12–14 GW will be installed. Presentations given in this session will focus on how North-American markets are anticipated to evolve in the near and longer-term.

Time 9:00am–10:30am

Room

**InterCon. Ballrooms A&B,
InterContinental Hotel**

Summary

Analyst and Investor Perspective; ITC Creates the Foundation for Growth; RESI, C&I and Utility Sector Challenges and Opportunities; the State of the Market and Key 2016 Industry Trends.

SMART ENERGY MARKET TRANSFORMATION, FINANCING THE FUTURE

- 9:00am** Opening Welcome
Tom Tansy, SEFA Board Member, Chairman, SunSpec Alliance, U.S.
- 9:05am** Opening Welcome with SEFA
Tim (TJ) Keating, Development Director, SunSpec Alliance, U.S.
- 9:15am** Keynote: Global Renewable Financing Trends Up The Growth S-Curve 2016 to 2020
Michael Eckhart, Managing Director, Citigroup Capital Markets, Inc., U.S.
- 9:45am** Market Trends in Residential, C & I, and Utility, Leaderboards and Channel Evolution
Cory Honeyman, Associate Research Director, GTM Research | Greentech Media, U.S.



Tom Tansy



Tim (TJ) Keating



Michael Eckhart



Cory Honeyman

Partner



Time 11:00am–12:30pm

Room

**InterCon. Ballrooms A&B,
InterContinental Hotel**

Summary

Winning Strategies for Growth; Project Developer's Roundtable for Utility, C&I, Residential, Community Solar, PACE, Financing Strategies, Capital Market.

RESIDENTIAL, C&I AND UTILITY DEVELOPER FOCUS: WHAT'S WORKING? WHO'S WINNING?

- 11:00am** Utility, Commercial and Industrial Solar Finance Developers and Investors Roundtable
 - Nate Gabig (Moderator), Partner, KPMG Corporate Finance, LLC., U.S.
 - Stacey Lawson, Chief Executive Officer, Ygrene Energy Fund, U.S.
 - Ryan Creamer, Chief Executive Officer, S-Power – Sustainable Power Group, U.S.
 - Chase Weir, Co-Chairman & Managing Director, Distributed Sun, U.S.
 - Paul Spencer, Founder/Chief Executive Officer, Clean Energy Collective, U.S.
- 11:45am** Residential Solar Finance Roundtable; Lease, Loan, Community Solar and Ownership Trends
 - Ram Akella (Moderator), Managing Director & Board Member, Centrosolar America, Inc., U.S.
 - Eric White, President and Co-Founder, Dividend Solar, U.S.
 - Paul Spencer, Founder/Chief Executive Officer, Clean Energy Collective, U.S.
 - Thomas Plagemann, VP Capital Markets, VIVINT SOLAR, U.S.
 - Danny Abajian, Vice President, Project Finance, Sunrun Inc., U.S.



Nate Gabig



Stacey Lawson



Ryan Creamer



Chase Weir



Paul Spencer



Ram Akella



Eric White



Thomas Plagemann



Danny Abajian

Partner



INVESTOR FOCUS: WHAT'S IN? WHAT'S OUT?

1:30pm

Keynote: New Vendor Finance Structures For C&I Solar Assets
Jason Barrett, Executive Director, Renewable Energy Investments and Structured Finance, GAF Materials, U.S.

2:00pm

Industry Panel: Reducing Friction in Solar Finance

- Mary L. Rottmann (Moderator), Owner, Principal, Rottman-Associates Consulting, U.S
- Tammie Candelario, Head of Department, Solar Services, DNV GL risk management, U.S.
- Ben Shih, Vice President, Moody's Ratings, U.S.
- Rhys Marsh, Director, Energy – Corporate Finance, CIT Capital Securities LLC, U.S.
- Melanie Gnazzo, Partner, Chapman and Cutler LLP, U.S.



Jason Barrett



Mary L. Rottmann



Tammie Candelario



Ben Shih



Rhys Marsh



Melanie Gnazzo

Partner



Time 1:30pm–3:00pm
Room

**InterCon. Ballrooms A&B,
InterContinental Hotel**

Summary

Trends, New Investors, Green Banks, Investor Views of Risk, Secondary Asset Markets, Rating Agencies View, can Syndication and Securitization still work? Hear From Industry Practitioners.

FINANCING THE FUTURE OF SOLAR ENERGY: FROM DUMB SOLAR TO ENERGY TRADER?

3:30pm

Keynote: The Road Ahead Financing the Energy Industry Transformation
Danny Kennedy, Managing Director, California Clean Energy Fund, U.S.

4:00pm

Industry Panel: THE ROAD AHEAD Business Model Implications of Market and Policy Signals: Netmetering, Curtailment, Ancillary Services

- Tim (TJ) Keating (Moderator), Development Director, SunSpec Alliance, U.S.
- Bates Marshall, Vice President Sales and General Manager, Huawei North America Smart PV Plant Solution, U.S.
- Beth Reid, Founder and Chief Executive Officer, Olivine, Inc., U.S.
- Marc Monbouquette, Rule 21 Analyst, California Public Utilities Commission, U.S.
- Danny Kennedy, Managing Director, California Clean Energy Fund, U.S.
- Sara Baldwin Auck, Director of Regulatory Program, Interstate Renewable Energy Council (IREC), U.S.

4:50pm

Closing Remarks & Key Take-Aways

Tim (TJ) Keating, Development Director, SunSpec Alliance, U.S.



Danny Kennedy



Tim (TJ) Keating



Bates Marshall



Beth Reid



Marc Monbouquette



Sara Baldwin Auck

Partner



Time 3:30pm–5:00pm
Room

**InterCon. Ballrooms A&B,
InterContinental Hotel**

Summary

Smart Energy Finance: New Business Opportunities and Finance Models, Risks such NEM 2.0 and NERC CIP, Asset Aggregation, Smart Grids, Energy Bill Optimization, Arbitrage and Ancillary Services; what is needed to transform the Energy market?

Time 9:00am–5:00pm
Room

Laurel Hill,
InterContinental Hotel

Workshop

Single Ticket: \$575
(separate registration
required)

WORKSHOP: NATIONAL ELECTRIC CODE PV

Summary

With California switching from the 2011 NEC to the 2014 NEC and Massachusetts switching from the 2014 to the 2017 NEC five months post-Intersolar, there will be a lot to learn at this years Intersolar NEC PV Workshop. We will have the latest insight into what will be in the 2017 NEC.

Bill Brooks is on the NEC code making panel for PV and Sean White will be your Code to English interpreter. What new safety provisions are going to be in the 2017 NEC? What is going to happen to energy storage systems? There will be many changes in this fast growing industry.

9:00am

National Electric Code PV

- Bill Brooks, Principal Partner, Brooks Engineering, U.S.
- Dr. Sean White, Professor & IREC Certified Master Trainer, Diablo Valley College & White House Solar, U.S.



Bill
Brooks



Dr. Sean
White

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WORKSHOP: POWER ELECTRONICS FOR PHOTOVOLTAICS

Summary Power electronic circuits are the link between solar modules and the utility grid or off-grid loads. The circuits must fulfill many requirements such as high efficiency, high reliability and low costs. The seminar gives an overview on the most commonly used power electronic circuits. It starts with low power applications such as active bypass diodes, maximizers and micro inverters. Then battery charging circuits and off-grid inverters are presented. A large part is dedicated to grid-connected applications, where single- and three-phase inverter circuits are presented. Do's and don'ts in PV are explained in a chapter on the interactions between modules and inverters. The aspects of grid integration and inverter testing and certification will be discussed in additional presentations.

- 9:00am** **Welcome and Introduction**
Prof. Dr. Bruno Burger, Head of Group Advanced Devices and Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 9:10am** **Module Integrated Electronics: Active Bypass Diodes, DC/DC-Converters, Micro Inverters**
Prof. Dr. Bruno Burger, Head of Group Advanced Devices and Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 9:50am** **Single Phase String Inverters: Basic Requirements, Circuits, Efficiency, Development Trends**
Dr. Olivier Stalter, Head of Department Power Electronics, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 11:00am** **Three Phase String Inverters: Basic Requirements, Circuits, Efficiency, Development Trends**
Dr. Olivier Stalter, Head of Department Power Electronics, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 11:45am** **Central Inverters and PV Power Plant: Concepts Basic Requirements, Circuits, Efficiency, Power Plant Concepts, Development Trends**
Prof. Dr. Bruno Burger, Head of Group Advanced Devices and Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 1:30pm** **Battery Chargers and Off-Grid Inverters**
Prof. Dr. Bruno Burger, Head of Group Advanced Devices and Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 2:15pm** **Grid-connected Battery Systems**
Dr. Olivier Stalter, Head of Department Power Electronics, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 3:30pm** **PV System Technology**
Prof. Dr. Bruno Burger, Head of Group Advanced Devices and Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 4:15pm** **Interactions between Modules and Inverters**
Prof. Dr. Bruno Burger, Head of Group Advanced Devices and Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 4:45pm** **Final Discussion**



Prof. Dr.
Bruno Burger



Dr. Olivier
Stalter

Partner



Time 9:00am–5:00pm

Room

**Nob Hill,
InterContinental Hotel**

Workshop

Single Ticket: \$575
(separate registration required)

MONDAY, JULY 11, 2016

Time 5:30pm–7:00pm

Room

**Level 3, Ballroom A–C,
InterContinental Hotel**

Summary

The official opening of the Intersolar North America Conference 2016 is comprised of welcome remarks and keynote speeches given by governmental officials and distinguished solar experts. Admission is free of charge for pre-registered attendees.

OFFICIAL OPENING CEREMONY

5:30pm

Welcome by the Conference Chair
Prof. Dr. Eicke R. Weber, Director, Fraunhofer Institute for Solar Energy Systems (ISE), Germany

5:40pm

Intersolar Champion of Change AWARD Ceremony
Winner: Kevin de León, President pro Tempore of the California Senate, Los Angeles, U.S.
Laudatio: Bernadette Del Chiaro, Executive Director, California Solar Energy Industries Association (CALSEIA), U.S.

