

# SOLAR POWER PROJECT Development & Finance Tutorial

NOVEMBER 13-15, 2007 • IVY HOTEL • SAN DIEGO, CA

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***Learn how you can take advantage of the tremendous opportunities for players at all sectors and levels of the solar industry. Find out how to take full advantage of incentives, subsidies, tax breaks, creative financing, a burst of new technologies, renewable portfolio standards and incipient carbon controls to position yourself in the superheated solar project development market.***

- Learn how solar projects of different types are developed and financed, and understand when the different types of risk structures, deal structures, business models and financing vehicles are appropriate
- Study examples of solar project *pro formas* and contract documents
- Learn how to make the best use of tax credits in combination with subsidies and incentives, and how to avoid the 10 worst mistakes
- Get detailed market and PV supply/demand forecasts
- Hear **3** case studies on the hottest projects in the country: Nellis Air Force Base, the Mojave Solar Park, and Google's Mountain View campus

***PLUS, don't miss the Pre-Conference Workshop:***

**IDENTIFYING INVESTMENT  
OPPORTUNITIES IN THE  
SOLAR PROJECT MARKETPLACE**

Visit [www.infocastinc.com/solardev.html](http://www.infocastinc.com/solardev.html) for the latest Tutorial updates

# Solar Power Project Development & Finance Tutorial

## About the Tutorial

Solar power is at the proverbial “tipping point.” Already hot at 25% annual growth, the combination of state and federal incentives, rebates, and tax breaks, combined with emerging business models such as energy service agreements, are driving exponential market growth for solar projects. The opportunities are attracting intense excitement from entrepreneurs and from both tax-advantaged and other investors.

How do you pinpoint your niche in the solar space? It’s not a “one size fits all” sector, with a cut-and-dried business model. There are different scales and types of projects, contractual structures, and financing mechanisms with which to contend. Technologies, business models and market dynamics are evolving, with aggregators now bringing capital to bear and reducing legal and monitoring expenses for integrators.

The success or failure of solar projects depends not only on getting units installed, but learning how best to financially structure your project.

Infocast’s *Solar Project Development Tutorial* will provide an incisive map of the market opportunities, segments, models and barriers in solar, guiding you through the finance, structuring and development process in a systematic, step-by-step fashion: leading up to case studies of three industry-leading US solar projects. You will acquire the key strategic framework and know-how to play your part. Building on the track-record of Infocast’s long-running project development and finance Tutorials, this seminar gives you face-to-face access to top solar lawyers, consultants, developers and financiers. You can ask them your hardest questions, network with potential partners, customers, investors and suppliers, and come home fully equipped to profit from the solar boom period ahead.

***Don’t miss the Pre-Conference Workshop:***

## **IDENTIFYING INVESTMENT OPPORTUNITIES IN THE SOLAR PROJECT MARKETPLACE**

Tuesday, November 13, 2007 • 1-5 pm

# Solar Power Project Development

**Wednesday, November 14**

*Tutorial Chair:*

**Howard E. Susman**, *Partner*, STOEL RIVES LLP

## **Session One: Fundamentals of the Solar Industry**

*Presentation:*

### **HOW THE SOLAR INDUSTRY WORKS: PROJECT RELATIONSHIPS AND DEAL STRUCTURES**

- Structure of project relationships in the industry
- Solar installers/contractors/integrators (small, medium, large)
- Distributed generation (DG) developers
- Overview of the most common DG deal structures
  - o Ownership
  - o Solar PPA / Services Agreement
  - o Facility Lease

**Howard E. Susman**, *Partner*, STOEL RIVES LLP

*Presentation:*

### **SOLAR TECHNOLOGY—WHAT YOU NEED TO KNOW TO EVALUATE A PROJECT OR DEAL**

- Survey of primary PV suppliers and typical price structures, and sample vendor financing arrangements
- Comparison of efficiencies and total energy yield of various PV systems
- Economic impacts on projects with fixed mounting vs tracking
- Technologies coming over the horizon
- Monitoring system options and relative costs
- O&M costs
- Balance-of-systems and system integration

