

Strafford

---

*Presenting a live 90-minute webinar with interactive Q&A*

# Renewable Energy: EPC Agreements in Solar Energy Projects

Negotiating and Structuring Engineering, Procurement and Construction Agreements

---

THURSDAY, JUNE 2, 2011

1pm Eastern | 12pm Central | 11am Mountain | 10am Pacific

---

Today's faculty features:

Richard E. Thompson, II, Managing Principal, Mercer Thompson, Atlanta

David P. Hattery, Partner, Stoel Rives, Seattle

John T. W. Mercer, Partner, Mercer Thompson, Atlanta

---

The audio portion of the conference may be accessed via the telephone or by using your computer's speakers. Please refer to the instructions emailed to registrants for additional information. If you have any questions, please contact Customer Service at 1-800-926-7926 ext. 10.

## *Continuing Education Credits*

FOR LIVE EVENT ONLY

---

For CLE purposes, please let us know how many people are listening at your location by completing each of the following steps:

- In the chat box, type (1) your **company name** and (2) the **number of attendees at your location**
- Click the word balloon button to send

## *Tips for Optimal Quality*

---

### *Sound Quality*

If you are listening via your computer speakers, please note that the quality of your sound will vary depending on the speed and quality of your internet connection.

If the sound quality is not satisfactory and you are listening via your computer speakers, you may listen via the phone: dial 1-866-258-2056 and enter your PIN when prompted. Otherwise, please send us a chat or e-mail [sound@straffordpub.com](mailto:sound@straffordpub.com) immediately so we can address the problem.

If you dialed in and have any difficulties during the call, press \*0 for assistance.

### *Viewing Quality*

To maximize your screen, press the F11 key on your keyboard. To exit full screen, press the F11 key again.



# **UTILITY SCALE PV SOLAR EPC AGREEMENTS (FROM THE DEVELOPER'S PERSPECTIVE)**

**JUNE 2, 2011**

## **PRESENTED BY:**

**Richard E. Thompson II**

**MERCER THOMPSON LLC**

**191 Peachtree Street, NE**

**Suite 4410**

**Atlanta, Georgia 30303**

**404.577.4204**

**[rethompson@mercერთompson.com](mailto:rethompson@mercერთompson.com)**

**[www.mercერთompson.com](http://www.mercერთompson.com)**

# PRESENTER'S BACKGROUND



## **Richard “Chip” Thompson**

Co-Founder, **Mercer Thompson LLC** - a boutique transactional law firm serving the electric power industry (2009)

University of Florida (J.D. 1995, with honors)

University of Virginia (B.A. 1992, with distinction)

For over 15 years, Mr. Thompson has served as lead counsel for multiple utilities and IPPs in connection with their development of electric power assets on a worldwide basis, including utility scale solar PV and CSP projects.

**MERCER THOMPSON LLC**



## **UTILITY SCALE PV SOLAR : RECENT DEVELOPMENTS**

- **Multiple players involved in development of 30+MW facilities with a “utility” as the dedicated offtaker**
- **Solar panel manufacturers have moved toward vertical integration, as a strategy for gaining panel market share**
- **IPPs have moved into the space, leveraging their project development and finance expertise**

# UTILITY SCALE PV SOLAR : RECENT DEVELOPMENTS

## **Recent Developments with IPPs (David will talk about Panel Makers):**

- **(August 2010): LS Power signs PPAs for 175 MW of PV solar with San Diego Gas & Electric**
- **(December 2010): NRG Solar to Buy First Solar's 290 MW Agua Caliente PV Solar Plant, with 25-year PPA with Pacific Gas & Electric**
- **(February 2011): AES acquires California-based 709MW Tessera solar project, with plans to convert same from CSP to PV, with 300 MW PPA with SDG&E**
- **(March 2011): Tenaska Solar Ventures signs 25 year, 150 MW solar PPA with SDG&E**



## **UTILITY SCALE PV SOLAR : RECENT DEVELOPMENTS**

### **Recent Developments with IPPs (David will talk about Panel Makers):**

- **(March 2011): Nevada Power and Fotowatio sign 25 year PPA for a 37.5 MW PV solar plant in Nevada**
- **(March 2011): Nevada Power and NextEra sign 25 year PPA for a 20 MW PV solar plant in Nevada**
- **(May 2011): DOE conditionally commits to a \$90.6 million loan guarantee to Cogentrix, for a 30 MW PV plant in Colorado**





# CONTRACT STRUCTURE ISSUES

- **Panel Suppliers vs. Installation Contractors**
  - Multi-Prime Contract Structure Model
  - vs.
  - Turnkey EPC Contract Model

# CONTRACT STRUCTURE ISSUES

- **Panel Suppliers vs. Installation Contractors**
  - Multi-Prime Contract Structure Model
    - Common in (Project Financed) Wind Projects
    - Panel Suppliers' Strength = Panels
    - Installation Contractors' Strength = Construction
    - "Gaps" Not Ideal for the Owner Risk Allocation
      - Scope Gap/Technology Gap/Schedule Gap
    - Two Contracts require more hands-on Owner administration

