

# Summary / Overview for Special Session on Project Financing Evolving a More Robust Project Financing Model for Clean Energy

## Session Organizers / Developers:

*Michael Ware – Managing Director – Black Emerald Capital LLC*

*Tony Lent – Co-founder – EA Capital, LLC*

*Dan Goldman – Managing Partner – New Energy Capital*

*Mauri Miller- Principal and CEO – Entegrity Partners, LP*

*Lawrence M. (Marty) Murphy – Forum Chairman - NREL*

**Session Focus:** This important session, led by project financing experts from the public and private sectors, explores today's evolving project financing landscape and the corresponding changing risk structure. For example, the power industry has already moved away from the classical IPP and the early merchant plant finance models and toward corporate financing by large energy firms. Emphasis will be placed on project financing in the aftermath of the Enron collapse, with specific focus on the challenges and opportunities for financing projects with new technologies, as well as on managing risk.

Moreover, the 1<sup>st</sup> or 2<sup>nd</sup> plants employing newer technology carry additional risks and somewhat higher costs because of their innovative and less mature nature. Such plants include those corresponding to a range of innovative renewable technologies for power plants (e.g. wind farms), for manufacturing facilities (e.g. a PV plant), and for processing facilities (e.g. an ethanol plant). The management of all risks is crucial in project financing since any risk limits the debt portion (which is less expensive than equity) of the financing that can be secured, and thus the size of the project that can be financed.

**Content:** This special session will consist of three segments, which will involve leading experts and participants from clean energy technology companies and the finance community, on an interactive panel. First, to provide context for the subsequent interactive discussions the current situation in Project Finance including background on “how we got here,” and the essential components of Project Finance will be discussed briefly. Also for context, the key project funding types, along with their respective challenges, and the issues surrounding the allocation and mitigation of technology risk, as well as the credit quality issue will be described leading into the more highly interactive discussion part of the meeting.

Next, several mini-case studies on the key project funding types of most interest, will be described in summary form by successful entrepreneurs; each case study will be followed immediately by Q/A with the panel. These case studies will provide a solid and focused framework for the panel and presenter Q/A, as well as subsequent discussions. Panelists will address the challenges raised, and offer their insights along with additional possible solutions to those challenges, all of which will be open for further discussion in the next segment.

Following the mini-case studies, the final segment will engage both the audience and the panel in further discussions around key issues that have been raised, as well as additional issues that need further exploration such as possible new approaches for project financing that might be pursued.

**Expected Outcome:** This session is intended to elicit feedback from experts in the audience as well as the panel, and be a catalyst for defining and developing new approaches for project financing. Another intended result is the establishment of an active ongoing dialogue between those who need and those who provide project financing, including project financiers, venture capitalists, and clean energy entrepreneurs. This ongoing dialogue should include both the public and private sectors. Finally, we also believe that this dialogue will provide ongoing insights to our future efforts to help small companies address this issue in future forums.

## Preliminary Special Project Financing Session Agenda and Roles, and Panel and Case Study Participants

<b>Table I Preliminary Agenda</b>				
<b>Monday Nov. 17, 2:00-5:30 PM Project Financing Session - Agenda</b>	<b>Duration Min</b>	<b>Begin</b>	<b>End</b>	<b>Running Total Time Min</b>
Introductions	45	2:00 PM	2:45 PM	45
Pj Finance Overview - Context (MW)	15	2:45 PM	3:00 PM	60
The Risk Context (TL)	15	3:00 PM	3:15 PM	75
Case Study 1 - Northern Power Systems	15	3:15 PM	3:30 PM	90
Case Study 2 - Wellspring Wireless	15	3:30 PM	3:45 PM	105
Break	15	3:45 PM	4:00 PM	120
Case Study 3 - BC International	15	4:00 PM	4:15 PM	135
Case Study 4 - ThermoChem Recovery International	15	4:15 PM	4:30 PM	150
Open Panel / Audience Interaction	45	4:30 PM	5:15 PM	195
Wrap-up / Findings / & Recommendations for Ongoing Dialogue (Dan & Mauri)	15	5:15 PM	5:30 PM	210

**Process and Time Management** – NREL, Dave Mooney, Manager of the PVMat Program, working closely with Tony Lent, to adapt to arising process needs, will manage the process including the time.

