

PV SOLAR PROJECT OPPORTUNITIES

Update on RFP and "Project B"

The seal of the Town of Milton, Massachusetts, is a circular emblem. It features a central shield with a building, a ship, and a figure. The shield is surrounded by a circular border containing the text "TOWN OF MILTON" at the top and "INCORPORATED 1664" at the bottom. The Latin motto "DEUS IN ADIUTRO" is also visible on the shield.

PUBLIC SCHOOLS

MILTON, MASSACHUSETTS 02186

Milton Public Schools Renewable Energy Initiative Alternate or Additional **Project B** - 3.0 MW

- **Photovoltaic (PV) Arrays on Off School/Town Owned Land**
 - **Developer finds land site(s) to lease or own to install the solar panels**
 - **Land must be in the NSTAR NEMA zone Milton is part of now**
 - **School Department must agree to own/be responsible for the meter and 100% of electricity generated**
 - **MPS agrees to buy the kWh produced for the duration of the contract**

Major Benefits - Project B

- **Zero Capital Commitment by Schools –**
 - **Project Costs – Paid up-front by developer. 😊 😊 😊**
- **Low Cost Electricity – 8 to 12 Cts / kWhr vs 20 Cts / kWhr**
 - **\$320,000 at paying 8 cents to \$180,000 for paying 12 cents**
- **Project implementation timetable –**
 - **4 to 8 months not years as for wind energy.**
- **Long Term Stable Pricing –**
 - **Price escalation as low as 1% to 2% per year.**
 - **MPS can contract for 20 years.**

Major Benefits - Why Now

- **New Massachusetts Legislation - Green Communities Act –**
 - **Solar Energy Projects – less than 6,000 kWe**
 - **Solar Renewable Energy Credits (SRECs) – 28.5 Cts / kWhr**
 - **Net-metering – Full Credit of Energy & Dist. Costs on each Schools' Meter even if not on municipal land - DPU regulations still needed, but aw signed & updated December 2010**
- **Competitive Interests of Solar Developers –**
 - **Zero Capital Commitment by Schools – Projects financed by PV Solar Developers**
 - **Federal Tax Incentives – tax equity investors, accelerated depreciation in addition to Massachusetts solar renewable energy credits.**
 - **Falling costs for solar panels – from \$5 - \$6 / watt to \$3 - \$4 / watt.**
- **Solar Energy Industry Response –**
 - **Developers willing to finance projects to get business.**
 - **Low Cost Electricity – 8 to 12 Cts / kWhr vs 18.5 Cts / kWhr beginning 1/12**
 - **Project implementation – months not years**
 - **Long Term (15 – 20 years) Power Purchase @ low stable pricing**

Impact on MPS Energy Budget

- **PV Solar System developer sells electricity to MPS at set price.**
- **PV Solar Systems decreases electricity usage system wide by the amount of solar electricity produced.**
- **Solar electricity purchased reduces each school's electricity use resulting in an NStar metered energy use reduction on monthly bill.**
- **Difference between NStar price and PC Offsite Solar price generates savings – example NStar @ \$0.20 / kWhr less PV Solar @ \$0.12 / kWhr times 100,000 kWhrs solar electricity produced = \$8,000 annual cost savings.**
- **MPS Electricity budget saving – 19% to 34% of MPS \$931,531 electricity budget.**
Est. \$180,000 to \$320,000 per year.

How much electricity is 3.0 MW for MPS?

- **3.0 Mega Watts (MW) is approximately 3,600,000 kWh.**
- **In FY08, the base year with construction complete in all schools for the full year, MPS consumed 5,981,662 kWh.**
- **In FY10, MPS consumed 4,715,915 kWh, a 21% decrease because we recommissioned the buildings and took advantage of all utility rebate programs with a short ROI.**
- **3.0 MW is 60% of the electricity consumed in FY08, our base year**
- **3.0 MW is 76% of our FY10 Consumption**
- **3.0 MW is 80% of our projected FY11 Consumption of kWh**

Electricity Price - Past, Present, Future

- **According to the Federal DOE, the Average Retail Price for Electricity in 1990 was 12.58 Cents /kWh.**
- **In FY10, MPS paid an average of 19.4 cents/kWh an average of a 2.7% increase per year over 20 years.**
- **In 2030, conservatively using the past 20 year increase of 2.7% average annual increase the price per kWh would be 29.03 cents per kWh for projected increase of 11.5 cents per kWh or a 66% increase total increase.**
- **Again, that is a conservative estimate with the nation's highly regulated energy generation industry. There are reasons to believe, less nuclear generation, less coal generation, the % price increase will be greater than last 20 years.**
- **So locking in a price at a significant % reduction from what will we pay beginning 1/2012 for 20 years, is a contract I will recommend MPS enter.**

Important Contracting Documents

- **Milton Public Schools – Request for Proposals**
 - **Technical Proposal with Developer Qualifications.**
 - **Payment Proposal with payment terms & conditions.**
- **Power Purchase Agreement –**
 - **Sets the Terms and Conditions of the MPS price of electricity.**
 - **Sample Agreement sent to Proposers**
- **Facility Lease Agreement –**
 - **Stipulates access to and use of land for developer and LDC to service solar panels and meter.**

Next Steps

- **Receive and Evaluate RFPs, now scheduled for 3/31/2011.**
- **Select Top Proposer and Open Price Proposal.**
- **Negotiate Power Purchase Agreements, Facility Lease(s) if applicable, contract for responsibility of offsite meter with NSTAR.**
- **Local building permits awarded & Interconnection Agreement signed.**
- **Financial closing, PPA and Leases signed, start of construction.**
- **Mechanical/Electrical construction completed – commercial operations start.**