# CONTRACT STRUCTURE ISSUES

- **Panel Suppliers vs. Installation Contractors**
  - Turnkey EPC Contract
    - One Point of Responsibility for Scope, Schedule and Technology (can eliminate most gaps)
    - Easier for Owner to administer
  - However, Important to Note:
    - Question as to Strength of Panel Supplier's Construction Skills
    - Panel and Inverter Defect Warranties often passed through from manufacturer
      - (not “wrapped” by EPC Contractor, per se)
    - Risk shift to Contractor brings price increase



# CONTRACT STRUCTURE ISSUES

- **Panel Suppliers vs. Installation Contractors**
  - Our focus for this presentation: LSTK EPC
    - Appears to be the more common approach, currently
    - Concepts to be discussed apply, regardless of contract structure

# CONTRACT STRUCTURE ISSUES

- **Panel Suppliers vs. Installation Contractors**
  - Strategies for Addressing Cost Increase Issues:
    - Full RFP to all potential turnkey contractors
    - Open Book/Closed Book EPC Approach
      - Useful when significant Project front end engineering and design (FEED) is required to establish project costs
      - Approach involves completion of FEED under the EPC Agreement on an “open book” basis, with books “closed” to true LSTK pricing/scope/schedule at a given point



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Unique Issues in Utility Scale Solar PV EPC Contracts**



## **SOLAR PV EPCs: UNIQUE ISSUES**

- **Main Topics to be Discussed  
(as examples of unique issues):**
  - Interface with PPAs and Land Leases
  - Multi-Phase Start-Up and Testing Issues
  - Performance Guarantees
  - Defect Warranties
  - Interface with ARRA Cash Grant Incentives



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Interface with PPAs and Land Leases**






# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Interfaces with Power Purchase Agreements**

- **EPCs Often Need Customization to Dovetail to PPA**
- **PPAs can/will dictate**
  - Schedule for Initial Commercial Operations
  - Penalties for Delayed Commercial Operations
  - Phases of Completion
  - Requirements and Standards of Work
  - Monthly Reporting Requirements
  - Unique Force Majeure Requirements and Concepts



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Interfaces with Land Lease Requirements**

- **Land Leases can/will dictate**
  - Special payment bonding requirements (for lien avoidance)
  - Special issues regarding pre-existing hazardous materials
  - Push-through indemnification requirements
  - If BLM Land involved (ROW Grant), potential push-through requirements regarding environmental safeguards and archaeological protection requirements
- **EPCs Often Need Customization to Dovetail to Land Lease/ROW Grants**

# SOLAR PV EPCs: UNIQUE ISSUES

## Multi-Phase Start-Up and Testing Issues



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Multi-Phase Start-Up and Testing Issues**

- **In Utility-Scale Projects, “Material” Phases of Modules will “go online” when exposed to sunlight (and can generate power once connected to inverter, etc.)**
  - PPA may/may not incentivize or mandate phased completion
  - Switchyard and transmission must be in place
  - “Phases” of Panels can then come online

# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Multi-Phase Start-Up and Testing Issues**

### **Key Contractual Considerations:**

- How does one define a “Phase” of Panels/Modules?
  - By a stated value of expected MWs, regardless of physical location?
  - By physically delineated rows?
- How does one structure testing and guarantees of each Phase vs. Facility as a whole?
- Are LDs attached to each Phase’s delay?
- How does one address transfer of care, custody and control?
- What becomes of the warranty “start date”?



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Performance Guarantees**



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Performance Guarantees**

### **Typical EPC Norms:**

- **Demonstrated Success of Performance Guarantees a Condition to Substantial Completion (aka: Commercial Operation)**
  - Output Tests/Performance Guarantees
  - Reliability Tests/Guarantees
  - Must-Make Obligations



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Performance Guarantees**

### **Solar PV EPC Norms**

- **Demonstrated Success of Performance Guarantees a Condition to Substantial Completion, but:**
  - Testing is only an (adjusted) snapshot of capacity and reliability
  - Long-term capabilities over varying conditions are still unproven





# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Performance Guarantees**

### **Solar PV EPC Norms**

- **“Saving Grace” is the *Extended Performance Guarantees* typically found in the O&M Contract**
  - Annual (or other time period) guarantee of generated mWh
  - Bonuses/Liquidated Damages
  - Limitations of Liability
  - Must-make obligations; Panel Additions (assuming available land)
  - Calculation standards/adjustments vary



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Defect Warranties**

# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Defect Warranties**

### **Typical EPC Norms:**

- **Post-Substantial Completion Defect Warranty of 1-2 Years**

### **Solar PV EPC Norms**

- **Post-Substantial Completion Defect Warranties can differ by component**
  - Up to 25 year panel warranty
  - Up to 10 year inverter warranty
  - 1-2 year “balance of plant” warranty



