



Assistant Secretary-Indian Affairs
Office of Indian Energy and Economic
Development



Items to Consider When Selling Renewable Power to a Utility

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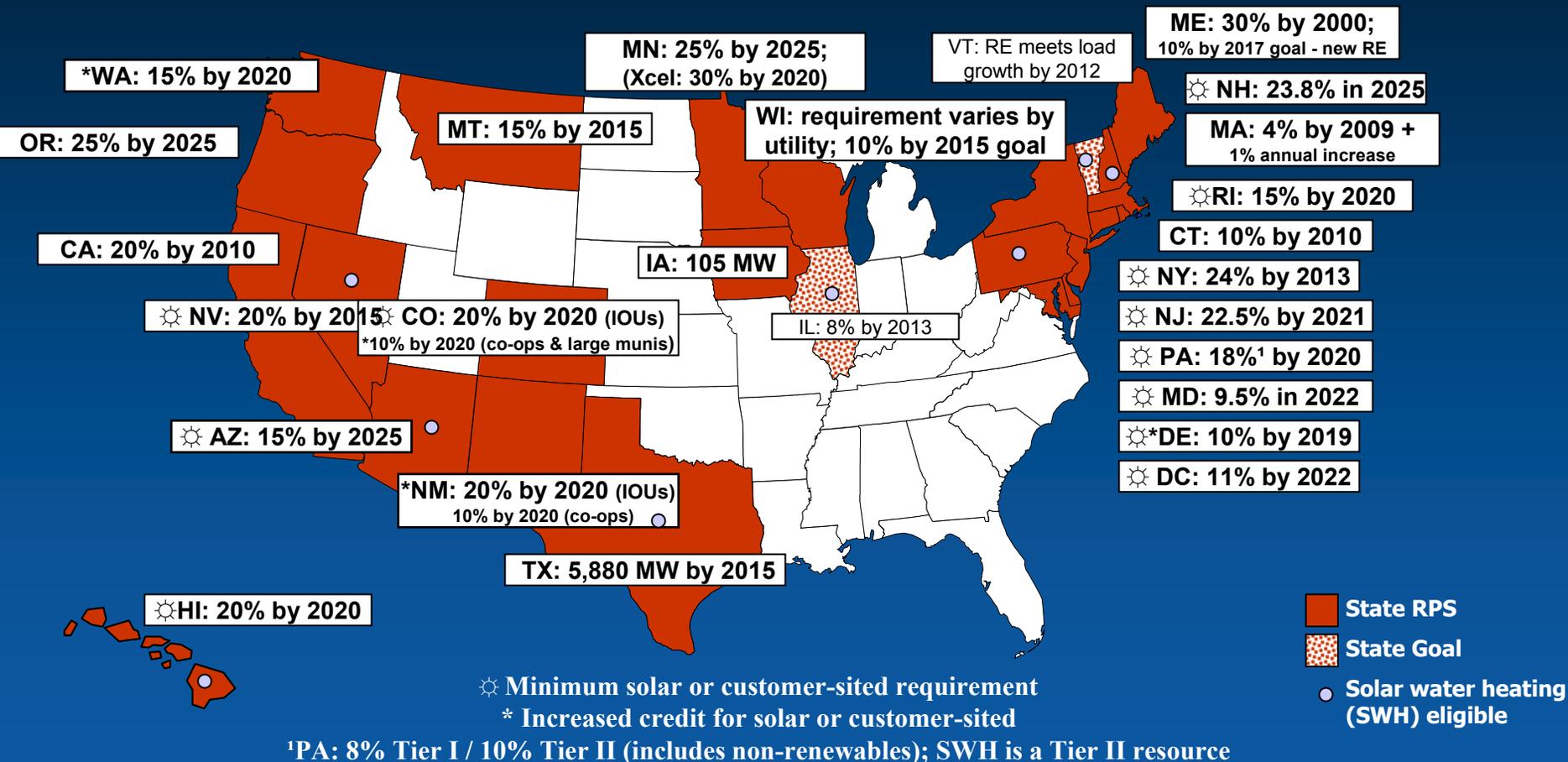
**Scott Haase
Office of Indian Energy and Economic Development
Division of Energy and Mineral Development**

The US needs to add 360,000 MW of capacity over the next 25 years just to keep pace with projected increases in demand for electricity due to population and economic growth

Current Renewable Portfolio Standards (National RPS on the way?)

DSIRE: www.dsireusa.org

May 2007



(Source: Database of State Incentives for Renewable Energy. 2006. "Renewables Portfolio Standards." NC State University. NC Solar Center. Available online at: http://www.dsireusa.org/documents/summarymaps/RPS_Map.ppt)

Overview

- When developing a utility scale power plant, you must find a purchaser for the power (PPA)
- Competitive solicitations vs. bilateral negotiations
- Either way, utilities will want you to provide certain info
- The better prepared you are, the greater your chances for success
 - Get help: legal, technical, financial

What are you selling?