**Roy Phillips**, *President*, MARIN SOLAR, INC.

*Presentation:*

### **THE PROS AND CONS OF PPA (ENERGY SERVICING) VS. LEASING—WHEN IS EACH APPROPRIATE?**

- Components of structures of PPAs and equipment leases
- T-Legal and contractual issues in PPAs and leases
- Performance and tax risk

**Todd G. Glass**, *Shareholder*, HELLER EHRMAN LLP

*Panel Discussion:*

### **LEASE OR POWER PURCHASE AGREEMENT?**

*Panelists:*

**Jerry Guffey**, *President*, MISSION CAPITAL FUND

**Scott Kuhn**, *National Director of Sales*,  
NATIONAL CITY ENERGY CAPITAL

**William S. Lee**, *Director, Finance*, SUNEDISON

## **Group Luncheon**

*Presentation:*

### **U.S. AND GLOBAL MARKET FOR PHOTOVOLTAIC PRODUCTS TO 2016**

- Raw material issues
- Incentive structures
- Market forecast to 2016
  - o Global (aggregate)
  - o U.S. market
  - o Potential markets outside of California

**Paula Mints**, *Associate Director, Photovoltaic Services Program*,  
NAVIGANT CONSULTING

## **Session Two: Structuring Deals**

*Presentation:*

### **UTILIZING STATE INCENTIVES AND RECs**

- Basic requirements/pitfalls of the Solar Investment Tax Credit
- State incentives for solar energy development
- Solar renewable energy credits (RECs)
- California Solar Initiative

**Stephen C. Hall**, *Partner*, STOEL RIVES LLP

**Lenny Hochschild**, *Director, Environmental Markets*,  
EVOLUTION MARKETS

**Dan Kalafatas**, *President & COO*, 3DEGREES

*Panel Discussion:*

### **ROLE OF EQUITY FINANCING**

- Enterprise Investment
- Project Finance

*Panelists:*

**Ric E. Abel**, *Managing Director*, PRUDENTIAL CAPITAL

**Matthew Meares**, *Structured Finance – Energy*,  
HSH NORDBANK AG

**John G. Ravis**, *Vice President, Project Finance*,  
TD BANKNORTH, N.A.

## Session Two Continued

Panel Discussion:

### ROLE OF DEBT FINANCING

- Project Leasing
- PPA Projects
- Enterprise Finance
- Utility-scale Projects

Moderator:

**Craig M. Kline**, *Partner*, TROUTMAN SANDERS LLP

Panelists:

**Manuel Cabrerizo**, *Director, Global Energy*, WESTLB AG

**Christopher J. Lord**, *Senior Vice President &*

*General Counsel*, HANNON ARMSTRONG CAPITAL LLC

**Chris Stolarski**, *Senior Vice President*,

MIZUHO CORPORATE BANK LTD.

## Networking Reception

Thursday, November 15

## Session Three: Project Development

Presentation:

### MODEL SOLAR PROJECT PRO FORMAS

- Overview
  - Defining the project
  - Modeling the cash flows
  - Analysing the economics
  - Implications for deal structures
- Defining the Project
  - Overview of customer-sited project considerations
  - Parties to the transaction
  - Contractual relationships
  - Cash flows at closing
  - Cash flows over time
- Modeling the Cash Flows
  - Objectives
  - Layout and structure of the model
  - Results
- Analysing the Economics
  - Sensitivity to inputs
  - Sensitivity to PPA structure
  - Sensitivity to regulatory regime
    - California
    - Colorado
    - New Jersey
- Implications for Deal Structures
  - Taxable vs. tax-exempt investors
  - Financial vs. non-financial investors
  - PPA vs. Lease

**Edmond Horsey**, *Principal*, ENSELLE LLC

Presentation:

### NEGOTIATING PROJECT DOCUMENTS

- How deals are structured
  - DG
  - Utility Scale
- Regulatory Issues
- Typical DG Project documents
  - For the host
  - For project finance
- What risks are addressed in which type of deal and how they are allocated
- The key contract terms and conditions to be negotiated