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Defect Warranties**

### **Solar PV EPC Norms**

#### **■ Panel Warranties**

- Often come directly from OEM
- Are not typically negotiable
- Typically contain terms materially favoring the OEM
  - “Send old one and pick up new one”
  - Broad warranty conditions
- Raise issues of OEM long-term financial stability



# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Interface with ARRA Cash Grant Incentives**



# SOLAR PV EPCs: UNIQUE ISSUES

## Interface with ARRA Cash Grant Incentives

### §1603 Treasury Cash Grants in Lieu of Tax Credits (Basics)

- §1603 of ARRA: solar project developers can choose a cash grant in lieu of the investment tax credit.
- The tax credit for solar projects is 30% of the expenditures.
- Treasury grants are available to eligible property:
  - placed in service in 2011, or
  - placed in service after 2011 (but before January 1, 2017) but only if **construction of the property commenced** during 2011



# SOLAR PV EPCs: UNIQUE ISSUES

## Interface with ARRA Cash Grant Incentives

### § 1603 Treasury Cash Grants in Lieu of Tax Credits

- “Commencement of Construction”
  - “**physical work of a significant nature**”: includes
    - certain physical work on the specified energy property at the site
    - physical work that has taken place offsite under **a binding written contract for the manufacture, construction, or production of specified energy property for use by the applicant’s facility [i.e., EPC Contract]**, provided the contract is entered into prior to the work taking place
  - **5% Safe Harbor**: At least 5% of the project costs must have been “*paid or incurred*” prior to December 31, 2011.

# SOLAR PV EPCs: UNIQUE ISSUES

## Interface with ARRA Cash Grant Incentives

### § 1603 Treasury Cash Grants in Lieu of Tax Credits

- **5% Safe Harbor:** 5% of the project costs “*paid or incurred*” by December 31, 2011.
- “*Paid or incurred*” analysis can be complicated, as it can include:
  - funds spent by the EPC Contractor in performing engineering or design work in 2011
  - funds spent on property received by the Owner, or toward property that the Owner “reasonably expects to receive within 3½ months from the date of payment”
  - \*Existing inventory of EPC Contractor solar panels won’t count toward the 5% spend requirement – EPC Contractor must provide a certification regarding costs incurred after the EPC Contract is entered





# **SOLAR PV EPCs: UNIQUE ISSUES**

## **Interface with ARRA Cash Grant Incentives**

### **§ 1603 Treasury Cash Grants in Lieu of Tax Credits**

- **Practical Impact on EPC Contracts:** Owner must be able to demonstrate what was “spent” toward 5% safe harbor rule. This can, for example:
  - impact payment schedule and result in more detailed and unusual provisions connecting Owner payments to Contractor internal activities (including Contractor certification of internal or downstream spend)
  - result in provisions requiring completion and/or delivery of solar panels in time to satisfy the 3½ month rule
  - impact “Transfer of Title” provisions, given that this can be one of the elements for measuring whether a cost was “incurred” as regards payment for a good received (or to be received)



**THANK YOU!**



# **UTILITY SCALE PV SOLAR EPC AGREEMENTS (FROM THE DEVELOPER'S PERSPECTIVE)**

**JUNE 2, 2011**

**PRESENTED BY:**

**Richard E. Thompson II  
MERCER THOMPSON LLC**

**191 Peachtree Street, NE  
Suite 4410**

**Atlanta, Georgia 30303**

**404.577.4204**

**[rethompson@mercerthompson.com](mailto:rethompson@mercerthompson.com)**

**[www.mercerthompson.com](http://www.mercerthompson.com)**



# Utility Scale PV Solar EPC Agreements Panel Suppliers and Contractors



**WEBINAR**



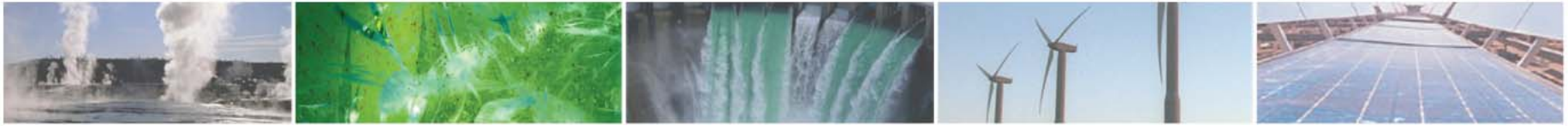
## David P. Hattery

Partner

Seattle, WA

(206) 386-7528

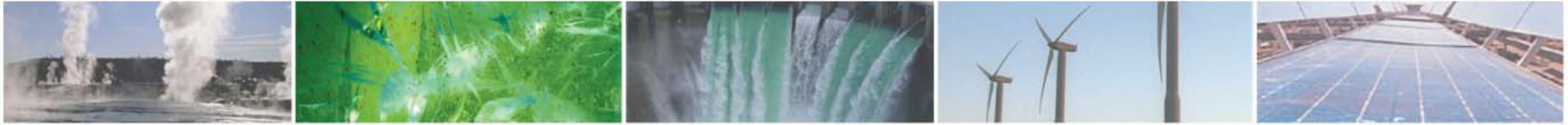
[dphattery@stoel.com](mailto:dphattery@stoel.com)



