Getting Projects Built: Addressing Long-Term REC Revenues

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RPS State Collaborative Conference Call
April 21, 2005
MA Renewable Energy Trust

Funded by a system benefits charge as part of 1998 electricity restructuring ($25 million annually)

1. Clean Energy
   - Supporting large-scale clean energy development in the state
   - Educating Massachusetts citizens, teachers, and students about the benefits of clean energy

2. Green Buildings and Infrastructure
   - Developing green building projects powered by clean energy
   - Promoting distributed renewable generation applications

3. Industry Support
   - Accelerating job growth, economic development, and technological innovation in the state

4. Policy Unit
   - Collaborating with interested stakeholders to address market and regulatory barriers to new clean energy development
New England Market Landscape for Renewables

• Solid renewable supply potential
  - Good wind and biomass resources
  - Several self-identified developers in planning stage

• Some substantial constraints
  - Land constraints restrict size of wind plants
  - Siting and permitting are challenges

• Mandatory and voluntary renewable demand
  - Mandatory RPS: MA, CT, ME, RI, VT (proposed)
  - Voluntary markets: MA, RI, ME, CT, plus REC products

• Attribute trading tacked through Generation Information System (www.nepoolgis.com)
  - Flexible renewable energy certificate (“RECs”) trading, easier reporting and regulator verification
Issue: Renewable Project Financing is Difficult to Secure

- Projects need predictable energy and REC revenues
  - REC revenue is subject to regulatory/political risk
- Most projects in New England are small (<40 MW) and of limited interest to financial market; NY projects are larger
- Investors unwilling to take risk on merchant renewable plants – require 10-15 years of contracts (today? forever?)
- Long-term energy and REC contracts with creditworthy buyers are needed, but...
  - Retail suppliers serving load in restructured utility territories cannot count on having load in 10 years.
  - Few creditworthy entities have emerged in the REC market.
  - Few entities willing to make even 5 year commitments for energy or RECs.
Minimizing Investor Risk
(In order of preference)

1. **Investment risk** is reduced by...
   - A higher the return on investment
   - Long-term contracts w/creditworthy entities
   - Tax incentives used to increase project revenues
   - Risk shared with other investors

2. **Energy resource risk** is key concern
   - How much wind/water/biomass is available?
   - Biomass concerns: small suppliers, short-term contracts

3. **Environmental risk** (siting and permitting)

4. **Technology risk** – commercial, not emerging

5. **Portfolio diversity** helps reduce risk
   - Invest in several different geographic regions
   - Long-term contracts with several different off-takers
MA Solution: Mass. Green Power Partnership (MGPP)

- **Goal:** Get renewable projects financed by providing developers long-term REC contracts (MTC takes risk)
  - Up to 10 yrs of first 15 yrs of operation (RECs only)
  - REC prices bid for Purchase or Options (put or collar)
  - Must be new construction/incremental generation
  - MA RPS eligible, or hydro (no new dam)
  - Commercial operation within two years (advanced stage)
    - Substantial due diligence required

- **MTC escrows funds, since not creditworthy**
  - **Round 1:** $21 M and **Round 2:** $15 M

  ➔ Trust funds insufficient to support large projects, much less total MA renewable demand

http://www.masstech.org/renewableenergy/mgpp.htm
CT Solution: Project 100

- In 2003, RPS legislation was amended to:
  - Include default service suppliers (not just competitive LSEs)
  - Adjust RPS percentages (up and out)
  - Require DisCos to do long-term contracts with renewables

- Project 100 – long-term Disco contracts
  - Energy and REC contracts sufficient for financing (≥10 yrs)
  - At least 100 MW Class I renewable projects
  - CT CEF evaluates 3 rounds: 30 MW, 30 MW, 40 MW
  - Must begin operational after July 1, 2003
  - Pricing: REC price up to 5.5¢ per kWh
  - PUC will consider approving contracts – could go into rates

➤ Will not fulfill entire RPS Class 1 requirement

http://www.ctcleanenergy.com/investment/Project100.html
NY Solution: Central Procurement

• RPS created administratively by PSC
  ➢ includes existing (19.5%) and new (5.5% by 2013)
  ➢ No penalty for not reaching goals
  ➢ Implementation plan expected by late May 2005

• Centralized state agency (NYSERDA) does long-term contracts to help get projects financed
  ➢ PSC established SBC to fund NYSERDA contracts
  ➢ Existing resources (pre 1/1/03) can qualify if “need”
  ➢ Program review in 2009 - expect transition to competitive market
  ➢ Fast track procurement in Jan 2005 (capture PTC benefit)

➔ Counts on voluntary and state procurement to meet RPS requirement (15% and 3% of target, respectively)

http://www.dps.state.ny.us/03e0188.htm
Additional information on MGPP

We presented a paper at the 2004 AWEA Windpower conference that details the MGPP – much of the information is still relevant.

www.masstech.org/renewableenergy/green_power/ MGPPpaperAWEA.pdf
### MGPP Round 1 Contracts (2003)

<table>
<thead>
<tr>
<th>Project</th>
<th>Tech.</th>
<th>Location</th>
<th>Form</th>
<th>MW</th>
<th>Present Value Exposure</th>
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<tbody>
<tr>
<td>Berkshire Wind, LLC</td>
<td>Wind</td>
<td>Hancock, MA</td>
<td>Purch.</td>
<td>15</td>
<td>5,491,000</td>
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<tr>
<td>Brockton Brightfields (City of Brockton)</td>
<td>PV</td>
<td>Brockton, MA</td>
<td>Option</td>
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<td>CommonWealth New Bedford Energy, LLC</td>
<td>LFG</td>
<td>Dartmouth, MA</td>
<td>Option</td>
<td>3+</td>
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<td>Hoosac Wind, LLC</td>
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<td>Florida, MA</td>
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<td>Pepperell Hydro, LLC</td>
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<td>1+</td>
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<td>Northern Wood Power - Schiller (Public Service Co. of NH)</td>
<td>Bio.</td>
<td>Portsmouth, NH</td>
<td>Option</td>
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<td><strong>Totals</strong></td>
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<td></td>
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<td><strong>MTC Nominal Exposure</strong></td>
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<td><strong>33,455,000</strong></td>
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MGPP - Lessons Learned and Limitations

- REC purchase and option contracts can be structured to offer long-term price security
  - 3 projects from Round 1 under construction
  - All 6 expected to be on-line by end of 2006.
- Later year price support is of greater concern for most applicants (i.e. starting in year 3-5)
- Options (as guarantees) seem more attractive to developers than committing to REC sales
- MGPP is only a partial solution
  - Trust funds insufficient to support large projects, much less total MA renewable demand
Additional Information . . .

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