**Pat Boylston**, *Partner*, STOEL RIVES LLP

## REAL WORLD SOLAR DEVELOPMENT & FINANCE CASE STUDIES:

Each case study will provide a detailed analysis of:

- How the deal was structured
- Why it was structured in that fashion
- Unusual challenges that were overcome—and how
- Lessons learned for future projects of this type

*PPA-Based Public Host PV Case Study:*

### NELLIS AIR FORCE BASE, THE LARGEST PV SYSTEM IN THE US:

Through its subsidiary PowerLight, SunPower Corporation supplied 70,000 panels for the Nellis Air Force Base in Nevada for what will be the largest PV solar system in the US. Covering 140 acres, the system generates 30% more power than its standard 15MW rating by using SunPower trackers instead of a fixed ground mounted system. The Air Force buys the energy through a PPA with MMA Renewable Ventures, owners and financiers of the project. Nevada Power Company is also a party to the deal.

**Dan Shugar**, *President, Systems*, SUNPOWER CORPORATION

*Utility-Scale Concentrated Solar Case Study:*

### MOJAVE SOLAR PARK, THE LARGEST PLANNED UTILITY-SCALE PROJECT IN THE US:

PG&E will draw 553mw of power from the Mojave Solar Park project (MSP-1), helping it meet its RPS goal of 20% renewables generation by 2010. Fully operational in 2011, the project will cover 9 square miles, using parabolic mirrors to concentrate solar energy onto Solel's solar thermal receivers. The receivers contain a fluid that is heated and circulated, and the heat is released to generate steam, in turn powering a turbine to produce electricity. Mr. Saul will discuss the development challenges associated with large solar projects like the MSP-1.

**David Saul**, *COO*, SOLEL (invited)

*Private Host PV Case-Study:*

### GOOGLEPLEX: THE LARGEST SINGLE CAMPUS ROOFTOP PV ARRAY PROJECT:

EI Solutions will install PV panels at the Google Mountain View campus, to provide 1.6mw of power, generating 30% of its annual energy needs, and providing a CO2 reduction equivalent to 3.6 million pounds a year. Adapting to an array of oddly-shaped buildings with customized mounting hardware, by using a single type of PV, this array is estimated to pay for itself in 7.5 years, saving Google \$400,000 annually.

**John Sappington**, *Sales Executive*, EI SOLUTIONS, INC.

# Solar Power Project Development & Finance Tutorial

*Pre-Conference Workshop*

## IDENTIFYING INVESTMENT OPPORTUNITIES IN THE SOLAR PROJECT MARKETPLACE

Tuesday, November 13, 2007 • 1-5 pm

### Workshop Agenda

#### WORKSHOP CHAIR

**Howard E. Susman**, *Partner*, STOEL RIVES LLP

#### A BIRD'S EYE VIEW OF THE EVOLUTION OF THE SOLAR PROJECT MARKET, AND SCOPE OF THE OPPORTUNITIES AHEAD

**Howard E. Susman**, *Partner*, STOEL RIVES LLP

#### FINDING YOUR NICHE: TYPES OF OPPORTUNITIES IN THE IN THE SOLAR MARKET

- Types of Players
  - o Contractors/installers/integrators, small to medium-scale
  - o Distributed generation developers
  - o Utility-scale concentrated solar power developers
  - o Equity investors and lenders
  - o Facility owners, institutions, major tenants, and commercial real estate developers
  - o Module vendors (thin film, PV, CSP)
  - o Municipal utilities, coops, larger investor-owned utilities
- The role of equity sources in the solar project market
- The role of solar project aggregators
- Growth investment in existing solar integrators
- Survey of business models and contractual arrangements

**David C. Kirkpatrick**, *Director of New Business Development*, ENXCO

#### U.S. MARKET FORECAST; DRIVERS, BARRIERS, AND HOW DO CUSTOMERS PAY FOR PV?

- U.S. market forecast and key states
- Breakdown of demand by application
  - o Market drivers and barriers
  - o Introduction to incentive structures