# Synopsis

---

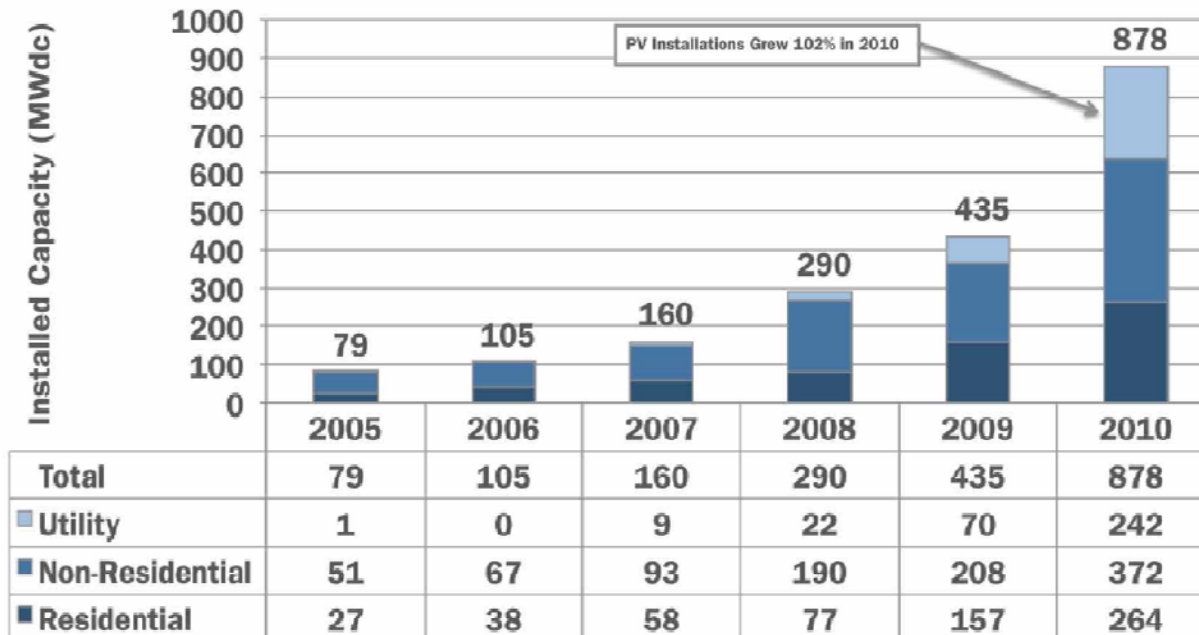
- The current state of the utility scale solar energy project construction market is very busy and is somewhat chaotic. There are a number of well-positioned panel suppliers and qualified contractors operating under a variety of business models.
- This webinar will discuss some of the legal challenges for EPC contractors seeking opportunities in this marketplace.

