



Cutting Edge Financing Mechanisms

NREL Solar PPA

Steve Scott, DOE-Golden



PHOTOVOLTAIC POWER PURCHASE AGREEMENT(PPA) NATIONAL RENEWABLE ENERGY LABORATORY



- The State of Colorado passed Amendment 37 in November of 2004
 - Established a State Renewable Energy Standard
 - Required subject utilities to provide 10% of electricity through renewable sources by 2015.
 - 4% must be from Solar
 - House bill 1281 expanded the requirement to 20%



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- Specifics of the On Site Solar Program
 - Requires PV Array to be located on customer site
 - Requires 20 year contract
 - Requires Utility to pay a \$2.00/watt rebate up to \$200K
 - Requires Utility to purchase Solar Renewable Energy Credits (SoRECs)
 - Requires Utility to issue periodic RFPs – last one April 2008



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- NREL Project - Phase 1
 - 750 kW project located on the South Table Mountain mesa top
- The Agreement
 - Three parties involved
 - DOE/NREL
 - Western Area Power Administration
 - PV Developer (SunEdison)
 - Three different Agreements involved
 - A Solar Power and Services Agreement (SPSA) between Developer and Western
 - An enhanced Easement between DOE/NREL and Developer
 - An Intra-agency Agreement between DOE/NREL and Western



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- SPSA
 - Western represents DOE/NREL in the purchase of power
 - Western entered into 20 year contract to purchase power from the Developer for DOE/NREL at current rate per kWh
 - Western has authority to enter into 20 year power contracts that is unavailable to DOE
 - Western purchases electricity only
 - Developer maintains ownership and operating responsibility throughout the term of contract



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- The Agreement (cont.)
 - Developer works with investment company to finance project
 - Western purchases all electricity produced
 - DOE/NREL makes payment directly to Developer
 - Western has no liability to make payment
 - The rate per kWh escalates annually
 - Significant early termination penalty



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- Easement
 - DOE/NREL and Developer signed an enhanced easement
 - 20 year term with option to extend
 - Contains terms and conditions not usually included in an Easement
 - ES&H requirements
 - Insurance requirements
 - Indemnification clauses
 - Transfer and Assignment Clauses



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- Intra-agency Agreement
 - DOE/NREL signed an Intra-agency agreement to purchase power from Western
 - Agreement runs concurrently with SPSA
 - Requires DOE/NREL to make payments directly to Developer
 - Western has no liability to make payment

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- NREL Project – Phase II
 - Currently in negotiations
 - Phase II will include three sites including the roof of a building
 - Approximately 1.5 Mw
 - Due to increased competition for SoRECs a premium above the current rate per kWh is expected to be required
 - Terms and conditions are expected to be primarily the same as the earlier agreement



Would you like to know more about this session?

- Steve Scott
- DOE Golden
- 1617 Cole Blvd. Denver, CO
- Steve.Scott@GO.DOE.GOV

- Don't forget to fill out and drop off your session evaluations.