**Introductions** – Panel Members will take 4-5 minutes to give their, affiliations backgrounds, and the importance of project financing from their perspectives

**Project Financing Overview and Risk Context** – Michael Ware will provide a brief overview of Project Financing and how we got here. Tony Lent will drill down another level into the Risk Context (the key issue with project financing)– as background for the subsequent discussions

**Case Studies** – A quick 5-minute overview by each case study company followed by 10 minutes of interactive Q/A by the Panel. The short overview will focus on the deal structure that worked, the one or two key ones that didn't work along with the associated major issues; this will help provide a framework for, and lead into the immediately following Q/A discussions with the panelists, as well as the later interactions with the audience. The outline template for the case studies is attached in Appendix I.

**Case Study Mentors** – Tony, Mike, Dan and Mauri will provide presentation mentoring support to the case study presenters (see Table II below) to help them prepare and better target their presentations, by providing insights into anticipated questions and areas of interest by the panelists.

**Open Panel/ Audience Discussions** - This will provide an opportunity for investors and entrepreneurs in the audience to pose questions to the panel, and also to share some of their experiences.

**Wrap-up and Next Steps** – Dan & Mauri will provide a brief summary on key findings from the session, and as appropriate, summarize the recommended next steps and a framework for ongoing dialogue that will include both the public and private sectors.

**Table – II Project Finance Panel and Case Study Participants & Mentoring Assignments**

<b>Name</b>	<b>Organization</b>
<b>Panelists</b>	
Tony Lent	Co-Founder EA Capital, LLC
Michael Ware	Black Emerald Capital, LLC
Dan Goldman	New Energy Capital
Mauri Miller	Entegrity Partners, LP
Sharon Foglesong	Marathon Capital
Joyce Ferris	Blue Hill Partners
Steve Fleming	Massachusetts Renewable Energy Trust
Ed Feo	Millbank, Tweed, Hadley & McCloy, LLP
Tom Craig	Hudson United Capital
<b>Case Studies</b>	
Bob Johnsen (Project Finance Session Mentor – Michael Ware)	BC International
Wade Smith (Project Finance Session Mentor – Mauri Miller)	Wellspring Wireless
Dan Burciaga (Project Finance Session Mentor – Tony Lent)	Thermo Chem Recover International
Chach Curtis (Project Finance Session Mentor – Dan Goldman)	Northern Power Systems
<b>NREL</b>	
Process and Time Management – Dave Mooney	NREL
Forum Chairman – Lawrence M. (Marty) Murphy	NREL

**16<sup>th</sup> NREL Industry Growth Forum – Special Session**  
**Issues and Opportunities for Clean Energy**  
**Context: Project Finance – A Quick Overview - Michael Ware**

**Project Finance:**

**A. Current situation in Project Finance as it relates to Clean Energy technologies and projects.**

- Why Project Finance (PF) is so important for Renewable Energy and Energy Technology?

**B. Background – “How we got here”**

- 1) Brief History of PF
  - Origins
  - Classic Model
  - Early Merchant Model
  - Late Merchant Model

**C. Essential Components of PF**

- Project Sponsor/Developer
- Technical Feasibility
- Project Economics
- Construction/Project Completion
- Risk Mitigation
- Markets for Products and reaching those markets
- Operation and Maintenance
- Financial Package

**D. Risk Mitigation Challenges Today**

- Overhang of Merchant Project Debt
- Depressed State of Electric Power Industry
- Where are the EPC Contractors?
- Insurance Industry Woes
- Will the technology work?

**E. Issues to be addressed in next sessions.**

- Better understanding of Technology Risk
- The Role of VC Equity
- Alternative Structures
- Working towards a New Project Finance Model

**16<sup>th</sup> NREL Industry Growth Forum – Special Session  
Issues and Opportunities for Clean Energy  
Context: Managing Real and Perceived Risks - Tony Lent**