5:55pm

Policy Keynote Speakers
 ■ Kevin de León, President pro Tempore of the California Senate, Los Angeles, U.S.
 ■ Joshua Arce, Founder, Brightline Defense, U.S.
 Industry Keynote Speaker
 ■ Lynn Jurich, Chief Executive Officer and Co-founder, Sunrun Inc., U.S.



Prof. Dr. Eicke R. Weber



Bernadette Del Chiaro



Kevin de León



Joshua Arce



Lynn Jurich

Time 7:00pm–8:30pm

Room

**Level 4, Pacific Terrace,
InterContinental Hotel**

WELCOME RECEPTION: THE 25TH ANNIVERSARY OF INTERSOLAR

Join us directly after the Opening Ceremony to celebrate the 9th Intersolar event at San Francisco and the 25th Anniversary of Intersolar! With drinks and appetizers at the Pacific Terrace (Intercontinental Hotel, Level 4) all conference attendees, visitors and exhibitors are invited to kick off the first conference day in a perfect venue for networking.

Welcome Reception Sponsor





MONDAY, JULY 11, 2016

Time 9:00am–10:45am

Room

InterCon. Ballroom A,
InterContinental Hotel**Summary**

Significant cost reductions and increasingly higher efficiency rates achieved during the last couple of years have contributed to the fact that nowadays with a market share of approx. 90% wafer-based crystalline silicon PV technologies undoubtedly dominate the global PV market. Due to a continued market demand approaching existing global production capacity levels, the coming years are expected to witness a growing interest in building up new production capacities. A sizeable fraction will be built on next generation crystalline silicon technology. In the course of this session renowned experts will share their visions and roadmaps concerning low-cost and highly-efficient Si-based PV technologies are expected to further evolve in the near term.

CRYSTALLINE SILICON PV: ADDRESSING THE FUTURE

- 9:00am** Welcome and Introduction
Christopher Case, Chief Technology Officer, Oxford PV, UK
- 9:05am** Solar Silicon: Innovating to Improve PV Manufacturing Margins and Optimize Environmental Impact
Theresa Jester, Chief Executive Officer, Silicor Materials, U.S.
- 9:25am** International Technology Roadmap for PV – Current Trends in Crystalline Silicon PV Market
Dr. Jutta Trube, Managing Director Photovoltaic Equipment, German Engineering Federation, Germany
- 9:45am** Technology Developments to Address the Need for Higher Efficiency Modules
Dr. Chen A. Dye-Zone, VP Sales, Americas, REC Solar, U.S.
- 10:05am** Lightweight Commercial PV Products with Factory Integrated Mounting Structures Expand Rooftop Market
Mark Kerstens, Chief Sales & Marketing Officer, Chief Financial Officer, Beamreach Solar, U.S.
- 10:25am** Cost Reduction of Photovoltaic Energy by a High Efficient Bifacial Multicrystalline P-Type Cells in Industrial Pilot Production
Andreas Teppe, Senior Engineer Process Development, RCT Solutions GmbH, Germany



Christopher Case



Theresa Jester



Dr. Jutta Trube



Dr. Chen A. Dye-Zone



Mark Kerstens

Time 11:15am–1:00pm

Room

InterCon. Ballroom A,
InterContinental Hotel**Summary**

Photovoltaic has ample room for innovation. New technologies, materials and highly automated manufacturing equipment are continually improved in order to reduce production costs, as well enhance yields of improved cells and module efficiencies. In view of a sustained global growth for solar PV, such deployment will lead to a significant demand for manufacturing equipment in the near and longer term. This session discusses new developments that support the progress in crystalline silicon PV production by identifying manufacturing and technology issues for wafer and cell production in particular.

PV PRODUCTION: A WEALTH OF INNOVATION CREATING UNTAPPED POTENTIAL

- 11:15am** Welcome and Introduction
Dr. Jutta Trube, Managing Director Photovoltaic Equipment, German Engineering Federation, Germany
- 11:20am** Game-changing Advancements in CdTe Thin Film Module Technology
Nick Strevel, Technical Manager, First Solar, Inc., U.S.
- 11:45am** CIGSfab – The Integrated Solution for Competitive Power Generation
Darin Pizzo, Vice President Sales, Manz USA, Inc, U.S.
- 12:10pm** The Next Ten Years in Manufacturing
Dr. Stephen Shea, Vice President of Manufacturing Engineering, Beamreach Solar, U.S.
- 12:35pm** Kerf-less Wafer Manufacturing Arrives
Frank van Mierlo, Chief Executive Officer, 1366 Technologies, U.S.



Dr. Jutta Trube



Nick Strevel



Darin Pizzo



Dr. Stephen Shea



Frank van Mierlo

PV PLANTS: DESIGN, RELIABILITY AND MONITORING

- 2:00pm** Welcome and Introduction
Sarah Kurtz, Reliability Group Manager Principal Scientist, National Renewable Energy Laboratory (NREL), U.S
- 2:05pm** Maximizing MWh: What Drives Performance of Utility-Scale Photovoltaic Projects in the United States
Joachim Seel, Research Associate, Lawrence Berkeley National Laboratory, U.S.
- 2:30pm** Defining Bankability for Each Step of a PV Project Using IECRE
Sarah Kurtz, Reliability Group Manager Principal Scientist, National Renewable Energy Laboratory (NREL), U.S.
- 2:55pm** A Valuable Lesson: Value Engineering and PV Design
Steve Daniel, EVP Sales and Marketing, Solar FlexRack, U.S.
- 3:20pm** Third Party Monitoring and PV Plant Reliability
Stephen Condon, Director of Sales – East, Solar-Log, U.S.



Sarah Kurtz



Joachim Seel



Steve Daniel



Stephen Condon

Time 2:00pm–3:45pm

Room

InterCon. Ballroom A, InterContinental Hotel

Summary

Design and selection of long term reliable components is a key task for the establishment of PV power plants. Subsequently monitoring the performance in order to achieve early detection of malfunctioning modules is essential to guarantee the expected energy harvest. Drones offer plenty of advantages to inspect and maintain solar PV power plants. At the same time, the deployment of autonomous cleaning robots offers to increase the power output at a reduced service cost. In the course of this session the versatility, benefits and future development of such devices will be demonstrated in the context of design and monitoring of PV power plants.

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

- 4:15pm** Welcome and Introduction
Cormac Gilligan, Manager – PV Inverter and BOS Research, IHS Energy, U.S.
- 4:20pm** 1500Vdc, System Performance and Reliability
Andy Fioramonti, Sales Manager – Renewable Energy Systems, TMEIC Corporation, U.S.
- 4:40pm** Smart Inverters: Exploring Operational and Regulatory Impacts
Dr. Armen Baronian, Engineering Specialist, Utility Inverters, Eaton Corporation, U.S.
- 5:00pm** Micro Inverters in Residential Module Design
Barry Cinnamon, Chief Executive Officer, Cinnamon Solar, U.S.
- 5:20pm** Balanced 1500VDC Utility Scale System without Unbalanced Reliability or Cost
Jani Kangas, R&D Director, Solar Inverters, ABB Inc., U.S.
- 5:40pm** Three Trends in the Global PV Inverter Market that are Impacting the United States in 2016
Cormac Gilligan, Manager – PV Inverter and BOS Research, IHS Energy, U.S.



Cormac Gilligan



Andy Fioramonti



Dr. Armen Baronian



Barry Cinnamon



Jani Kangas

Time 4:15pm–6:00pm

Room

InterCon. Ballroom A, InterContinental Hotel

Summary

The costs and reliability plays an increasing roll of PV systems. Presentations during this session will focus on the growing complex nature of inverters, considered to be the heart of PV power plants. Speakers will elaborate on possible future technological concepts of AC/DC bus based systems, as well the technical adaption of inverters in order to accommodate the requirements of smart home systems. New innovative concepts and achieved technological advancements of today's prevailing inverter technologies will be shared.

TUESDAY, JULY 12, 2016

Time 9:00am–10:45am

Room

**InterCon. Ballroom B,
InterContinental Hotel**

Summary

States across the country are facing the same question – extend net metering or walk away from it. California was spared the net metering hatchet, but the decision set the stage for a vastly different policy in 2020. Will storage be a necessary component of most systems after that? Arizona slammed the door on net metering. Hawaii is carving a new path. What does the crystal ball say for this foundational policy in these and other states?

NET METERING PRESENT AND FUTURE

- 9:00am** Welcome and Introduction
Marc Perez, Senior Consultant, Clean Power Research, U.S.
- 9:05am** Net Metering Battlegrounds and Power Plays
Kelly Crandall, Senior Rates and Research Analyst, EQ Research, U.S.
- 9:15am** What Do Non-Solar Customers Really Want?
Kevin Fox, Partner, Keyes & Fox, LLP, U.S.
- 9:30am** California's NEM 2.0 Decision
Ed Randolph, Executive Director, Energy Division, California Public Utilities Commission, U.S.
- 9:45am** Hawaii's Transition to a DER Future
Jason Simon, Senior Director, Policy and Government Affairs, Canadian Solar, U.S.
- 10:00am** Net Metering Present and Future Panel Discussion
Marc Perez, Senior Consultant, Clean Power Research, U.S.



Marc Perez



Kelly Crandall



Kevin Fox



Ed Randolph



Jason Simon

Partner



Time 11:15am–1:00pm

Room

**InterCon. Ballroom B,
InterContinental Hotel**

Summary

Given the high number of multifamily facilities across California, the state's Virtual Net Energy Metering (NEM-V) tariff is an important and underutilized policy, with only 150 NEM-V projects installed to date within the service territories of California's three main investor-owned utilities. This session will explore the current barriers to adoption, recent pilot efforts underway as part of the U.S. Department of Energy Solar Market Pathways effort, and a targeted discussion around strategies to expand solar access to more Californians using NEM-V.

