

PV SOLAR PROJECT OPPORTUNITIES For Price Reduction Options and Recommendation



PUBLIC SCHOOLS

MILTON, MASSACHUSETTS 02186

Milton Public Schools

Rooftop Project & Offsite Project RFP Review Team – Facilities Sub-Committee

- **Lynda-Lee Sheridan, School Committee Chair**
- **Denis Keohane, School Committee**
- **Matthew J. Gillis, School Business Administrator**
- **Bill Ritchie, Director of Consolidated Facilities**
- **Richard Malmstrom, Parent and Volunteer**
- **Joseph Murphy, Citizen Volunteer**
- **John Kibbee, Parent and Volunteer**
- **Robert Patterson, Project Consultant**

Milton Public Schools Rooftop Project - 4 Schools, 748 kWh

- **How this project works**
 - **Panels installed on rooftop by Developer, Structural and Electrical Engineers “Stamp” and approve safety of the project.**
 - **NSTAR approves interconnection and begins “rolling back” the electric meter for each building with the panels installed on them, another safety verification.**
 - **Budget Price p kWh – Project Net p/kWh = Savings p/ kWh**
18.4 Cents – 7.83 cents = 10.57 cents p/ kWh
 - **A 57.4% reduction from the 18.4 cents budgeted p/ kWh in 1/2012**

Milton Public Schools Rooftop Project - 4 Schools, 748 kWh

Cunningham Collicot Rooftop Pictures



Milton Public Schools

Rooftop Project - 4 Schools, 748 kWh

- **Benefits to Proceeding with this Project**
 - **Full net metering credit as electric meters get “rolled back” for the 889,397 projected in Year 1 with a minimum of 800,000 kWh annually guaranteed for life of the project, or approximately 18% of our district wide FY10 consumption to be produced in Year 1 of the project.**
 - **If project is operational by December 2011, and approved by NSTAR, School Department estimates cost avoided for FY12 to be about \$55,000.**
 - **The project would save approximately \$94,000 annually, without adjusting for inflation, for the life of the contract .**
 - **Zero Capital Outlay for Solar Panels by School Dept.**
 - **Gets 1/3 of \$150,000 reduction already taken in FY12 Budget**
 - **Vendor responsible for production & maintenance of panels**
 - **“Been there, done that” already and with this vendor Broadway Electric (Cunningham/Collicot Roof)**

Milton Public Schools

Rooftop Project - 4 Schools, 748 kWh

- **Drawbacks to Proceeding with this Project**
 - Adds approximately 5-6 lbs per square foot to the roof sections where the panels are installed.
 - Makes doing repairs to the sections of the roof more labor intensive
- **Mitigating the Drawbacks**
 - Again, Structural Engineer Stamp and liability insurance for roof load
 - Planning our repairs and replacements carefully

Milton Public Schools Offsite Solar Project - 3.0 Mega Watts

- **How this project works**

- **Ground mounted panels installed by Developer, at site in the Town of Norfolk, MA .**
- **NSTAR approves interconnection and MPS agrees to be responsible for the meters and for the purchase total electricity being produced by this project.**
- **Total Project Price P/ kWh – Avg Net Meter Pymt = Net Price p/kWh**
28.4 Cents – 17.06 cents = 11.34 cents
- **A 38.4% reduction from the 18.5 cents budgeted p/ kWh in 1/2012**

Milton Public Schools Offsite Solar Project - 3.0 Mega Watts

Sample Pictures of Ground Mounted Panels



Milton Public Schools Offsite Solar Project - 3.0 Mega Watts

- **How this project works**

	A	B	C	D	E = -(C - D)	F = D - B	G = E / A
Year	Budget Price p/ kWh	Borrego Price p/ kWh	Total Price p/ kWh	Avg. NSTAR Net Meter Payment	Project Net Price p/ kWh	\$ Savings p/ kWh Post Project v. No Project	% Savings to Budget v. No Project
1	\$0.1840	\$0.1000	\$0.2840	\$0.1706	(\$0.1134)	\$0.0706	38.4%



Milton Public Schools Offsite Solar Project - 3.0 Mega Watts

- **Benefits to Proceeding with this Project**
 - **Zero Capital Outlay for Solar Panels by School Dept.**
 - **Gets 40% of \$150,000 reduction already taken in FY12 Budget**
 - **No equipment added to school roofs**
 - **No additional cost to schools if this project does not proceed**
 - **Other Town department meters can benefit from this credit should the school department not need to consume all of the electricity produced by the Offsite Project**

Milton Public Schools

Offsite Solar Project - 3.0 Mega Watts

- **Benefits to Proceeding with this Project**
 - **Fixed Price of 10 cents per year for 20 years!**
 - **Full net metering credit payment made to MPS for generating the 3,602,000 kWh projected in year 1, 80% production guaranteed, or approximately 72% of our district wide FY10 consumption to be produced in Year 1 of the project.**
 - **If project is operational by April 2012 invoice and approved by NSTAR School Department estimates cost avoided for FY12 to be about \$60,000.**
 - **The project would save approximately \$250,00 annually, without adjusting for inflation, or \$4.85 million for the life of the contract .**
 - **With a modest 2.7% annual increase in price and 1% increase in net metering payments, the project would save \$6 million for life of the contract.**

Milton Public Schools

Offsite Solar Project - 3.0 Mega Watts

- **Drawbacks to Proceeding with this Project**
 - **Offsite Net Metering Credit/Payment to Meter Owner is not fixed and can change with Basic Service Rate or MA DOER or MA DPU Legislation/Regulation change**
 - **At this time, no offsite municipal solar projects have been completed, project completion could be delayed possibly be past June 2012**
 - **State regulations for offsite net metering not finalized at this time**
- **Mitigating Drawbacks**
 - **Basic Service Rate is what most customers get charged for electricity, not likely to be lowered by the 38% discount we would receive under this project or lowered for an extended period of time**
 - **Contract language with developer and /or NSTAR**

MPS Facilities Subcommittee & Proposal Review Team

Recommend Proceeding with Both Projects

- **Benefits to Proceeding with Both Projects**
 - **40+% Annual Savings/Cost Avoidance to School Electric Budget!**
 - **If one project stalls or is delayed, we still get benefit of a project before tax credit window closes for developers –which enables this pricing and savings to our budget/taxpayer!**
 - **Rooftop projects are tried and tested and can be completed in September/October, cost avoidance begins early in FY12**
 - **Offsite Project Feasibility is a critical element to meeting the Governor and Legislature’s goal of having 400MW produced across the commonwealth be from renewable energy sources.**