- System prices: charging what the market will bear
  - o System prices over time
  - o Breakdown of system prices
- System financing

**Daniel Tomlinson**, *Consultant*, *Photovoltaic Services Program*, NAVIGANT CONSULTING

#### STATE RENEWABLE PORTFOLIO STANDARDS, REBATES AND INCENTIVES UPDATE

- A detailed state by state breakdown of rebates, incentives, tax breaks, with a focus on the California Solar Initiative and New Jersey's Clean Energy Program
- Role of Western States and RGGI carbon regulation
- Mandatory / "compliance market" and voluntary RECs

**Craig M. Kline**, *Partner*, TROUTMAN SANDERS LLP

#### INVESTMENT TAX CREDITS – AVOIDING THE TOP 10 TAX MISTAKES

- Learn the requirements to qualify for the Solar ITC in an entertaining format
- Understand and avoid the Power Purchase Agreement pitfalls that could result in the disallowance of the Solar ITC
- Understand and avoid deal structures that could result in the disallowance of the Solar ITC and harm accelerated depreciation
- Learn how to structure deals that are attractive to equity investors from a tax perspective
- Avoid reduction in Solar ITC due to receipt of certain state incentives

**Laura Jones**, *Partner*, *Tax & ERISA Practice*, HUNTON & WILLIAMS LLP

## FIVE EASY WAYS TO REGISTER

**One: CALL**  
**(818) 888-4444**

**Two: FAX**  
**(818) 888-4440**

**Three: E-MAIL**  
**mail@infocastinc.com**

**Four: MAIL**  
**INFOCAST**  
**6800 Owensmouth Ave., Suite 300**  
**Canoga Park, CA 91303**

**Five: WEB SITE**  
**http://www.infocastinc.com/  
solardev.html**

TUITION:	Standard	Facility & Energy Purchasing Government / Non-Profit
The Tutorial: (Nov. 14-15, 2007) Solar Power Project Development & Finance	\$1,495.00	\$975.00
The Workshop: (Nov. 13, 2007) Identifying Investment Opportunities in the Solar Project Marketplace	\$595.00	\$395.00

### DISCOUNTS:

- Facility and Energy Purchasing Managers, Non-profit and Government Employees (see above)
- Team Discount for teams of three or more from the same organization, the third and subsequent registrants qualify for a 50% discount (applies to full-price standard registrants only).

Please note: No discounts can be combined. Discounts are subject to verification and approval.

**VENUE:** Infocast has secured a limited number of rooms at the Ivy Hotel in the San Diego Gas Lamp District which will be held until Sunday, October 21, 2007. To receive the special rate of \$299.00, call (877) 489-4489, and mention that you are an Infocast Solar Power Tutorial registrant. The hotel is located at 600 F Street, San Diego, CA 92101.

**CONTINUING EDUCATION CREDITS:** Infocast certifies that this activity has been approved for Continuing Education credit by the State of California in the amount of 10.5 hours for the Tutorial and an additional 3.5 hours respectively for the Workshop. Continuing Education credit hours are subject to change.

**CANCELLATION, REFUNDS & CREDITS:** Should you be unable to attend, a refund, less a \$195 administrative charge, will be made for cancellations received via letter or fax at least 10 working days before the event. We will be pleased to transfer your registration to another member of your company, or credit the registration fee to another Infocast conference if you register within 6 months from the date of this conference. In the event the conference is canceled, Infocast's liability is limited to the refund of the conference registration fee only.

### REGISTRATION FORM:

Please make checks payable to "Infocast"

## SOLAR POWER PROJECT DEVELOPMENT & FINANCE TUTORIAL

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**Please check one or more of the following:**

- I would like to take advantage of the team discount (see left)
- I can't attend, but put me on your mailing list for future programs

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The Workshop: (November 13, 2007)	\$595.00	\$395.00	
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