MARKING VIRTUAL NET METERING WORK IN CALIFORNIA

- 11:15am** Welcome and Introduction
Bernadette Del Chiaro, Executive Director, California Solar Energy Industries Association (CALSEIA), U.S.
- 11:20am** Making Virtual Net Metering Work in California
 - Ross Williams, Vice President, Home Energy Systems, U.S.
 - Erica S. McConnell, Special Counsel, Shute Mihaly & Weinberger, LLP, U.S.
 - Benjamin Airth, Program Manager, Center for Sustainable Energy, U.S.



Bernadette Del Chiaro



Ross Williams



Erica S. McConnell



Benjamin Airth

Partner



SCALING SHARED SOLAR: WHAT'S WORKING, WHAT'S NOT, AND WHAT'S NEXT

2:00pm

Welcome and Introduction

Sara Baldwin Auck, Director of Regulatory Program, Interstate Renewable Energy Council (IREC), U.S.

2:05pm

Scaling Shared Solar: What's Working, What's Not, and What's Next

- Andrea Romano, Managing Consultant, Navigant Consulting, Inc., U.S.
- Aakash H. Chandarana, Regional Vice President of Rates and Regulatory Affairs, Northern States Power Company, U.S.
- Paul Spencer, Founder/Chief Executive Officer, Clean Energy Collective, U.S.
- Erica S. McConnell, Special Counsel, Shute Mihaly & Weinberger, LLP, U.S.



Sara Baldwin Auck



Andrea Romano



Aakash H. Chandarana



Paul Spencer



Erica S. McConnell

Partner



Time 2:00pm–3:45pm

Room

**InterCon. Ballroom B,
InterContinental Hotel**

Summary

Shared solar (aka community solar) solar has the attention of states, regulatory commissions, and utilities across the country. Best practices and success stories are emerging, but the market still remains relatively small. What's more, as the model gains traction, this relatively new sector of the solar industry is meeting new growing pains. Learn more about what's happening across several states to scale the model to reach more consumers and new markets, including low-income customers. Discuss what's working, what's not, as well as current challenges and opportunities.

SMART ENERGY ASSET MANAGEMENT: FROM PROJECT AFTER-THOUGHT TO BILLION DOLLAR INDUSTRY

9:00am

Welcome Address – Distributed Energy Meets Asset Management

Tom Tansy, SEFA Board Member & Chairman, SunSpec Alliance, U.S.

9:25am

The Solar Asset Management and O&M Market and Business Update: Utility, Commercial and Residential Sectors

Cedric Brehaut, Managing Director, SoliChamba Consulting, U.S.

10:00am

In Conversation Executive Keynote Panel: Global Trends and Opportunities

- Coy Ross, Manager, M&A Finance – Renewable Energy, Google, Inc., U.S.
- Jon Previtali, Vice President Environmental Finance, Wells Fargo, U.S.
- Edmée Kelsey, Chief Executive Officer, 3megawatt GmbH, Germany
- Tim (TJ) Keating, Development Director, SunSpec Alliance, U.S.
- Jason Kaminsky, Vice President, kWh Analytics, U.S.



Tom Tansy



Cedric Brehaut



Coy Ross



Jon Previtali



Edmée Kelsey



Tim (TJ) Keating



Jason Kaminsky

Partner



Time 9:00am–10:45am

Room

**Grand Ballroom C,
InterContinental Hotel**

Summary

The State of Solar Asset Management, Operations and Maintenance, Consolidation, Opportunities and Trends.

TUESDAY, JULY 12, 2016

Time 11:15am–1:00pm
Room

**Grand Ballroom C,
InterContinental Hotel**

Summary

The Solar Asset Symposium: O&M Best Practices and Lessons Learned From Industry Leaders, Utility, C&I and Residential, With A Panel Discussion of Top Challenges in Optimizing O&M and Asset Management.

Partner



ASSET MANAGEMENT AND O&M: SUCCESS AND CHALLENGES FROM THE FIELD

- 11:15am** Wind and Solar Asset Management and Operations Case Study
Etienne Lecompte, Chief Executive Officer, PowerHub, U.S.
- 11:30am** Utility, Commercial and Industrial Key Learnings and Challenges Panel Discussion
 - Nate Gabig (Moderator), Partner, KPMG Corporate Finance, LLC., U.S.
 - Chad Sachs, Chief Executive Officer, Radian Generation, U.S.
 - Bates Marshall, Vice President Sales and General Manager, Huawei North America Smart PV Plant Solution, U.S.
 - Etienne Lecompte, Chief Executive Officer, PowerHub, U.S.
 - Troy Lauterbach, Vice President of Global Operations and Management, First Solar, Inc., U.S.
- 12:15pm** Residential Sector Asset Management Key Learnings and Challenges Panel Discussion
 - Kent Williams (Moderator), Vice President of Asset Management, VIVINT SOLAR, U.S.
 - Christopher Doyle, Chief Commercial Officer, Dividend Solar, U.S.
 - Christopher Couture, Vice President – Asset Management, SunPower Corporation, U.S.
 - Michael Chan, Chief Financial Officer, Ygrene Energy Fund, U.S.
 - Steve Kent, Asset Management, Solar Mosaic, LLC, U.S.



Nate Gabig



Chad Sachs



Bates Marshall



Troy Lauterbach



Kent Williams



Christopher Doyle



Christopher Couture



Michael Chan

Time 2:00pm–3:45pm
Room

**Grand Ballroom C,
InterContinental Hotel**

Summary

The Solar Asset Symposium: Life Cycle Data Optimizes Return; IT/OT integration: is it happening? Monitoring, DC/AC Analytics and IT Strategies to Manage Cost and Fleet Portfolio Performance.

OPERATIONS DATA TECHNOLOGY AND IT: CONVERGENCE OR COLLISION?

- 2:00pm** Drive Asset Return: Data & Operations Learnings
Tom Tansy, SEFA Board Member & Chairman, SunSpec Alliance, U.S.
- 2:05pm** Statistical Fault Analysis for PV Systems Case Study
Dr. Rob Andrews, Chief Executive Officer, Heliolytics, U.S.
- 2:15pm** Sandia Availability and System Failure Modelling Case Study
Geoffrey Klise, Principal Member of the Technical Staff, Sandia National Laboratories, U.S.
- 2:30pm** Deriving Value From Data Case Study
Skip Dise, Product Manager, Clean Power Research, U.S.
- 2:45pm** Implementing Ancillary Services Business Models Case Study
Beth Reid, Founder and Chief Executive Officer, Olivine, Inc., U.S.
- 3:10pm** Drive Asset Return: Data and Operations What's Next Panel
 - Tom Tansy (Moderator), SEFA Board Member, Chairman, SunSpec Alliance, U.S.
 - Geoffrey Klise, Principal Member of the Technical Staff, Sandia National Laboratories, U.S.
 - Skip Dise, Product Manager, Clean Power Research, U.S.
 - Dr. Andy Walker, Principal Engineer, National Renewable Energy Laboratory (NREL), U.S.
 - Laks Sampath, Country Manager U.S. & Latin America, Alectris U.S., Inc., U.S.
 - Jason Kaminsky, Vice President, kWh Analytics, U.S.



Dr. Rob Andrews



Geoffrey Klise



Skip Dise



Beth Reid



Tom Tansy



Dr. Andy Walker



Jason Kaminsky

Partner



ADVANCED TOPICS FOR NEW BUSINESS MODELS AND OPERATIONS: ARE YOU READY?

- 4:15pm** Keynote: DOE SunShot Initiatives 2016–2020
Dr. Lidija Sekaric, Director of Solar Energy Technologies Office and its SunShot Initiative, Department of Energy (DOE), U.S.
- 4:40pm** Keynote: Advanced Distributed Resources Operations and Finance
Kevin Christy, Battery Energy Storage Development, SunEdison, U.S.
- 5:05pm** THE ROAD AHEAD Business Model Implications of Market and Policy Signals:
Netmetering, Curtailment, Ancillary Services Panel Discussion
- Tim (TJ) Keating (Moderator), Development Director, SunSpec Alliance, U.S.
 - Dr. Lidija Sekaric, Director of Solar Energy Technologies Office and its SunShot Initiative, Department of Energy (DOE), U.S.
 - Sanket Adhikari, Program Consultant Technology Innovation and Integration, Arizona Public Services Company, U.S.
 - Beth Reid, Founder and Chief Executive Officer, Olivine, Inc., U.S.
 - Kevin Christy, Battery Energy Storage Development, SunEdison, U.S.
- 5:50pm** Closing Remarks & Key Take-Aways
- Tom Tansy, SEFA Board Member, Chairman, SunSpec Alliance, U.S.
 - Tim (TJ) Keating, Development Director, SunSpec Alliance, U.S.



Dr. Lidija
Sekaric



Kevin
Christy



Tim (TJ)
Keating



Beth
Reid



Tom
Tansy

Partner



Time 4:15pm–6:00pm
Room

**Grand Ballroom C,
InterContinental Hotel**

Summary

Working with ISO, State By State Interconnection Rule Changes and operations implications, Calif Rule 21, Hawaii Key learnings, NERC CIP/Cyber Security, the Internet of energy, Self-Consumption, SCADA, Security, Data Communications and O&M Standards Evolution.