<b>Funding type</b>	<b>Challenges/Risks</b>	<b>Examples</b>
<b>Proven RE or DG technology for less than 10MW apps</b>	<ul style="list-style-type: none"> <li>• Educating funders to actual risk</li> <li>• Scarcity of interested funders – some govt.</li> <li>• Permitting and interconnect issues</li> <li>• Vender guarantees and warranties key</li> <li>• Debt market spotty</li> </ul>	Northern Power Systems
<b>Building-integrated RE or DG technology</b>	<ul style="list-style-type: none"> <li>• Equipment and building lending/leasing industries do not know clean tech or clean energy</li> <li>• Credit quality issues are pivotal</li> <li>• Very difficult for companies with less than 18 months cash flow on balance sheet</li> </ul>	Wellspring International
<b>New RE technology for under 1MW applications</b>	<ul style="list-style-type: none"> <li>• High perception of tech risk – lenders perceive as unproven</li> <li>• No firm contract for output of plant</li> <li>• Lenders tend to not prefer manufacturing plants</li> <li>• Scarcity of interested funders – some govt.</li> </ul>	BC International
<b>Large scale process technology</b>	<ul style="list-style-type: none"> <li>• High perception of technology risk; medium to high actual risk</li> <li>• Not many interested sponsors, hard to find them</li> <li>• Equipment cannot be resold</li> <li>• Very sensitive to first plant operating problems</li> <li>• Can take more than three years to syndicate</li> </ul>	Thermo Chem Recovery International

**Allocating Technology Risk**

Issue: lenders cannot be exposed to real or perceived technology risk. To pass through an investment committee process the lender must be insulated from technology / process risk.

- Early adopters
- Venders
- Large co. implementation partners
- Engineering partners
- Insurance products

**Managing Perception of Technology Risk**

Issue: For unproven technologies assembling and managing third party verification is vital because it helps to lower counterparties estimates of the likelihood of failure

- Accumulating evidence
- Third party reports
- Early adopter case studies
- Testimonials and reference calls

**The “Credit” quality issue**

Issue: New and young companies do not big enough balance sheets to pass most credit scoring criteria; key is to maximize credit worthiness of the project transaction itself.

- Leveraging counterparties credit to access debt
- Brand name ‘credits’ as customers or output buyers
- Vender and customer finance
- Special purpose entities, project LLCs
- Threshold cash positions: one year, eighteen months, 24 months
- Leveraging venture capital to attract more debt

# One Page Overview for Project Financing Case Studies

The information described below will be shared with the Project Financing Panel prior to the Forum, to help get them more familiar with your project financing case, and make the sessions discussions / interactions more productive for all involved. We suggest that no more than one page of narrative, plus one or at most two diagrams be provided.

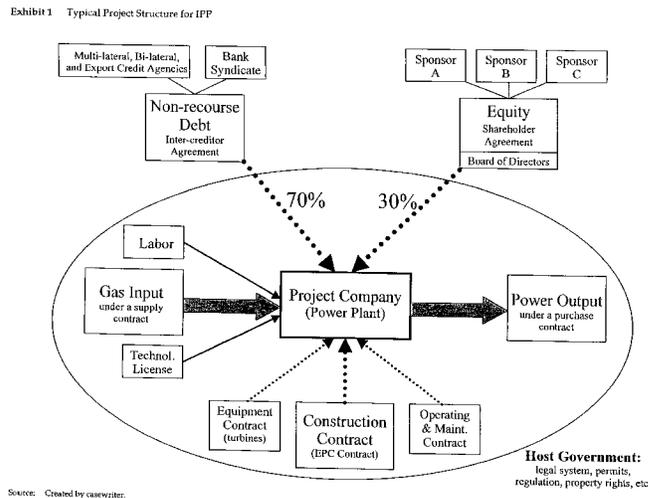
**Company Description:** Include ownership (e.g. privately owned, a subsidiary of a larger co., a US company, etc.), how long in existence, and the type of business (e.g. a developer and manufacturer of a specific technology product). What is your key product or service? And why is/was project financing crucial to your business.

**Key Project:** Describe the Project for which you developed financing. Attach a diagram of basic project structure and major players; if appropriate provide a diagram for originally preferred approach you started with, but which did not work out.

**Key Challenges:** Describe the key challenges that you overcame and major interface difficulties that you faced with the various players.

**Key Approaches Utilized:** Describe the process you used to overcome your original barriers and challenges and the key elements of your successful approach.

**Example Diagram** (this is probably a more complex example than most people will need):



Source: Esty, Benjamin (May 8, 2003). An Overview of Project Finance – 2002 Update. HBSP 9-202-105. Boston, MA: Harvard Business School Publishing.

## Bibliography

Esty, Benjamin (May 8, 2003). "An Overview of Project Finance – 2002 Update." HBSP 9-202-105. Boston, MA: Harvard Business School Publishing.

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Johns, Jonathon H. (1999). "Leasing Wind Turbines (And Its Alternatives)". *Renewable Energy* 16, pp 872-877.

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