- Selling two things:
 - Electricity
 - Green attributes (called RECs or Green Tags)
- Each commodity has value
 - Can be separated or bundled together
 - If bundled, the purchase price should be higher
- In RPS states, utilities will want RECs and power bundled together

The Process

- Identify potential purchasers
- Local as well as regional
 - To sell to regional utilities, must consider cost and availability of transmission
- Approach
 - Direct contact
 - Respond to Request for Proposals (RFPs)

General Information Required by Buyers (and lenders, investors, vendors)

- Non-disclosure or confidentiality agreement
- Project location
- Site control
 - Site maps
 - Legal agreements from tribe and/or landowners to use the land for the project
 - Aerial photos

Technical Description

- Technology description
 - Size and type of turbines
 - Manufacturer specs
 - Equipment performance guarantees
- Power production estimates (generation by hour for an entire year) and engineering calculations used
- Plant schematic and one line drawings showing layouts for generation equipment, buildings, roadways, interconnection
- Describe all interconnection equipment (transformers, switchgears, substations, new lines, delivery points)

Fuel Supply

- Biomass
 - Copy of supply study
 - quantity, availability, cost, location
 - Delivery arrangements, fuel supply contracts
 - On-site storage amount
 - Cost risk – who bears it?
 - Competing markets
- Wind
 - Copy of seller's wind resource report
 - Verified by third party meteorologist/engineer

Evidence of Community Support

- Community meetings – plans for conducting, or results from completed ones
- Tribal Council resolutions
- Lease agreements from landowners
- Letters from local environmental groups

Interconnection

- Follow FERC process
- Usually, must be able to deliver power to purchasing utility system
 - Seller must arrange for third party service/wheeling
- Seller must file interconnection requests, or describe plans for filing
- Copies of any completed applications
- Copies of any agreements or completed Feasibility Studies, System Impact Studies or Facility Studies
- Copies of any agreements for network upgrades
- Copies of any executed interconnection agreements

Regulatory Permits and Compliance

- Seller is responsible for NEPA and obtaining all permits
- A written description of all applications, permits and approvals required to construct and operate the facility and all associated interconnecting utilities, including but not necessarily limited to:
 - Conditional Use Permit; Air Emission Permit; Authority to Construct; or Certificate of Public Convenience and Need.
 - A description of Seller's progress toward obtaining the necessary applications, permits and approvals.
- Copies of any permits and approvals that have already been received
- Copies of any applications filed with a state or local authority seeking authorization of the construction or operation of the facility
- A table which summarizes the air emission levels Seller anticipates will be established for the Generating Facility by the appropriate air permitting agency, if applicable, including:
 - Oxides of Nitrogen (NO_x); Carbon Monoxide (CO); Volatile Organic Compounds (VOCs); and Particulate Matter (PM)
- A written description of the operating limitations that the permits have or expect to have which may constrain the operation of the facility including the maximum number of operating hours.

Schedule

- Milestone chart and schedule
- Show key activities
- Critical path items
 - Design
 - Engineering
 - Permits
 - Interconnection
 - Financing
 - Procurement
 - Construction
 - Commissioning

Team Qualifications

- Describe corporate structure of project entity (partners, ownership levels, managing partners)
- Fully describe roles and capabilities of each participant including
 - development team, management team, legal counsel, financial advisor
 - owner's engineer, construction contractor, transmission consultant, environmental consultant
 - construction period lender, operating period lender

Pricing Terms

- Prices are quoted in U.S. dollars and considered firm unless expressly stated otherwise
- Prices should be quoted as an all-in levelized cost, in terms of dollars per Megawatt-hour (\$/MWh)
- The Seller will be responsible for compliance with all applicable existing and future environmental requirements during the term of a PPA
- If the Seller's pricing policy involves escalation or an index, the escalation terms and conditions or specific index must be included for evaluation
 - Indexes used should be published and publicly available

Financial Considerations

- Utilities want credit worthy sellers
- Provide annual financial reports and independent audits of each entity in the ownership group
- DUNS #, S&P, Moody's debt ratings
- Description of project financing plan and all arrangements for equity/debt financing of the project

Shortlist

- Begins the PPA negotiation process in earnest
 - This will be a long, complicated legal document (200 plus pages)
- Seller will be asked to sign exclusivity agreement with Buyer for a certain time period
- Buyer will usually have to post a deposit for negotiations (\$500 - \$3,000 per MW)
- If negotiations are successful, Seller may have to post guaranty of 6-12 months revenues by the commercial on-line date (COD)

Summary

- It is never too early to start
 - Project development can take 5-10 years
- Development/planning process for utilities is long
 - Looking out 5-10 years
- Even very early stage projects (e.g. wind resource assessments not complete) can begin the process