TUESDAY, JULY 12, 2016

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Director of Channel
& Partner Sales
559-355-9510
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Time 9:00pm–6:00pm

Room

Sutter,
InterContinental Hotel**Workshop****Single Ticket: \$575**
(separate registration
required)**WORKSHOP: FUNDAMENTOS TÉCNICOS DE DISEÑO E INSTALACIÓN DE SISTEMAS FV INTERCONECTADOS****Summary**

Este entrenamiento técnico de un día es una introducción amplia pero exhaustiva a los componentes, el análisis de sitio, diseño, dimensionamiento e instalación de sistemas fotovoltaicos interconectados. Se ahondará en las especificaciones y el rendimiento de módulos fotovoltaicos e inversores, incluyendo qué buscar cuando se diseña un sistema fotovoltaico. El curso y todo su contenido están preparados por gente experimentada en la industria, y se presentará completamente en español. Este entrenamiento está diseñado para empresarios, diseñadores, instaladores, personal de ventas, ingenieros hispano-parlantes o cualquier persona que busca ampliar sus conocimientos técnicos, para comprender los fundamentos del diseño e instalación de sistemas fotovoltaicos en cumplimiento con el Código Eléctrico de EE.UU.

9:00am

Workshop: Fundamentos Técnicos de Diseño e Instalación de Sistemas FV Interconectados
Karolina Fernández, PV Instructor, Solar Energy International (SEI), U.S.



Karolina
Fernández

Partner



Time 10:00am–5:00pm

Room

Moscone West,
Level 3, Room 3011**Workshop****\$195 Regular**
\$105 CALSEIA Members**Summary**

An all-day all-inclusive package designed just for the solar contractor community. Participants can choose from five different panels featuring storage, permitting, racking, sales & marketing, and net metering. In addition, CALSEIA's policy director will hold an open Q&A on rates over a catered lunch. Ticket price includes a full-day pass to the Expo Hall featuring more than 550 exhibits and a complimentary ticket to CALSEIA's premier networking party, Solar Summerfest, with excellent food and an open bar.

Partner

**WORKSHOP: CALSEIA'S CONTRACTOR DAY****10:00am**

Doors Open

10:20am

Welcome & Overview

10:30am

Panel I: Tools & Techniques to Boost Sales:

New & Tested Methods and Tools that Every Contractor Should Be Using

Moderator: Paul Beeson, Regional Manager, UMA

■ Katie Reum, Account Manager, Solar Reviews

■ Tor Valenza, Chief Marketing Officer, Impress Labs

■ Ernest Gallegos, Product Manager - Software and Technology, Unirac Inc.

■ Ashish Garg, Chief Executive Officer, Eltropy

11:40am

Boxed Lunch (provided) and California Rates Q&A with CALSEIA Policy Director Brad Heavner

12:30pm

Panel II: Emerging Racking & Mounting Technologies

Moderator: Aaron Nitzkin, CEO, Solar Roof Dynamics

■ Tim Vaughn, Director of Sales, RoofTech

■ Elie Rothschild, Chief Executive Officer, Sollega

■ December Cowen, Director of Product Management, Unirac Inc.

■ Andy Neshat, CEO, Everest Solar Systems, LLC

1:45pm

Panel III: Batteries & Solar for Residential & Small Commercial

Moderator: Brad Heavner, Policy Director, CALSEIA

■ Greg Smith, Senior Technical Trainer, Sonnen

■ Greg Wolfsen, Sr. Director Storage Product Line, Enphase

■ Ted Thomas, CEO and Founder, Clean Energy Storage

■ Magnus Asbo, Director, Product Marketing, N.A., Solar Edge

3:00pm

Panel IV: Virtual Net Energy Metering

■ Ben Airth, Program Manager, Center for Sustainable Energy

■ Ross Williams, Vice President, Home Energy Systems

3:35pm

Panel V: Streamlined Permits

Moderator: Jeff Spies, Senior Director of Business Development, QuickMount PV

■ Don Hughes, Permitting Specialist, Center for Sustainable Energy

■ Hector Bordas, Division Head, Building and Safety Division, County of Los Angeles

■ Mostafa Kashe, Chief Electrical Inspector, County of Los Angeles

■ Pat Redgate, Chief Executive Officer, AMECO Solar

4:45pm

Closing Remarks/Summerfest Ticket pick up

5:00pm

Solar Summerfest

**SHC ALLIANCE SYMPOSIUM:
SOLAR HEATING & COOLING – THE OTHER SOLAR TECHNOLOGY**

- 10:00am** **Welcome/Introduction**
 ■ Ed Murray, Chairperson, SEIA SHC Alliance, U.S.
 ■ Bernadette Del Chiaro, Executive Director,
 California Solar Energy Industries Association (CALSEIA), U.S.
- 10:15am** **Agenda Overview**
 Chip Bircher, Coordinator, SEIA SHC Alliance, U.S.
- 10:30am** **What's Next for California: 1470 and Beyond**
 CSI-Thermal: Overview & Looking Ahead
 Kelly Knutsen, Ph.D., Policy Advisor, CALSEIA, U.S.
 San Francisco Rooftop Solar Ordinance
 Jeanine Cotter, President, Luminant, Inc., U.S.
 Aliso Canyon's Long-term Impact on the California Electric and Gas System –
 Is This the Start of A New Era for Storage?
 Timothy O'Connor, Senior Attorney & Director California Oil & Gas Program,
 Environmental Defense Fund, U.S.
- 12:45pm** **Solar Heating and Cooling Success Stories**
 Hotels: William Chen, P.E., Chief Operations Officer, Adroi Energy, U.S.
 Multifamily: Martin Morehouse, Solar Thermal Engineer, Sun Light & Power, U.S.
 Solar Success on Schools and Pools: Ed Murray, President, Aztec Solar, U.S.
- 2:00pm** **Keynote – Open to all**
 ■ Alex Padilla, California Secretary of State, State of California, U.S.
 ■ Bernadette Del Chiaro, Executive Director,
 California Solar Energy Industries Association (CALSEIA), U.S.
- 2:55pm** **Innovative Financing Tools for SHC Projects**
 Cracking the Code to Solar Thermal Financing
 ■ Adam Boucher, CEO, Promise Energy, U.S.
 ■ Derek Huntington, VP of Finance, Promise Energy, U.S.
 Performance Contracting & Renewable Energy
 Bill Guiney, President, Artic Solar, U.S.
- 3:40pm** **Commercial Solar Pool Heating Projects**
 A Level Playing Field – Stimulating Growth in the Commercial Pool Heating Sector
 Dave Sizelove, President, Aquatherm, U.S.
 Commercial Pool Heating – Opportunities, Cost-effectiveness, & Longevity
 Bob Zrallack, Vice President and COO, UMA Solar/Heliocol, U.S.
 Trends in California Pool Heating Market
 Bob Leckinger, President, FAFO, U.S.
- 4:55pm** **Concluding Remarks**
 ■ Bernadette Del Chiaro, Executive Director,
 California Solar Energy Industries Association (CALSEIA), U.S.
 ■ Ed Murray, Chairperson, SEIA SHC Alliance, U.S.
- 5:00pm** **Solar Summerfest**



Ed
Murray



Bernadette
Del Chiaro



Alex
Padilla

Partner



Time 10:00am–5:00pm
Room

**Moscone West,
Level 3, Room 3024**

Workshop

**\$195 Regular
\$105 CALSEIA and SEIA SHC
Alliance Members**

Summary

Solar Heating & Cooling (SHC) Alliance, a division of Solar Energy Industries Association, is sponsoring this symposium entitled "Solar Heating and Cooling – The Other Solar Technology" on Tuesday, July 12 as part of the Intersolar North America in San Francisco at the Moscone Center. The SHC Alliance is holding this one-day conference to examine the tremendous impact solar heating and cooling (SHC) technologies can have on energy and natural gas consumption in California and across the U.S. SHC experts will address the latest trends, with topics ranging from California's expanding market to key success factors for SHC businesses, innovative financing tools, and development of commercial solar pool heating projects. California Secretary of State Alex Padilla, is the keynote speaker. Secretary Padilla has served as a champion for renewable energy and climate change mitigation throughout his career. In early 2016, the natural gas leak at Aliso Canyon forced him and his family to evacuate their home in Porter Ranch. He has a remarkable story to tell – and you'll want to hear it in person!

Time 9:00am–10:45am

Room

Grand Ballroom C, InterContinental Hotel

Summary

There is a lot of discussion in the solar industry about how to structure financing in a way that is attractive to investors and enables developers to make a profit, but what about the customer's point of view? What stops customers from securing financing, and how does the industry design financial products that overcome these hurdles?

FINANCING FROM THE CUSTOMER PERSPECTIVE

- 9:00am** Welcome and Introduction
Pamela Cargill, Principal, Chaolyti, U.S.
- 9:05am** The Maturing Residential Solar Market
Luna Federici, VP, Products, Spruce Finance, U.S.
- 9:15am** Delivering a Superior Consumer Financing Experience through Product, Process, and Platform
Ted Fawcett, VP, Sales, Solar Mosaic, LLC, U.S.
- 9:30am** Customer Financing Considerations for Commercial & Industrial Solar PV Projects
Kevin Clements, Director of Project Development, KRC Enterprises, U.S.
- 9:45am** When Does a PPA Make Sense for a Business and when are they Bankable Offtakers
Saritha Peruri, Director of Business Development, Sol Systems LLC, U.S.
- 10:00am** Solar Financing Panel Discussion
Pamela Cargill, Principal, Chaolyti, U.S.



Pamela Cargill



Luna Federici



Ted Fawcett



Kevin Clements



Saritha Peruri

Partner



Time 11:15am–1:00pm

Room

Grand Ballroom C, InterContinental Hotel

Summary

2015 was another record year for the global solar industry! Global demand experienced double-digit growth rates YoY, new emerging markets on the horizon, module and cell efficiency levels reached new heights, the Paris global climate change agreement and the ITC extension till 2019 among many other good news and developments. Solar is a key energy technology, whether stand-alone, distributed and utility-scale or in combination with electrical energy storage applications able to provide and meet future power demands. In this forum we will showcase new, innovative solar companies that have signed up to become part of the global solar revolution. Such early stage/start-up companies are invited to pitch their respective business cases.

