

**DOCKET**

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# California Energy Commission

## Lowering the Effective Cost of Capital for Generation Projects

Steve Zaminski, SVP  
Starwood Energy Group  
June 27, 2006



## Panel Participants

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- ◆ Moderator:
  - Steve Zaminski (Starwood Energy Group)
  
- ◆ Participants:
  - Terry Farrelly (SDG&E, VP - Electric & Gas Procurement)
  - Tom French (CAISO, Director of Loads and Resources)
  - Joe Greco (Caithness Energy, VP - Western Region)
  - Thomas King (US Renewables Group, Executive VP - Finance)
  - Tom Lumsden (FTI Consulting)
  - Kevin McSpadden (Milbank, Tweed, Hadley & McCloy)
  - Pedro Pizarro (SCE, SVP - Power Procurement)
  - John Seymour (FPL Energy, Executive Director)
  - John Tormey (Constellation Generation, Senior Counsel)
  - Fong Wan (PG&E, VP - Electric Resources)



## Why It Matters

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- ◆ California ratepayers pay \$2 billion<sup>(1)</sup> more annually for power
- ◆ California ratepayers pay more for new power plants
  - e.g., 100%+ premium for California peaker<sup>(2)</sup>
- ◆ California needs new power plants

(1) Source: EIA electricity price difference between California and the rest of the US, multiplied by EIA 2005 California retail load (61.0 billion kWh)

(2) Source: Starwood Energy Group estimates, Global Energy Decisions "Power Generation Bluebook" 2005 report estimates.



# Agenda

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- ◆ Before Lunch:

- Credit: What form / How much “insurance” is enough?
- Developer risks from interconnection
- Other considerations / future topics

- ◆ After Lunch:

- Alternatives
- Action items
- Future topics



# Before Lunch

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## **Power Purchase Agreement Credit Requirements:**

- ◆ Rationale behind the current credit requirements
- ◆ Historical PPA credit requirements
- ◆ Observations about renewable projects
- ◆ Non-quantitative impact of current credit requirements
- ◆ Quantitative impact of credit requirements on rates
- ◆ Project level example
- ◆ Extrapolation to all new build
- ◆ Implications in meeting RPS requirements

## **PPA Interconnection Issues:**

- ◆ Process and timing to determine cost
- ◆ Developer risks from interconnection

## **Other Considerations / Future Topics**

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# PPA Credit Requirements

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How did we get here?

- ◆ Rationale behind current credit requirements
- ◆ Historical PPA credit requirements

Fong Wan – PG&E

Pedro Pizarro – SCE

Terry Farrelly – SDG&E



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## Q&A

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# Observations about Renewable Projects

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- ◆ Meeting the CA RPS is difficult
- ◆ Smaller projects
- ◆ Credit implications for entrepreneurial developers
- ◆ Other costs / obstacles





# Non-quantitative Impact of Credit

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- ◆ Double down - Material increase in risk for developers
- ◆ Effect on competition
- ◆ Controllable risk?



# Credit Cost: Renewables

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- ◆ Wind project
  - Adds  $\sim 6\%$ <sup>(1)</sup> to the capital cost<sup>(2)</sup>

Source: KEMA Inc. / Black & Veatch draft report, June 2006, Starwood Energy Group estimates.

- (1) Assumes pre-bid security (\$3/kw), 6 months to resolve short-list before cash is posted for development security (\$20/kw) at PPA execution and 24 months of development/construction to reach COD before a letter of credit is obtained at a cost of 3% per annum for operating collateral. Assumes carrying cost of cash is 12% and a discount rate of 10%. Foregone debt (8% interest on fully-amortizing debt over life of PPA) capacity is estimated by assuming the 3% annual fee on the letter of credit for operating collateral reduces the total available cash flow for debt service.
- (2) Assumes a developer bids into PG&E's 2006 Renewables RFO with a 100 MW wind facility with a capacity factor of 35% and a 20 year contract price of \$60/MWh.



# Credit Cost: Peaker

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- ◆ Peaker (supports renewables)
  - Adds  $\sim 9\%$ <sup>(1)</sup> to cost<sup>(2)</sup>
  
- ◆ Requires  $\sim 8\%$  higher capacity payment<sup>(1)</sup>
  - Carrying cost
  - Reduced debt capacity

Source: KEMA Inc. / Black & Veatch draft report, June 2006, Starwood Energy Group estimates.

(1) Assumes pre-bid security (\$5/kw), 6 months to resolve short-list before cash is posted for development security (\$10/kw) at PPA execution and submission to CPUC for approval, 12 months for CPUC approval before cash is posted for increased development security (\$60/kw) and 24 months of development/construction to reach COD before a letter of credit is obtained at a cost of 3% per annum for operating collateral. Assumes carrying cost of cash is 12% and a discount rate of 10%. Foregone debt (8% interest on fully-amortizing debt over life of PPA) capacity is estimated by assuming the 3% annual fee on the letter of credit for operating collateral reduces the total available cash flow for debt service.

(2) Assumes a developer bids into PG&E's 2005 All-source RFO with a 100 MW range peaker facility.



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# PPA Interconnection Issues

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Additional obstacles / risk

- ◆ Process and timing to determine cost
- ◆ Developer risks from interconnection

Tom French – CA ISO



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## Other Considerations

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- ◆ Scarcity / Cost of new capital for California?
- ◆ Addressing special interest demands in the permitting process
- ◆ Asymmetrical risks for developers?
  - RFOs only “new metal”
  - Confidential resource planning data
  - Need long term contracts
  - Build transmission for renewables



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