








Getting Projects Built: Addressing Long-Term REC Revenues

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RENEWABLE ENERGY TRUST









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

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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

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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

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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

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MGPP Round 1 Contracts (2003)

Project	Tech.	Location	Form	MW	Present Value Exposure
Berkshire Wind, LLC	Wind	Hancock, MA	Purch.	15	5,491,000
Brockton Brightfields (City of Brockton)	PV	Brockton, MA	Option	< 1	644,000
CommonWealth New Bedford Energy, LLC	LFG	Dartmouth, MA	Option	3 +	2,019,000
Hoosac Wind, LLC	Wind	Florida, MA Monroe, MA	Option	30	9,943,000
Pepperell Hydro, LLC	Hydro	Pepperell, MA	Purch.	1 +	611,000
Northern Wood Power - Schiller (Public Service Co. of NH)	Bio.	Portsmouth, NH	Option	50	2,379,000
			Totals	**100**	**21,087,000**
			MTC Nominal Exposure		**33,455,000**









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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