GROWTH COMPANY FORUM: FROM THE IDEA TO A MULTI-BILLION DOLLAR BUSINESS

- 11:15am** Welcome and Introduction
Emily Kirsch, Co-Founder and CEO, Powerhouse, U.S.
- 11:30am** Industry Perspective
Innovation and Collaboration – Why it Matters
Cindi Choi, SunPower, Sr. Director, Global Strategy and Business Development, SunPower, U.S.
- 11:40am** Powerhouse Startups Feature
Unlocking Africa's Multi-billion Dollar Solar Potential
Mahama Nyankamawu, Chief Executive Officer, Novaya Solar, U.S.
Cloud-based Monitoring and Demand Response for Off-Grid Energy
Brett Allen, Co-Founder and Chief Executive Officer, Shinbone Networks, U.S.
Creating a New Marketplace with New Tools
Aaron Clay, Chief Executive Officer, Sunswarm Community Solar Marketplace, U.S.
FinTech for the Sun – Supercharging Solar Financial Operations
George Zviagan, Founder and Chief Executive Officer, Ra Power Management, U.S.
The Evolution of Solar Financing
Ahmed Sharif, Founder and Chief Executive Officer, SunFi, U.S.
- 12:10pm** Discussion



Emily Kirsch



Cindi Choi



Mahama Nyankamawu



Brett Allen



Aaron Clay



George Zviagan

IMPROVING THE BANKABILITY AND INVESTABILITY OF SOLAR

- 9:00am** Opening Remarks – Downstream Cost Reduction: the Last and Best Opportunity for Continued LCOE Reduction
John Sedgwick, President, VDE Americas, U.S.
- 9:10am** Really Simple Syndication (RSS)/DOE Orange Button initiative – How Implementing Unified Data Standards will help the Solar Industry Reduce Market Inefficiencies and Lower Downstream Costs
Jon Previtali, Vice President Environmental Finance, Wells Fargo Bank, U.S.
- 9:25am** A Project Developers Perspective on Downstream Cost Reduction
Anastasia Istratova, Distributed Generation Project Finance Team, SunPower Corporation, U.S.
- 9:40am** How Advanced Yield Assessment can Reduce Uncertainty for Improved Financial Performance Projection
Peter Bostock, Vice President, VDE Americas, U.S.
- 9:55am** Achieving Downstream Cost Reduction by Increasing Transparency, Improving Investment Decision-making, and Enabling Efficient Risk Management
Richard Mitsui, Chief Executive Officer and Co-founder, kWh Analytics, U.S.
- 10:10am** Driving to Lower LCOE Through Innovations in the Downstream End of the Solar Value Chain Panel
- John Sedgwick, President, VDE Americas, U.S.
 - Jon Previtali, Vice President Environmental Finance, Wells Fargo Bank, U.S.
 - Richard Mitsui, Chief Executive Officer and Co-founder, kWh Analytics, U.S.
 - Peter Bostock, Vice President, VDE Americas, U.S.
 - Anastasia Istratova, Distributed Generation Project Finance Team, SunPower Corporation, U.S.



John Sedgwick



Jon Previtali



Anastasia Istratova



Peter Bostock



Richard Mitsui

Partner

VDE
INSTITUTE

Time 9:00am–10:45am

Room

**Telegraph Hill,
InterContinental Hotel**

Summary

To continue to meet LCOE reduction targets, further cost reduction needs to be driven in the downstream segment (above balance-of-system costs). Efficiency and innovation can enable the solar industry to continue down the learning curve and push levelized cost of electricity (LCOE) to become highly competitive with traditional forms of electricity. Innovations and cutting edge techniques are crucial to meeting the criteria of lenders and investors, and therefore establishing a project's 'bankability' and 'investability'. This session will explore new approaches to important downstream elements that can have a positive impact on continued cost reduction. It will then present the latest best practices in project development, downstream cost reduction, financial and technical risk management and quality assurance.

THE FUTURE OF PV: EXECUTIVE PANEL

- 11:15am** Welcome and Introduction
Prof. Dr. Eicke R. Weber, Director, Fraunhofer Institute for Solar Energy Systems (ISE), Germany
- 11:20am** The Future of PV: Executive Panel
- Dr. Harry Lehmann, General Director, Environmental Planning and Sustainability Strategies, Federal Environment Agency (UBA), Germany
 - Andrea Luecke, President and Executive Director, The Solar Foundation, U.S.
 - Dr. Lidija Sekaric, Director of Solar Energy Technologies Office and its SunShot Initiative, Department of Energy (DOE), U.S.
 - Mukesh Dulani, President, SolarWorld Americas Inc., U.S.
 - Dr. Alexander Levran, Senior Vice President, Head of Global Solar Industry Initiative, ABB Inc., U.S.



Prof. Dr. Eicke R. Weber



Dr. Harry Lehmann



Andrea Luecke



Dr. Lidija Sekaric



Mukesh Dulani



Dr. Alexander Levran

Time 11:15am–1:00pm

Room

**Grand Ballroom B,
InterContinental Hotel**

Summary

Distinguished speakers representing both up and downstream sectors of the global solar PV industry will share their opinions and assessments with the audience about technology trends, manufacturing and system cost reduction as well market demands. Given that the ITC has been extended, the future of the U.S. PV market will be discussed in particular in terms of the likely impact of the ITC extension and consequently what kind of new business models will possibly emerge in future.

Time 2:00pm–3:45pm

Room

**Telegraph Hill,
InterContinental Hotel****Summary**

An increasing number of projects around the world do no longer just deploy one single renewable energy technology, in order to supply power, but rather a combination of it. Such “Renewable Energy Hybrid Power Plants” are subject of this session and features this growing global trend. Challenges and benefits, local integration schemes and existing projects will be showcased during this session.

RENEWABLE ENERGY HYBRID SYSTEMS: COMING OF AGE

- 2:00pm** Welcome and Introduction
Dr. Andrew Skumanich, Chief Executive Officer, SolarVision Co, U.S.
- 2:05pm** Wind: Essential Component of Island Hybrid Power Systems
Ron Swenson, Managing Director, The International Institute of Sustainable Transportation (INIST), U.S.
- 2:30pm** The UCSD 40MW Micro-grid: A Proven Template for Providing Utility Support Along with Islanding Functionality
John Dilliot, Manager of Energy and Utility Services, University of California, San Diego, U.S.
- 2:55pm** Application Case and Result Consideration about Design of Floating PV System in the Upstream of Dam
Jeong Hyogeun, Manager, K-water, Korea
- 3:20pm** Microgrid with Renewables and Energy Storage Supports Critical Infrastructure, Even when the Grid is Off
John Vernacchia, Global Segment Manager, Eaton Corporation, U.S.



Dr. Andrew Skumanich



John Dilliot



Jeong Hyogeun



John Vernacchia

Time 4:15pm–6:00pm

Room

**Telegraph Hill,
InterContinental Hotel****Summary**

Solar Desalination along with electric vehicles, demand response and renewable fuels such as hydrogen can be utilized to make the energy system more reliable, resilient and carbon free. This session will explore opportunities to utilize a variety of technologies and services, which combined with solar power will enable us to transition to 100% Renewables in all sectors including electricity, fuels, transportation and building construction.

ENERGY FUELS, STORAGE AND DESALINATION TECHNOLOGIES IN THE CONTEXT OF THE POWER GRID TOWARDS THE TRANSITION A 100% RENEWABLE ENERGY SYSTEM

- 4:15pm** Welcome and Introduction
Angelina M. Galiteva, Board Member, California Independent System Operator (CAISO), U.S.
- 4:20pm** Lessons Learned Powering a Desalination Plant with Off-Grid Solar-Plus-Storage on a Caribbean Island
Tom J. Brown, Vice President of Strategic Development, Inovateus Solar, U.S.
- 4:45pm** Cross Sectoral Use of RE – PTX
Dr. Harry Lehmann, General Director, Environmental Planning and Sustainability Strategies, Federal Environment Agency (UBA), Germany
- 5:10pm** Future of the Energy Industry is All Electric
David S. Freeman, Engineer, Attorney, and Author, All-Electric America, U.S.
- 5:35pm** The Role of Energy Storage for Desalination Plants
Florian Hemmer, Expert Technology, Masdar, UAE



Angelina M. Galiteva



Tom J. Brown



Dr. Harry Lehmann



David S. Freeman



Florian Hemmer



SMART RENEWABLE ENERGY

PRODUCTS AND SOLUTIONS FOR THE
CONNECTED ENERGY WORLD AT
INTERSOLAR AND EES NORTH AMERICA

JULY 11–13, 2017
SAN FRANCISCO, USA

- Renewable Energy ■ Grid Integration ■ Energy Storage
- Smart Energy Consumption ■ Energy Management



Time 9:00am–10:45am

Room

**Grand Ballroom A,
InterContinental Hotel**

Summary

Integrating increasing amounts of fluctuating solar and wind sources poses new challenges for the system integration. Experiences from Europe shows that the smart grid needed in such a system can result in increased reliability and resilience of the energy system. Technology and IT solutions for such grids with high fraction of variable power will be discussed.

SMART RENEWABLE ENERGY: SYSTEM INTEGRATION

- 9:00am** Welcome and Introduction
Ben Kellison, Director of Grid Research, GTM Research | Greentech Media, U.S.
- 9:05am** 2017 National Electrical Code Changes to Facilitate Smart Renewables
Bill Brooks, Principal Partner, Brooks Engineering, U.S.
- 9:30am** Internet of Things (IoT) and Solar: The Convergence of Innovation
Nangy Gul, Sales Director, Itron, U.S.
- 9:55am** Integration of Behind the Meter PV Fleet Forecasts into Utility Grid System Operations
Skip Dise, Product Manager, Clean Power Research, U.S.
- 10:20am** Smart Inverters and their Role in the Grid of Tomorrow
Paul DeKleermaeker, Head of U.S. Solutions Team, Fronius USA, U.S.



