NREL’s Cost of Renewable Energy Spreadsheet Tool (CREST)

Finance Team & CREST Overview

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Form of Depreciation Taken

MACRS depreciation applied in roughly half of projects reported (32 participants responding)

Q4 2010 results webinar on 5/17
Tools – Adding Adv. Financial Structures to SAM

Sale Leaseback

- Developer constructs project and sells 100% to Tax Investor.
- Developer (Lessee) leases the project back from Tax Investor (Lessor).
- Lessee operates the project and pays Lessor an annual lease payment. Lease payment sized to provide Lessor with target return.
- Lessee retains free cash flow after lease payments and operating costs.
- Lessor receives annual lease payment from Lessee, and tax incentives and depreciation from ownership of project assets.
- Each party to the transaction has a separate taxable income (project taxable income is not shared as in the Partnership Flip Structures).

Structure Details:

SAM beta testing to begin in April, new version by April / May
NREL’s Financing Geothermal Power Projects website, funded by the U.S. Department of Energy’s Geothermal Technologies Program, provides information for geothermal power project developers and investors interested in financing utility-scale geothermal power projects. Read an overview of how financing works for geothermal power projects, including the advantages to financing geothermal power projects and the challenges developers and investors may face.

Learn about:

- **Policies and regulations** that can affect how a geothermal power project is financed
- **Financing options** available for the exploration and drilling stage and construction and operation stage of a geothermal power project
- **Planning and timing considerations** that developers should be aware of when financing a geothermal power project.

**Guidebook to Geothermal Power Finance**

NREL’s [Guidebook to Geothermal Power Finance](#) provides an overview of the strategies used to raise capital for geothermal power projects that:

- Use conventional, proven technologies
- Are located in the United States
- Produce utility power (roughly 10 megawatts or more).

Learn more about the Guidebook to Geothermal Power Finance.
Content, cont’d.

http://financeRE.nrel.gov

Weekly Blog Articles

• Do New Dodd-Frank Regulations Impact REC and Allowance Markets?
• Drilling Down Into the Cost of Geothermal Energy (upcoming)
• A Chicken in Every Pot? Is there Enough Tax Equity to Sustain the RE Market?
• Wanna Improve Financing of RE Projects? Include a Charitable Organization
• Five Steps to Crafting Geothermal Policy
• Staying (Cash Flow) Positive: Investor Requirements for RE Project Financing
• Grazing in the Grass? Making Sense of the New BLM Rate Structure for Solar Projects

Regular Feature Analyses

• Power Purchase Agreement Checklist for State & Local Governments
• DOE’s Loan Guarantee Program: A Primer
• First Known Use of QECBs will Save Yolo County at least $8.7 Million over the Next 25 Years
• NREL’s Renewable Energy Project Finance Tracking Initiative (REFTI)
Visualization - RE Project Finance Website
http://financeRE.nrel.gov

Feature Analyses: Unique NREL analysis about policies, innovations and market conditions that impact RE project financing

Flexible Search: by keyword, or by filters (single/multi-) by sector, tech, size, policy, financing structure, and/or content type

Blog Analyses: Credible, objective policy and market observations from NREL analysts

User Login: registered users can comment, rate content
CREST - Development

- Borne from DOE – NARUC Partnership: Saw need for simple yet robust tool. DOE sponsors include:
  - Geothermal
  - Solar
  - EERE Corporate Analysis
- Exeter Associates hired to assess current publicly-available tools & design/build new model. Team incl:
  - Sustainable Energy Advantage *
  - Meister Consulting Group
- Worked with several PUCs in development:
  - Colorado
  - Hawaii
  - Michigan
  - Washington
### CREST – Project Objectives

Create a toolkit for cost-based rate-setting in the US
- Report, Models, User Manual

**CREST models:**
- Cherry-pick best features of other public models
- Balance ease-of-use and rich feature set
- No macros
- Provide immediate feedback on inputs of concern

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**National Renewable Energy Laboratory**

**Innovation for Our Energy Future**

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CREST Models Available

• At following link:
  • http://financere.nrel.gov/finance/content/CREST-model

• Or Google “CREST Model”

• Models are protected outside of primary inputs

• Caveat: some technical issues with Mac version of MS Excel (NREL still working on a solution)

• User manual available at same site

• Analytic report to come shortly
Model intro & walk-through…