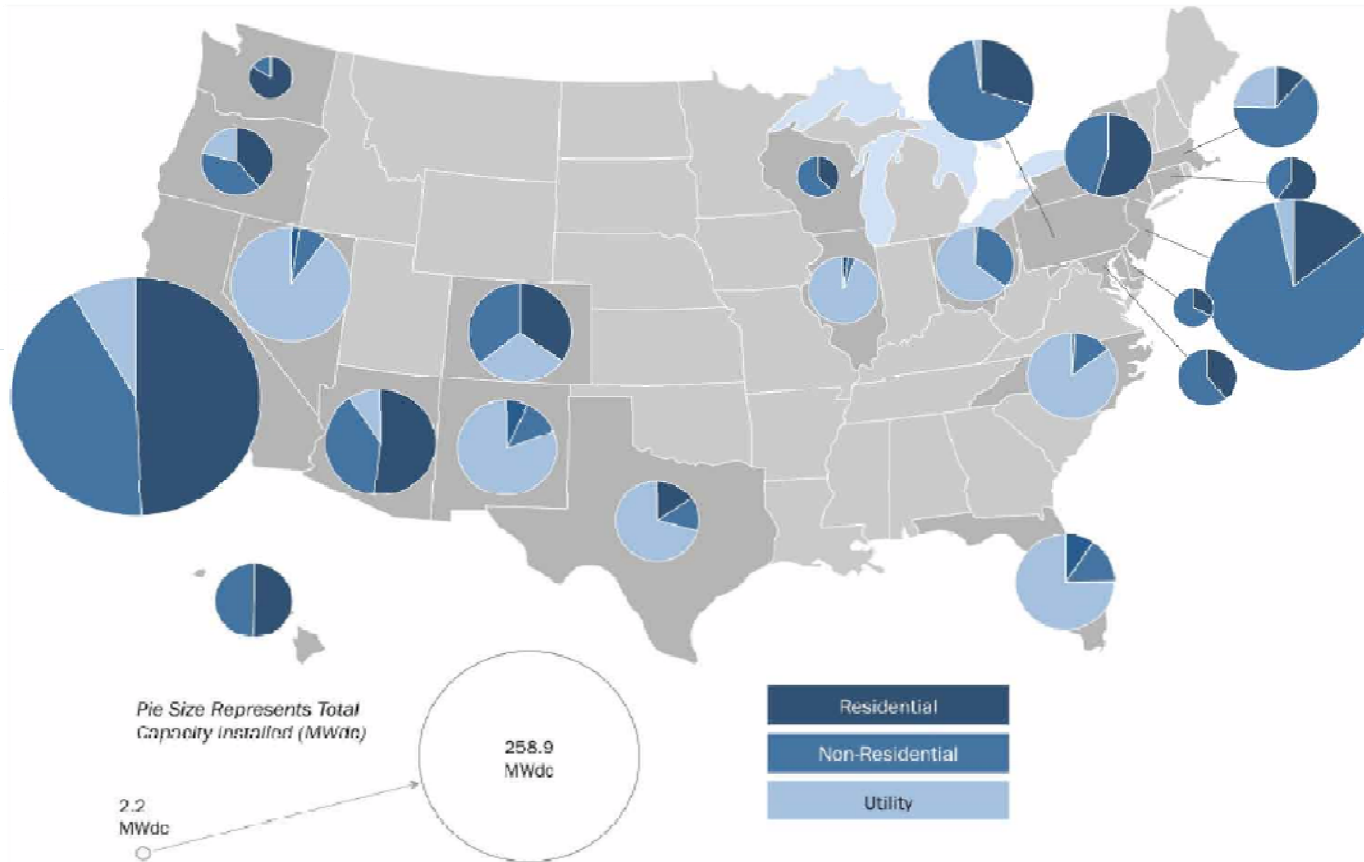


# Explosive Growth in the Market

- The U.S. solar energy industry's total market value grew **67 percent** from \$3.6 billion in 2009 to \$6.0 billion in 2010. (Solar Energy Industries Association).

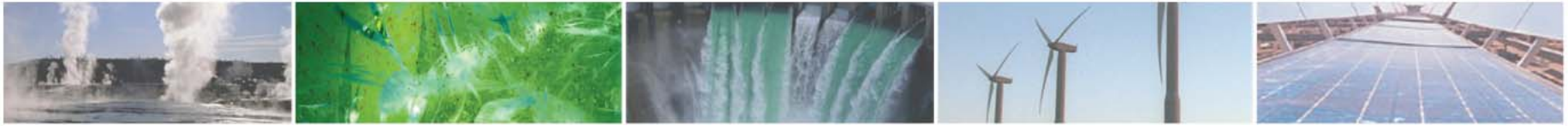
Annual PV Installed Capacity by Market Segment, 2005-2010





The top 10 states for PV installation in 2010 were: California, New Jersey, Nevada, Arizona, Colorado, Pennsylvania, New Mexico, Florida, North Carolina and Texas.





## Recent Project Examples

- On May 19, SolarReserve announced DOE approval of a \$737 million loan guarantee for a **110 MW** solar-thermal project near Tonopah, Nevada.
- San Diego Gas & Electric signed two long-term power purchase agreements with Soitec Solar Development for **125 MW** of CPV to be built in San Diego County.
- On May 10, The DOE announced a conditional commitment on a \$90.6 million loan guarantee to Cogentrix of Alamosa LLC, for a **30 MW** solar power plant in Colorado.
- On May 10, First Solar Inc. announced a joint venture with state-owned China Power New Energy Development Co. Ltd., to develop solar photovoltaic projects in China.
- On April 19, SunPower won approval to build a **250-MW** solar photovoltaic project in the Carrizo Plain in central California, about 50 miles inland from the Pacific Coast.
- On April 18, The DOE announced a condition loan guarantee to support **two 242-MW** concentrated solar thermal power plants proposed by Solar Trust of America.
- On April 15, BrightSource Energy closed financing for its \$2.2 billion, **392 MW** Ivanpah concentrating solar facility in the Mojave Desert.



## Recent Project Examples

- On April 14, The DOE approved a \$1.187 billion conditional loan guarantee to help finance SunPower's **250 MW** solar PV power complex in San Luis Obispo, California.
- On April 7, BP Alternative Energy announced that it plans to invest \$2 billion in renewable energy resources in 2011, including wind, biofuels, solar, and storage technologies.
- In March, Nevada Power applied at the Public Utilities Commission of Nevada for approval of
  - (1) a 25-year non-firm PPA with Fotowatio Renewable Ventures for a **30 MW** photovoltaic system (\$121.75/MWh with a 1 percent escalator) and
  - (2) a 25-year non-firm PPA with NextEra Energy Resources for a **20 MW** photovoltaic system (\$117.50/MWh with a 1 percent escalator).
- In March, San Diego Gas & Electric announced it signed a 25-year contract with Tenaska Solar Ventures for **150 MW** of energy from the Imperial Valley Solar Energy Center, to be located in El Centro, California using Soitec's concentrated PV technology.