Ben Kellison



Bill Brooks



Nangy Gul



Skip Dise



Paul DeKleermaeker

Sponsor



Time 11:15am–1:00pm

Room

**Grand Ballroom A,
InterContinental Hotel**

Summary

The grid is changing and will change much more with high penetration of distributed energy resources. States are considering different business models to adapt to a different relationship between customers and the grid. What does an evolutionary process for a smarter grid look like? What are the key engineering and technical challenges to widespread integration of distributed resources into the grid? How are new technologies from whole-building controls to storage and advanced inverter functionality working together to increase customers' capabilities to participate in grid services?

SMART RENEWABLE ENERGY: BUILDING A SMARTER GRID

- 11:15am** Welcome and Introduction
Steve Chadima, SVP External Affairs & Director, California Initiatives, Advanced Energy Economy, U.S.
- 11:20am** Walk/Jog/Run – Where Is Your State's Distribution Grid Upgrade?
Tony Brunello, President and Founder, More Than Smart, U.S.
- 11:30am** A Pathway to the Distributed Grid
Ryan Hanley, Vice President of Grid Engineering Solutions, SolarCity, U.S.
- 11:40am** Grid Support PV Inverters
Brian Lydic, Standards and Technology Integration Engineer, Fronius USA, U.S.
- 11:50am** Deployment and End-to-End Control of Distributed Smart Inverters on the Utility Grid
Sagar Khare, Product Manager for Residential Solar Inverters, ABB Inc., Finland
- 12:00pm** Pairing Energy Control Systems With Solar Adds Value
Jennifer Chamberlin, Executive Director, Market Development, CPower, U.S.
- 12:10pm** Building a Smarter Grid Panel Discussion
Steve Chadima, SVP External Affairs & Director, California Initiatives, Advanced Energy Economy, U.S.



Steve Chadima



Tony Brunello



Ryan Hanley



Brian Lydic



Jennifer Chamberlin

Sponsor



Partner





SMART RENEWABLE ENERGY: GRID STRUCTURE & BIG DATA

- 2:00pm** Welcome and Introduction
Alissa Jean Schafer, Solar Communication and Policy Manager, Southern Alliance for Clean Energy (SACE), U.S.
- 2:05pm** Navigating Digital Disruption in the Energy Sector
Ken Boyce, Principal Engineer Manager – Energy, UL LLC, U.S.
- 2:30pm** The Wild West of the Southeast Grid
Alissa Jean Schafer, Solar Communication and Policy Manager, Southern Alliance for Clean Energy (SACE), U.S.
- 2:55pm** Valuation of PV and DER within Distribution Networks
Josh Bode, Vice President, Strategy and Planning, Nexant, Inc., U.S.



Alissa Jean Schafer



Ken Boyce



Josh Bode

Sponsor



Time 2:00pm–3:45pm

Room

Grand Ballroom A, InterContinental Hotel

Summary

This session provides insights into the growing proportion of electricity generated by PV systems and the implications of this development for networks and consumers alike. The role of PV in terms of grid stabilization, the design of future supply networks, and the role of big data will be highlighted. Additionally, both economical and operational issues of PV systems integrated into the grid will be feature.

SMART RENEWABLE ENERGY: STATE APPROACHES TO DISTRIBUTED ENERGY RESOURCES

- 4:15pm** Welcome and Introduction
Sara Baldwin Auck, Director of Regulatory Program, Interstate Renewable Energy Council (IREC), U.S.
- 4:20pm** Smart Renewable Energy: State Approaches to Distributed Energy Resources
 - Mark Esguerra, Principal, Distribution Planning, Pacific Gas and Electric Company (PG&E), U.S.
 - Sky Stanfield, Senior Special Counsel, Shute, Mihaly & Weinberger LLP (on behalf of IREC), U.S.
 - Ryan E. Katofsky, Director of Industry Analysis, Advanced Energy Economy, U.S.
 - Sean Gallagher, Vice President, State Affairs, Solar Energy Industries Association SEIA, U.S.
 - Jason Burwen, Policy & Advocacy Director, Energy Storage Association, U.S.



Sara Baldwin Auck



Mark Esguerra



Sky Stanfield



Ryan E. Katofsky



Sean Gallagher



Jason Burwen

Sponsor



Partner



Time 4:15pm–6:00pm

Room

Grand Ballroom A, InterContinental Hotel

Summary

As states and utilities grapple with increasing penetrations and continued growth of solar, storage and other distributed energy resources the fundamentals of grid access and interconnection of distributed energy resources are under revision. Implementing more proactive and integrated distribution planning (IDP) protocols and more sophisticated interconnection processes can maximize the benefits of distributed energy resources. This session will take an in-depth look at state 'grid modernization' regulatory reforms underway and provide a national perspective on emerging best practices, extant barriers, and cutting-edge innovations.

Time 9:00am–1:00pm

Room

Sutter,
InterContinental Hotel**Workshop**Single Ticket: \$335
(separate registration
required)NABCEP Advanced
educational hours for the
Certification exams: 3
NABCEP CE hours: 3
(NEC: 1; Task Analysis: 2)**WORKSHOP: MEGAWATT-SCALE PV: DESIGN AND INSTALLATION**

Summary This course is an in-depth presentation on considerations for grid-connected megawatt-scale PV systems. Topics covered include: pre-project planning; system design and optimization; inverter and transformer selection and interconnection at medium voltage; racking choices; 2014 NEC requirements and a preview of 2017 NEC; 1,000 Vdc systems; installation methods for optimal long-term performance; and quality and cost considerations.

9:00am

Workshop Megawatt-scale PV: Design and Installation

- Kyra Holt, Instructor, Solar Energy International (SEI), U.S.
- Rebekah Hren, Instructor and Curriculum Developer, Solar Energy International (SEI), U.S.

Kyra
HoltRebekah
Hren

Partner

**SOLAR ENERGY
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Empower.

Time 2:00pm–6:00pm

Room

Sutter,
InterContinental Hotel**Workshop**Single Ticket: \$335
(separate registration
required)NABCEP Advanced
educational hours for the
Certification exams: 3
NABCEP CE hours: 3
(Task Analysis: 3)**WORKSHOP: PV SYSTEM OPERATIONS AND MAINTENANCE**

Summary O&M is one of the fastest growing segments of the PV industry, and for good reasons: preventive maintenance is much less expensive than reactive maintenance. O&M helps maximize system uptime and availability; it is essential to maintain equipment warranties; and potential problems are nipped in the bud. Whether a system owner or maintenance technician, in this course you will learn the tools and tricks of the trade to ensure reliable PV system operation.

2:00pm

Workshop PV System Operations and Maintenance

- Brian Mehalic, Instructor and Curriculum Developer, Solar Energy International (SEI), U.S.
- David Del Vecchio, Instructor, Solar Energy International (SEI), U.S.

Brian
MehalicDavid
Del Vecchio

Partner

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WEDNESDAY, JULY 13, 2016

SPECIAL EVENTS/TOURS AND RECEPTIONS

SUNDAY, JULY 10, 2016

SF Bay Area Sailing Tour

Time 1:00pm–4:00pm

Meeting Point Pier 39, at 12:30pm

Sail with us – with 50 solar peers! – and experience the beauty of San Francisco right from the water. See some of the Bay's most popular attractions up close and personal as we sail around Alcatraz Island, directly underneath the Golden Gate Bridge and head back admiring the city's famed skyline – it's quite a sight! Catch a glimpse of marine wildlife including pelicans, sea lions, dolphins, and even the occasional whale. Whether you're looking for solar networking or sightseeing, your sail on the catamaran is sure to be a memorable highlight. We

will choose the path the boat takes depending on weather – the sun and the NorCal Solar sailing experts Justis Fennell and Sean White will take care! Food and beverages are included in the price. The spacious catamaran takes you on a stable, safe ride combining the exhilaration of fresh air and waves on the deck with the protection and outstanding views from the covered cabin. Bring your camera, the views are extraordinary!

All proceeds generated from this tour help support NorCal Solar's local, non-profit, consumer education efforts in Northern California.

Partner



MONDAY, JULY 11, 2016

Tour of San Francisco Solar Sites

Time 1:30pm–5:30pm

Meeting Point Lobby InterContinental Hotel at 1:15pm

We will visit a variety of solar systems within San Francisco on this tour. The Community Center Chinatown is a Senior Living Center hosting a 40-collector solar thermal (hot water) system. The City of San Francisco will show off its 182-kW PV system on top of its famous and prestigious Davies Symphony Hall concert

venue. We will also visit the California Academy of Sciences, a prominent science museum, to view a BIPV (Building-Integrated PV) system that forms the glass awning around the roof perimeter of the Academy.

Organized by NorCal Solar, a San Francisco-area partner of Intersolar North America. Proceeds from this tour will benefit the non-profit work of NorCal Solar.

Partner



TUESDAY, JULY 12, 2016

Private Tesla Fremont Factory Tours

Tour I:

Time 9:30am–1:45pm

Meeting Point Lobby InterContinental Hotel Lobby at 9:15am

Tour II:

Time 11:30am–3:45pm

Meeting Point Lobby InterContinental Hotel Lobby at 11:15am

Tour III:

Time 1:30pm–6:15pm

Meeting Point Lobby InterContinental Hotel Lobby at 1:15pm

See firsthand how Tesla is bringing Silicon Valley innovation to automobile manufacturing. Take a private tour of the Tesla Factory in Fremont, where Tesla is building Model S, the world's first premium electric sedan.

