



## UTILITY SCALE SOLAR TECHNOLOGY FORUM

*September 13, 2010*

7:00 – 8:00 *Networking Breakfast & Registration* sponsored by: Luce Forward

8:00 – 8:15 WELCOME AND INTRODUCTION BY THE FORUM LEADER  
**Maria Sendra**, *Partner*, BAKER & MCKENZIE LLP

8:15 – 9:45 SOLAR PHOTOVOLTAIC TECHNOLOGY PROVIDERS

The solar photovoltaic module represents roughly half the cost of a solar plant, and there are a host of technology and commercial issues around choosing the right module for a project. Technology issues include performance at high temperature, land use, suitability for tracking, and balance of system cost implications. Commercial issues include the financial strength of the manufacturer and warranty terms. During this panel, leading module providers will discuss the best applications of their respective technologies and address the following questions:

- What is your key technology differentiator?
- How have you optimized your technology for utility scale?
- Are you providing a vertical solution or do you have external EPC partners?
- What is the advantage of your EPC approach?
- How are utility scale module warranties evolving – are you offering an annual degradation guarantee?
- Why should buyers be confident that your modules will perform for a 25+ year life span?

Moderator:

**R. Thomas Hoffmann**, *Partner*, BALLARD SPAHR LLP

Panelists:

**Jim Day**, *Director, Sales & Marketing*, TRINA SOLAR

**Leonard Dorr**, *Director, Business Development*, FIRST SOLAR INC

**Jim Shandalov**, *Head, Utility Scale Solar*, BP SOLAR

**Paul M. Wormser**, *Director Engineering, Product Development and System Solutions*, SHARP SOLAR

## 9:30 – 11:00 EMERGING TECHNOLOGY MODULE MANUFACTURERS

There are a number of emerging module companies and technologies vying for utility scale market penetration. What is the relevance of new module technologies as established technologies move down the cost curve? These emerging technologies promise lower costs and may introduce questions of possible technology risk from lenders. What are the pros and cons of these technologies and what market niches must they target to thrive? During this panel, module providers will discuss the best applications of their respective technologies and address the following questions:

- What will it take to reach bankability both technically and commercially?
- What market niches are targeted by emerging technology companies to thrive and reach economies of scale?
- How will emerging technology companies deliver on the promise of lower costs?
- How much further down the Levelized Cost of Energy curve can emerging technologies go?

### Moderator:

**Derek Djeu**, *Engagement Manager*, BLACK & VEATCH

### Panelists:

**Mark Crowley**, *President and CEO*, SOLFOCUS, INC.

**Bruce Dickinson**, *Vice President, Sales*, SOLARIA

**Tim Keating**, *Vice President of Marketing*, SKYLINE SOLAR, INC.

**Matthew Meares**, *Director of Project Finance*, AMONIX

**Rana S. Mookherjee**, *Solar Market Development and Channel Strategies*, APPLIEDMATERIALS, INC.

**Brian Stone**, *Vice President Sales and Marketing*, NANOSOLAR

11:00 – 11:25 *Networking Break*

## 11:25 – 11:55 SOLAR MODULE MARKET OUTLOOK

For buyers facing a broad-based and fragmented solar module supply chain, understanding where the industry is headed is key to good decision-making. What are the near-term prospects and long-term future of the industry? Will prices continue their downward trend? What are intelligent strategies for module procurement? What does this all mean for module buyers? This session will provide an update on the state of the market and an outlook on its future.

### Presenter:

**Paula Mints**, *Director, Energy Practice, Principal Analyst, PV Services Program*, NAVIGANT CONSULTING, Inc.

11:55 – 1:30 *Group Luncheon*

1:30 – 2:50 CONCENTRATED SOLAR THERMAL TECHNOLOGY (CSP) PROVIDERS

Similar to photovoltaics, there are a number of emerging CSP technologies competing for utility scale market acceptance. What are the pros and cons of these technologies and how do company offerings stack up on the benefits they provide? During this panel, providers of parabolic trough, dish and power tower technologies will discuss the best applications of their respective technologies and address the following questions:

- What is your key technology proposition?
- How have you optimized your technology for utility scale?
- What are the latest technical developments and application-related advances?
- How are utility scale module warranties evolving?
- Why should buyers be confident that your technologies will perform for a 25+ years life span?

Moderator:

**Lawrence T. Kass**, *Partner*, MILBANK, TWEED, HADLEY & MCCLOY

Panelists:

**Richard LeBlanc**, *CEO*, SKYFUEL, INC.

**Rachel McMahon**, *Director, Government Affairs - Project Development*, SOLAR MILLENNIUM, LLC

**Andy Taylor**, *Senior Representative*, BRIGHTSOURCE ENERGY

2:50 – 3:20 *Networking Break*

3:20 – 3:50 CASE STUDY: NELLIS AIR FORCE BASE SOLAR POWER SYSTEM

The Nellis Air Force Base Solar Power System offers a unique opportunity to evaluate the operating history of a utility scale PV system. The 14.2 MW system, one of the biggest utility scale PV systems in the world, was completed in December 2007. This case study will provide a briefing on lessons learned to date.

Presenter:

**Mark McLanahan**, *Senior Vice President, Acquisitions*, FRV

3:50 – 5:10 GRID INTEGRATION ISSUES FOR UTILITY SCALE PHOTOVOLTAICS

Solar PV has vaulted into the mainstream, with project size increasing exponentially. California alone has 3,000 MW of PV projects planned for construction in the next few years. Many of these plants are mega-projects, in the 200-500 MW range. The impact of variable generation on the transmission system is not well understood. New rules from WECC and the ISO are forcing developers and manufacturers to find solutions to these significant issues. This session will explore the issues utility scale PV poses, the plans of utilities to manage these issues, and the technologies designed to provide solutions.

Moderator:

**Henry T. Scott**, *Associate*, MILBANK, TWEED, HADLEY & MCCLOY

Panelists:

**Ryan Parsons**, *Renewable Energy, Solar PV, West*, SIEMENS INDUSTRY, INC.

**Markus Priester**, *Technical Sales Support Manager*, SMA AMERICA, LLC

**Eric Seymour**, *Technical Fellow*, ADVANCED ENERGY INDUSTRIES, INC.

5:10 – 5:20 CLOSING REMARKS BY THE FORUM LEADER

**Maria Sendra**, *Partner*, BAKER & MCKENZIE LLP

5: 20 – 6:30 *Summit Reception* sponsored by: ECO SOLARGY