## Vertically Integrated Suppliers and Installers

- **SunPower** – SunPower manufactures, installs and guarantees performance of utility scale projects using its high efficiency solar panels. A recently announced friendly tender offer from Total Group , a French energy company, is expected to provide up to \$1 billion in credit support.
- **SunEdison/MEMC** –SunEdison offers turnkey solutions throughout the market, including PPA financed utility scale projects.
- **First Solar** – First Solar manufactures proprietary thin film solar modules and provides comprehensive PV system solutions. First Solar works with a select group of project developers and integrators.
- **Suntech** - Suntech owns and operate projects greater than 10 MW in the United States through Gemini Solar Development Company, a joint venture with MMA Renewable Ventures. With regional headquarters in China, Switzerland and the United States and sales offices worldwide, Suntech offers patented crystalline silicon based technology.
- **Recurrent Energy /Sharp**– As the primary solar project development company for Sharp Corp., Recurrent Energy develops, builds, finances and operates projects across North America. Recurrent has a 2 GW project pipeline and 400 MW of contracted projects in the US.



## Some of the EPC Contractors

---

- Mortenson
- Bechtel
- Fluor
- Kiewit Power
- Many, many more

Each have evolving relationships with OEMs

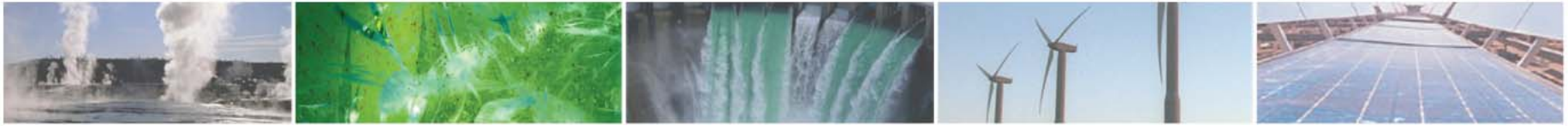


# Construction Contracts for Solar Projects

## A Very Brief History

---

- Initially Installation Agreement + Module Supply
  - Small installers
  - Limited or no project financing
  - Modules >80% of project cost
- Currently Trending EPC
  - Larger installers
  - Increased project financing
  - Increased utility involvement
  - Reduced module cost
  - Increased comfort with system performance
- Status Quo: Flux



# Construction Contract Options

---

- Pure EPC
  - “Turn-key” lump-sum, guaranteed price, schedule and performance
  - Design build flexibility/risk on EPC Contractor
  - Traditional model in financed energy facility market.
- Design/Bid/Build
  - Owner’s engineer designs, low bid contractor
  - Typically no performance guarantees or warranty other than OEM warranty
- Equipment Supply/Balance of Plant/O&M (Wind Model)
  - Owner buys equipment directly with Supply Agreement
  - EPC erects equipment and performs electrical and civil
- PPA Financing
  - Contractor finances, designs, builds, owns and operates
  - Offtaker pays PPA price for electrical output



# Construction Contract Structures

---

- Which is best?
  - EPC is rigid, loads risk on contractor, resulting in high prices, but low risk to owner and lender.
  - Design/bid/build is slow, cumbersome for fairly simple project, non-traditional for energy projects. May award the low bidder, not necessarily the best bidder.
  - Bifurcated Wind Model is fractured, creates multiple hand-off points, may not be necessary with many panel suppliers.
  - PPA financing is complex, requires broad role for contractor/owner.

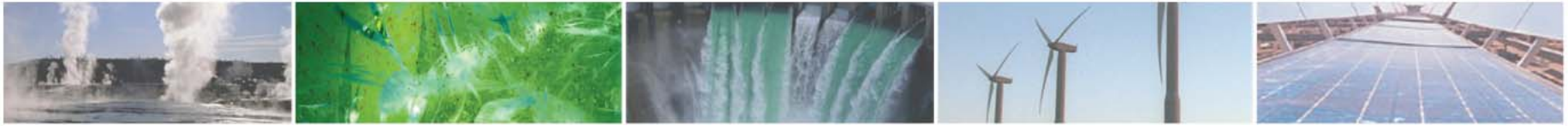


# EPC Guarantees

---

- **PRICE - Fixed Price with limited opportunity for change orders**
  - Differing Site Conditions
  - Force Majeure
  - Owner Delay and Interference
- **SCHEDULE - Guaranteed Substantial Completion Date**
  - LDs need to be commercially reasonable, with appropriate caps
  - Relief for Owner's failure to provide interconnection, etc.