Partner



WEDNESDAY, JULY 13, 2016

Partner



Private Tesla Fremont Factory Tours

Tour IV:

Time 9:30am–1:45pm

Meeting Point Lobby InterContinental Hotel at 9:15am

Tour V:

Time 11:30am–3:45pm

Meeting Point Lobby InterContinental Hotel at 11:15am

Tour VI:

Time 1:30pm–6:15pm

Meeting Point Lobby InterContinental Hotel at 1:15pm

See firsthand how Tesla is bringing Silicon Valley innovation to automobile manufacturing. Take a private tour of the Tesla Factory in Fremont, where Tesla is building Model S, the world's first premium electric sedan.

Sol Systems' Run for the Sun Benefitting CALSEIA

Time 7:30am–10:00am

Meeting Point South Beach Harbor at Pier 40

What do runners and solar supporters have in common? They both love clean air! Held alongside the events at Intersolar North America, this 5k fun run/walk hosted by Sol Systems and benefitting the California Solar Energy Industries Association (CALSEIA) features great views of San Francisco Bay. Attending a conference doesn't mean putting a healthy lifestyle on hold, so come run or walk with Sol Systems and CALSEIA!

The 5K is a flat loop course on the Embarcadero Walk Way on the San Francisco Bay. The iconic views along this waterfront course include: AT&T Park (home of World Champion San Francisco Giants), the Bay Bridge, the Ferry Building, South Beach Harbor, Cupid's Span. Water will be available at the start and finish of the run/walk.



Partner



SPECIAL EVENTS & TOURS AND RECEPTIONS

THURSDAY, JULY 14, 2016

Tour of a Center for Solar Excellence – Tracking Systems, PV Modules, and a Botanical Garden

Time 9:00am–12:30pm

Meeting Point Lobby InterContinental Hotel at 8:45am

Learn about the history of solar tracking systems from the people who created the first single-axis trackers over twenty years ago – NEXTracker. Designed for a variety of audiences,

including solar professionals, lay persons, and students, the NEXTracker Center for Solar Excellence is a demonstration site adjacent to the company's headquarters, in Fremont, California. The center is demonstrating solar tracking systems, a variety of Tier 1 PV modules, and a dual purpose of land by co-locating a botanical garden on the site. Join us for a walk back in time to see tracker history and a view of the future to discover the latest in advanced tracker technology.

Partner



FRIDAY, JULY 15, 2016

Solar Winery and Microgrid Tour – New Technologies in Action!

Time 9:00am–5:00pm

Meeting Point Lobby InterContinental Hotel at 8:45am

This all-day tour after Intersolar closes will offer a unique opportunity to see truly cutting-edge solar, hydrogen, microturbine, microgrid, battery, and electronic controls technology AND sample some exquisite Napa and Sonoma area wines! The privately-

funded Stone Edge Farm Microgrid Project has generously offered us a tour of its facilities; this project is not normally open to the public. On two different sites, Stone Edge and its team of engineers from around the world are researching how to be self-sufficient in energy supply for all their needs, including making wine. We will have box lunches at a small additional cost at their winery. After Stone Edge, we will visit a second solar winery for wine tasting to round out the day. Organized by NorCal Solar, a San Francisco area non-profit organization and partner of Intersolar North America.

Partner



SIDE EVENTS

TUESDAY, JULY 12, 2016

German-American Green Business Breakfast

Time 9:00am–11:00am
Location Palace Hotel, Garden Court, 2 New Montgomery Street, San Francisco, CA 94105
Organizer Freiburg Management and Marketing International
 Invitation only – for more information please contact Corinna Krebs at corinna.krebs@fwtm.de

IHS North America Solar Market Update and Drinks Reception

Time 4:15pm–6:00pm
Location InterContinental Hotel, Level 5, InterCon. Ballroom B
Organizer IHS
 → www.ihs.com

Organizer



WEDNESDAY, JULY 13, 2016

Powerhouse Circle

Time 2:00pm–5:30pm
Location InterContinental Hotel, Level 3, Ballroom C
Organizer Powerhouse
 To participate at the event please contact CEO Emily Kirsch at emily@powerhouse.solar

Organizer

Solar Battle of the Bands (SBOB)

Time after Intersolar North America
Location Mezzanine, 444 Jessie St./Mint Plaza, San Francisco
Organizer Quickmount PV
 → www.solarbattleofthebands.com

Organizer





JULY 10 - 13
SAN FRANCISCO



ISNA, EES, and SOLAR 2016 attendees are invited to join the American Solar Energy Society at all of our events.

HIGHLIGHTS

Monday July 11th 11:00am, 5th Floor, Ballroom C

Progress to 100% Global Renewable Energy

- Professor Eicke Weber, Director of Fraunhofer Institute of Solar Energy, Freiburg, Germany— German examples and what is needed worldwide to reach 100% renewables.
- Michael Eckhart, Global Head of Environmental Finance, Citibank Capital Markets, Inc.— Role of financing and innovations that are making a real difference in accelerating progress to 100%.
- Diane Moss, Founder of Renewables 100 Policy Institute— Policy tools and actions that are working worldwide and in the U.S.
- John Smirnow, Secretary of General Global Solar Council— Report on solar industry and growth worldwide.



Prof. Eicke Weber



Michael Eckhart



Diane Moss



John Smirnow

Tuesday July 12th 11:15am, Fifth Floor, Ballroom C

Progress to 100% Local to National to Global Renewable Cities

- Debbie Rafael, Director of San Francisco Department of the Environment – Efforts in San Francisco
- Jodie van Horn, Director of Strategic Relations at Sierra Club, Readyfor100 campaign— Grassroots renewable progress primarily at the cities level in the U.S.
- Betsy Agar, Research Manager and Founding Member of Renewable Cities, a Simon Fraser University Centre for Dialogue program, Vancouver, BC—How cities are leading the way to 100% with a global focus
- Angelina Galiteva, Founder and Board Chair of Renewables 100 Policy Institute, California ISO Board of Governors— Addressing concerns of utilities



Debbie Rafael



Betsy Agar



Angelina Galiteva



Mark Davis

Wednesday July 13th 11:15am, Fifth Floor, Ballroom C

Accelerating Progress to 100% Renewable Energy

- Mark Davis, CEO of WDC Solar, Washington, DC—Creating jobs in the installation sector in the U.S.
- Chris Deschene, Director, U.S. Department of Energy, Office of Indian Energy Policy and Programs – Renewable energy on tribal lands
- Reverend Canon Sally Grover Bingham, Episcopal priest and Canon for the Environment in the Diocese of California -- The Regeneration Project and its Interfaith Power & Light campaign



Reverend Canon Sally Grover Bingham



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Thank you for joining us at SOLAR 2016, the 45th Annual ASES National Solar Conference



SUNDAY	9:00 - 12:00	Chapters Caucus (9-5)			
	12:00 - 1:30	Lunch Break			
	1:30 - 5:00	Chapters Caucus (cont.)		Divisions Caucus	
	6:30 - 9:30	SOLAR 2016 Opening Reception			
MONDAY	7:30 - 8:30	ASES Speaker Check-in			
	8:30 - 9:00	Coffee & Tea			
	9:00 - 10:30	Forum: Spirit & Sustainability	Technical Session: Solar Buildings & Architecture I	Forum: Case Studies on Resilient PV Systems	Technical Session: Solar Electricity: Economics & Policy I
	10:30 - 11:00	30 Minute Break			
	11:00 - 12:30	Plenary Panel: Progress Toward 100% Renewable Energy - Global Actions			
	12:30 - 1:30	Lunch & ASES Division Meetings			
	1:30 - 3:00	Forum: Community Solar I: Solar Powering America	Technical Session: Implementing 100% Renewable Electricity	Technical Session: Solar Electricity: Economics & Policy II	Technical Session: High Efficiency ZEB & Control Systems
	3:00 - 3:30	30 Minute Break			
	3:30 - 5:00	Forum: How the Convergence of Energy & Data Analytics Impact C&I	Technical Session: Renewable Energy Grid Integration	Technical Session: Resource Assessment: Models and Data	Technical Session: Solar Electricity: Simulations, Hybrid & Specialty Applications
	5:30 - 7:00	Intersolar Official Opening Ceremony <i>(Followed by the ISNA Opening Reception)</i>			
	7:30 - 9:30	ASES Emerging Professionals Reception			
TUESDAY	7:30 - 8:30	ASES Speaker Check-in			
	8:30 - 9:00	Coffee & Tea			
	9:00 - 10:45	Forum: Tapping Solar Potential in Higher Education	Technical Session: Resource Assessment: Forecasting & Remote Sensing	Forum: Solar for All: Expanding Solar Markets	Technical Session: Solar Thermal Technology Advances I
	10:45 - 11:15	30 Minute Break			
	11:15 - 1:00	Plenary Panel: Progress Toward 100% Renewable Energy - Actions In The U.S.			
	1:00 - 2:00	Lunch & ASES Division Meetings			
	2:00 - 3:45	Forum: SANE (Solar Automated Nonstop Elevated) Transportation	Technical Session: Forecasting Applications for Large-Scale PV Operations	Technical Session: Solar Buildings & Architecture II	Technical Session: Solar Thermal Technology Advances II
	3:45 - 4:15	30 Minute Break			
	4:15 - 6:00	Forum: Applicaton of PV-Thermal Systems	Technical Session: Transportation, Sustainability, & Resiliency	Technical Session: Technological Advances in Solar Electricity	Forum: Community Solar II: Solar Market Pathways
	7:00 - 9:30	ASES Fellow's Reception & Gala Awards Banquet			
WEDNESDAY	7:30 - 8:30	ASES Speaker Check-in			
	8:30 - 9:00	Coffee & Tea			
	9:00 - 10:45	Forum: The Great Solar Thermal Debate	Technical Session: The Value of Distributed Solar Resources	Technical Session: Socio-Economics of PV Resiliency	Forum: Community Solar III: Finance
	10:45 - 11:15	30 Minute Break			
	11:15 - 12:15	Plenary Panel: Accelerating Progress Toward 100% Renewable Energy			
	12:30 - 1:45	ASES Annual Membership Meeting			
2:00 - 6:00	ASES Board of Directors Meeting				
THURSDAY	10:00 - 4:00	Intersolar North America Exhibition			

INTER SOLAR AND EES EXHIBITIONS

Interested in connecting with established solar and storage companies? Round off your conference experience with a visit to the exhibitions next door! Your conference registration grants you full access to Intersolar North America and ees North America in West Hall as well as the co-located SEMICON West (North & South Hall). Engage with 18,000 professionals and more than 500 solar & storage exhibitors and take an in-depth look at the industry's hottest topics at our free presentations and events on the show floor!

Price Expo Halls: \$150
(free of charge for conference attendees)

SPECIAL PAVILIONS

CALSEIA'S California Pavilion

Meet CALSEIA member companies at CALSEIA's California Pavilion. For the second year CALSEIA, primary supporter of Intersolar North America, gives its members the opportunity to present their products and services as part of the California Pavilion. Visit CALSEIA's California Pavilion at booth 7144 and 7145, Level 1.



Powerhouse Pavilion

The Powerhouse Pavilion debuts at Intersolar North America 2016! Innovative start-up companies will present their products and show the latest IT trends and solutions. Learn about revolutionary ideas and connect with visionaries in the fields of solar and smart grids. Visit the Powerhouse Pavilion at booth 8421, Level 2.



LOCATION MAP



Moscone – West Hall

Level 1 PV Cells, Modules & Systems
PV Manufacturing Equipment, Materials and Components

Level 2 Balance of Systems
ees North America:
Batteries, Energy Storage Systems, Charging Technologies
electrical energy storage (ees) Stage
E-Mobility
VIP Lounge



Level 3 Components, Mounting & Tracking Systems
Solar Heating & Cooling Technologies
Innovation & Application Stage
Workshop Rooms
Press Center

InterContinental Hotel San Francisco

Level 3–5 Intersolar and ees North America Conference
Level 5 Solar 2016: ASES National Solar Conference

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WORKSHOPS AT MOSCONE CENTER

Tuesday July 12, 2016

10:00am–4:30pm	SHC Alliance Symposium: Solar Heating & Cooling – The Other Solar Technology ROOM 3024	CALSEIA's Contractor Day ROOM 3011
5:00pm	Solar Summerfest (Metreon Rooftop)	

Wednesday July 13, 2016

Track 1: Racking Systems Track 2: Energy Storage

10:15am–12:15pm	Workshop: IronRidge, Inc. ROOM 3024	Workshop: Rolls Battery Engineering ROOM 3011	10:00am–1:00pm	NAATBatt Workshop: Making Money with Storage ROOM 3010
12:45pm–2:45pm	Workshop: Anchor Products ROOM 3024	Workshop: Trojan Battery Company ROOM 3011		
3:00pm–5:00pm	Workshop: SunModo Corp. ROOM 3024	Workshop: sonnen, Inc. ROOM 3011	2:00pm–5:00pm	NAATBatt Workshop: Winners and Losers in the California 1.3 GW Storage Mandate ROOM 3010

Thursday July 14, 2016

Track 3: Inverters Track 2: Energy Storage Track 4: Monitoring

10:15am–12:15pm	Workshop: SolarEdge Technologies Inc. ROOM 3024	Workshop: GS Battery (U.S.A.) Inc. ROOM 3011	10:15am–12:15pm	Workshop: eGauge Systems ROOM 3010
12:45pm–2:45pm	Workshop: Ginlong Technologies (Solis Inverters) ROOM 3024	Workshop: Aqion Energy ROOM 3011	12:45pm–2:45pm	Workshop: Quick Mount PV ROOM 3010

Subject to change

INSTALLATION & PRODUCT WORKSHOPS

NABCEP and Intersolar/ees selected 12 exhibiting companies to offer in-depth technical training workshops and hands-on product workshops. Attendees will earn 2 NABCEP CEUs for each two-hour workshop. These workshops keep you up to speed on the latest technologies and best practices for the design, installation, and maintenance of code-compliant PV and storage systems in four dedicated tracks.

Workshop Quick Facts

Presenter Exhibiting companies in partnership with NABCEP

Location Moscone West, Level 3, Workshop Rooms

Price \$95 per Installation Workshop Package (access to all workshops, exhibition)
\$295 per Installer Advantage Package (access to all workshops, CALSEIA Contractor Day, Solar Summerfest, exhibition)

Workshop participants get 2 CEUs per workshop (max. 10).



INNOVATION & APPLICATION STAGE



TUESDAY, JULY 12, 2016

LEVEL 3, ALCOVE 2

PRESENTATIONS OF THE INTERSOLAR AWARD FINALISTS

- 11:00am** NEXTracker NX Fusion: Solar Plant Component Bundle Incorporating Optimized Technologies for Seamless Solar System Solution
Alex Au, Chief Technology Officer, NEXTracker, U.S.
- 11:15am** Solar-Log 370, Advanced Residential PV Monitoring and Power Management
Anton Kaeslin, President, Solar Data Systems, Inc, U.S.
- 11:30am** HD-Wave Technology: A Leap for Solar Inverters
Lior Handelsman, VP Marketing and Product Strategy, Founder, SolarEdge Technologies INC, Israel
- 11:45am** The World's First Bifacial Smart Solar Module
Surinder S. Bedi, Executive Vice President, Global Quality & Reliability, System Products and Market Development, Sunpreme Inc., U.S.
- 12:00pm** World's Most Powerful Solar Thermal Cooling Plant?
Marlon Rechberger, Chief Executive Officer, Solpal Inc. & Vice President, S.O.L.I.D. California Inc., U.S.



EXHIBITOR PRESENTATIONS

- 12:30pm** Discover why Roof Tech is your Best Choice in PV Mounting System for Asphalt Pitched Roofs
Milton Nogueira, Sr. Business Development Manager, Roof Tech Inc., U.S.
- 1:00pm** Soiling Loss & Cleaning Benefits for Utility Scale PV Power Plants
Dr. Fred Chen, Division Manager, UKC Holdings Corporation, U.S.
- 1:30pm** The Data Access Revolution and What it Means for Your Solar Business
 - Elena Lucas, Co-founder & CEO, UtilityAPI, U.S.
 - Wes Brown, VP of Sales and Operations, UtilityAPI, U.S.
- 2:00pm** Leveraging Home Owner Engagement to Generate Ongoing Sales
Stefan Jarnason, Chief Executive Officer and Co-founder, Solar Analytics, U.S.
- 2:30pm** Reducing Customer Acquisition Costs with Faraday Using Big Data
Robbie Adler, Co-founder & President, Faraday, U.S.
- 3:00pm** Chilicon Power Inversion Systems: Increasing Your Sales with Smart Home Features
Dr. Christopher R. Jones, Co-Founder, Chilicon Power, LLC, U.S.
- 3:30pm** Off-grid Unlimited: Innovations for Commercial Systems
Dr. Huguette Kolb-Aust, Head of Sales Solar Electronics, Steca Elektronik GmbH, Germany
- 4:00pm** Smart Off-grid: Clever Solutions for Rural Electrification
Dr. Huguette Kolb-Aust, Head of Sales Solar Electronics, Steca Elektronik GmbH, Germany

WEDNESDAY, JULY 13, 2016

GERMAN ENERGIEWENDE – STATE OF THE ART AND GREEN CITY INNOVATIONS

- 11:00am** Germany's Climate Protection Plan 2050 and the Role of Renewable Energies. How Germany wants to Achieve the Goal of Reducing CO₂ Emissions by Over 90%
Klaus Mindrup, Member of the German Parliament, Germany
- 11:20am** How the Germans Go Green – Energy-Transition in Germany
Johann Saathoff, Member of the German Parliament, Germany
- 11:40am** Green City Freiburg – How Can a City Contribute to Energy Transition
Dr. Bernd Dallmann, CEO FMMI, Founder European Environment Foundation, Germany
- 12:00pm** Speed Innovation: KUBUS: 5,000 Cells per Hour – How to Maximize Module and Production Efficiency in the Key Process Soldering by Keeping the Supply Chain
Gregor Reddemann, Chief Executive Officer, M10 Industries AG and SI Module GmbH, Germany
- 12:20pm** Innovative Modular Battery System Design – From Small Residential up to MW Applications
Dr. Matthias Vetter, Head of Department PV Off-Grid Solutions and Battery System Technology, Fraunhofer ISE, Germany
- 12:40pm** Panel Discussion with Q&A
Moderated by Kacia Brockman, Renewable Energy, San Francisco Department of the Environment, U.S.



PRESENTATIONS OF VDMA MEMBER COMPANIES

- 1:30pm** Versatile PV Module Laminators for Glass-backsheet and Glass-glass Applications
Helfried Weizerl, President & Chief Executive Officer, Burkle North America, Inc., U.S.
- 2:00pm** Process and Quality Control for Latest Solar Manufacturing Technology
Dr. Eric Rüländ, Managing Director, Isra Vision/GP Solar GmbH, Germany
- 2:30pm** Heterojunction Solar Cell Production
Thomas Künzl, Director Sales & Marketing Solar, Singulus Technologies AG, Germany
- 3:00pm** Stringer Technology and Electrical Conductive Adhesive – A Smart Solution for the Interconnection of Solar Cells
Sven Kramer, Vice President Sales Solar Technology, Teamtechnik Production Technology, Germany



THURSDAY, JULY 14, 2016

PRESENTATIONS OF VDMA MEMBER COMPANIES

- 11:00am** Made-to-order Photovoltaics for Architectural Building Integration
Sylvia Schmenk, Solarnova Deutschland GmbH, Germany
- 11:30am** R2R Technologies for OPV and Perovskite, Coating, Printing and UV Nanoimprint Lithography
Thomas Kolbusch, Vice President, Coatema Coating Machinery GmbH, Germany



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