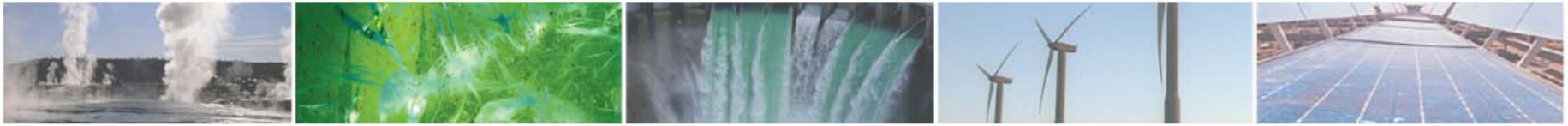


# EPC Guarantees

---

- **Long Term PERFORMANCE Guarantees**
  - Based on Actual Output
    - Reference Conditions - Insolation (solar irradiance), temperature, wind speed, typically at the low side of step up transformer
    - Test Conditions – must have specified irradiance over several days
  - Remedy
    - Pay shortfall in output compared to guaranteed value, subject to terms of guarantee (uncertainty, adjustment to reference conditions)
    - May allow Guarantor to install additional capacity

Testing standards are evolving with technology

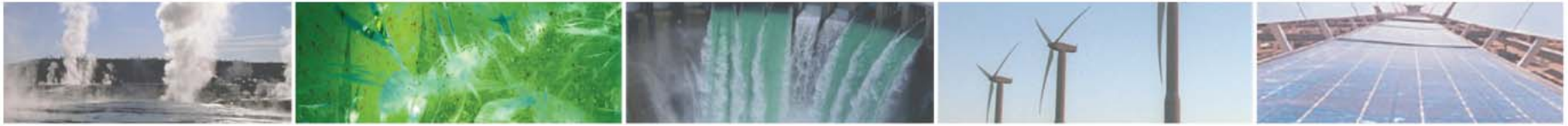


# Equipment Purchasing Issues

---

- **Milestone Payment Schedule**

- Needs to cover anticipated cash flow for module manufacturing/procurement
- Termination liability must cover equipment cancellation costs
- Projects have relatively short duration
- Lesser retention justified by high percentage of equipment costs



# Warranty Issues

---

1. Full Wrap Warranty – OR
2. Pass-through of OEM Warranty (“Unwrapped”)
  - Direct relationship between Owner and Manufacturer
    - May offer “Parts Only” coverage– no removal or installation costs
    - May exclude improper installation, “application” or modifications by other than OEM
    - Output –
      - » often have a built-in performance degradation
      - » May offer a percentage refund based on output shortfall
    - Variable Duration – may extend to 20 years



# Operating and Maintaining

---

- **Typically a Requirement for a Performance Guarantee**
  - Mixture of Fixed Fees for scheduled maintenance and Variable Fees on T&M basis for additional services
  - Annual Budgetary Controls
- **May include Performance based Incentives**
  - Productivity
  - Multi-Factor Analysis
  - Blending of Fixed Annual Fees and Variable Annual Fees
- **Long-Term Relationship**



To order any of these books please contact  
Angel Giovannone at (503) 294-9422 or [amgiovannone@stoel.com](mailto:amgiovannone@stoel.com)

**STOEL RIVES LLP**  
ATTORNEYS AT LAW

**We wrote the book on renewable energy law...**


*...in fact, we've written eight of them, plus a blog and a wiki:*  
[www.lawofrenewableenergy.com](http://www.lawofrenewableenergy.com)    [www.lawofalgae.com](http://www.lawofalgae.com)

*Alaska California Idaho Minnesota Oregon Utah Washington*



Stoel Rives is pleased to announce that it has received a *national ranking* for its **Renewables and Alternative Energy practice**, an honor reserved for very few law firms across the country.

*Chambers USA: America's Leading Lawyers for Business* annual rankings are a result of extensive independent research conducted among in-house counsel, corporate executives and leading attorneys.



# UTILITY SCALE PV SOLAR EPC AGREEMENTS (FROM THE LENDERS' PERSPECTIVE)

JUNE 2, 2011

PRESENTED BY:

**John T. W. Mercer**

**MERCER THOMPSON LLC**

191 Peachtree Street, NE

Suite 4410

Atlanta, Georgia 30303

404.577.4201

[jtw Mercer@merc erthompson.com](mailto:jtw Mercer@merc erthompson.com)

[www.mercerthompson.com](http://www.mercerthompson.com)

IRS Circular 230 disclosure: To ensure compliance with requirements imposed by the IRS, we inform you that any tax advice that may be contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding any penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any transaction(s) or tax-related matter(s) that may be addressed herein .

Copyright 2011 John T. W. Mercer. All rights reserved.



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## **PV Project Finance Debt Market**

- **Lenders are active but very selective**
  - led by European banks
  - lead arrangers vs. underwriting
- **Continued flight to “quality” projects**
  - brand-name sponsors
  - tightly structured transactions – material (and most immaterial) risks are covered off by creditworthy parties/credit enhancement
  - proven technology
  - creditworthy, well-structured offtakes (no merchant deals)
  - conservative financing model assumptions





# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## PV Project Finance Debt Market (cont'd)

- **Tenors lengthening (up to 20 years for best solar projects)**
- **Pricing still robust (275-400 over LIBOR including periodic step-ups; 300 bps upfront for structuring and lead arranger)**
- **Cash grant continues to be key component of financing; may be leveraged**



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## PV Project Finance Debt Market (cont'd)

- **DOE loan guaranty program**
  - multiple programs: Section 1703 for innovative technology and Section 1705 for conventional technology renewable projects
  - some success to date for renewables
  - section 1705 program sunsets September 30, 2011 – program closed to new entrants
  - highly unlikely to be extended in present form
  - possibility of future solicitations for Section 1703 projects
  - underwriting criteria at least as rigorous as private market



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## Project Finance Debt Structure

- **Project Company – SPV or holding company of multiple SPVs (LLC or LP)**
  - Sometimes bankruptcy remote
- **Limited or no recourse to sponsors**
  - Exception: PTC monetization structure
  - Exception: Cash grant indemnity for disqualifying transfers
  - Exception: Cash grant bridge loan guaranties
- **Security for Lenders**
  - All assets of project company (including contract rights)
  - Pledge of ownership interests in project company
- **Disbursement Waterfall**
  - All revenues collected in collateral account and disbursed in specified order of priority: expenses, debt, equity



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## Tax Equity Structures

- **Use of “Partnership Flip” and ITC Sale-Leaseback tax equity structures will not affect requisite risk allocation and creditworthiness requirements for EPC risks**



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## Critical EPC/Project Financing Issues

- **Technology**
  - “proven” technology
  - supportable by IE report
  - creditworthy warranty
    - often backstopped by L/C or other security
  - warranty terms
    - warranty covers defects, availability, power curve
  - micro siting and ambient conditions can be critical



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## Critical EPC/Project Financing Issues

- **Structure of EPC arrangements**
  - **in current market, if project finance is to be used, all significant EPC risks must be allocated and covered off by some combination of creditworthy EPC, OEM and sponsor parties**
- **Construction Financing**
  - **available in current market  
minimum equity requirements**



# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## Critical EPC/Project Financing Issues

- **Construction Financing (cont'd)**
  - **short construction period**
    - **many larger sponsors finance construction on balance sheet**
  - **no EPC structure**
    - **equipment supplier – critical**
    - **BOP contractor**
      - often not a “brand name”




# UTILITY SCALE PV SOLAR : LENDER'S PERSPECTIVE

## Critical EPC/Project Financing Issues

- **Other Issues**
  - **“sizing” project vs. construction phasing-in**
    - **needs to be coordinated with underlying contracts regarding damages, COD definition, etc.**





# UTILITY SCALE PV SOLAR EPC AGREEMENTS (FROM THE LENDERS' PERSPECTIVE)

JUNE 2, 2011

PRESENTED BY:

John T. W. Mercer

MERCER THOMPSON LLC

191 Peachtree Street, NE

Suite 4410

Atlanta, Georgia 30303

404.577.4201

[jtw Mercer@merc erthompson.com](mailto:jtw Mercer@merc erthompson.com)

[www.mercerthompson.com](http://www.mercerthompson.com)

IRS Circular 230 disclosure: To ensure compliance with requirements imposed by the IRS, we inform you that any tax advice that may be contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding any penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any transaction(s) or tax-related matter(s) that may be addressed herein .

Copyright 2011 John T. W. Mercer. All rights reserved.

# MERCER THOMPSON LLC



**MERCER THOMPSON LLC** is a focused boutique law firm that provides top-tier transactional legal services to companies in the electric power industry. We are recognized by the publishers of the American Lawyer as a “Go-To Law Firm” for the companies that make up the Fortune 500 in the practice areas of corporate finance, M&A and corporate transactions; by Chambers USA as one of America's Leading Law Firms in the practice area of Energy; and our lawyers are recognized by publications such as Chambers USA and Best Lawyers in America as leaders in the practice areas of Energy and Project Finance. Founded by former partners of a major international law firm, our "diamond-shaped" structure provides clients with direct access to partner-level attorneys who have, for our entire careers, represented electric power and project companies in their most important transactions. We are particularly focused on clean technology and renewable energy projects, as well as nuclear energy, conventional fossil-fuel and transmission projects. Our legal expertise includes project finance and development, Department of Energy loan guarantees for qualifying energy projects, corporate and capital markets finance, as well as mergers, sales, acquisitions and joint ventures of power companies and projects.

**191 Peachtree Street, NE  
Atlanta, Georgia 30303**

**404.577.4200**

**[www.mercerthompson.com](http://www.mercerthompson.com)**

