



## 2011 DLTA PROJECT PROPOSAL

# Contracting Regional Renewable Energy Site Evaluation

## *Fatal Flaw*

### Town of Sudbury

#### Overview of Municipality (1 paragraph)

Sudbury is a community located in Middlesex County approximately twenty miles west of Boston, along the major highways of Route 20 in the south and Route 117 in the north, and bisected by Route 27. Rooted deeply in history, Sudbury is known for Longfellow's Inn, including The Redstone Schoolhouse where Mary brought her little lamb, the Grist Mill and the Martha Mary Chapel. The town is also noted for its excellent domestic underground water supply, excellent schools and well managed government. Sudbury is one of the older towns in the New England area, being incorporated in 1639, and it has one of the oldest and longest-running open meeting forms of government.

The Town of Sudbury is home to over 18,000 people. We have 18 public buildings that were built between 1793 year and 2005 year with a total nearly 1 million square feet these include:

- 5 public schools
- 1 regional high school
- 1 police department
- 3 fire stations
- 1 recreational center
- 3 town government/ service buildings

On July 14, 2010 Town of Sudbury awarded the designation of a Green Community. Since then we have begun a number of programs which include

- Solar hot water heating panels on Atkinson Pool/ Fairbanks Community Center
- Installing solar PV on Atkinson Pool/ Fairbanks Community Center
- Purchased a hybrid-electric vehicle for our Town Police Department
- Installing a new roof, double pane, low E windows and a new boiler plant at Noyes Elementary School
- Initiated studies to install a large scale, approximately 2MW, solar field on our town closed landfill
- Implemented the Stretch Energy Code

Sudbury is now looking to further projects that would enable us to reduce our reliance on conventional energy generation by reducing overall demand, increase the efficiency of our building stock and investigate in renewable energy technologies.

Purpose of Project (1-2 sentences)

The purpose of this project is to reduce our dependence on conventional energy generation. Sudbury is contemplating installation of a 2MW PV array on its closed and capped landfill.

Project Summary/Scope of Services (2-4 paragraphs)

As part of our ongoing effort of being a Green Community we are evaluating potential large scale renewable energy development sites. The site under consideration at present is Sudbury's approximately 12-acre landfill, which is located on the north side of Route 20, that closed and capped in mid 1990's (see Figure below).

Prior to applying to a post closure use permit, the town is interested in determining the fundamental feasibility of placing an array of MW scale on this site. The issues include:

- Topography
- Obstruction
- Proximity to the grid
- Existing condition of the cap
- Suitability of the site for the support structure of the array

Whilst we have had initial assessments of the viability of this site we require a preliminary site assessment, or "fatal flaw" analysis to determine whether or not the site can accommodate generation facility. We would expect the deliverable to provide us with a reasonable determination on whether or not we can proceed with this project and identify any improvements to the land that would be required to support the system.

List of Relevant Characteristics (Table preferred)



Site for Fatal Flaw analysis: 20 Boston Post Road, Sudbury, MA 01776

Logistics (1-2 paragraphs)

Sudbury would contribute to the project by allocating Jim Kelly, our Town Building Inspector, as Sudbury Liaison. The Sudbury nine-member Energy Committee and Department of Public Works personnel will provide needed expertise and assistance. It would be our expectation that the Town of Sudbury would appropriate funds in the upcoming budget cycle for supporting capital projects and associated labor hours for the purposes of promoting sustainable energy plans and to fulfill our commitment to being a Green Community.

Conclusion and Long-Term

As a Green Community our goal is both to reduce our energy utilization by 20% by 2015 and to increase the proportion of energy generated by renewable energy sources.



## 2011 DLTA PROJECT PROPOSAL

### Regional Energy Manager

### Town of Sudbury

#### Overview of Municipality (1 paragraph)

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- Purchased a hybrid-electric vehicle for our Town Police Department
- Installing a new roof, double pane, low E windows and a new boiler plant at Noyes Elementary School
- Initiated studies to install a large scale, approximately 2MW, solar field on our town closed landfill
- Implemented the Stretch Energy Code

Sudbury is now looking to further projects that would enable us to reduce our reliance on conventional energy generation by reducing overall demand, increase the efficiency of our building stock and investigate in renewable energy technologies.

Project Summary/Scope of Services (2-4 paragraphs)

Sudbury would like to access the skills and expertise of an energy manager to help reduce our total energy demands, increase our renewable energy production and assist in the completion of the Green Communities Program.

Reducing energy consumption is critical to the becoming a more sustainable community. In order to reduce our demand we need assistance on:

- facilitating behavioral changes within our community
- developing guidance to implement operational best practices optimization
- identifying and prioritizing capital equipment upgrades

The Town of Sudbury has been investigating the possibility of building a 2 MW solar energy development on our closed landfill. If we proceed with this project we would need the both the technical and administrative assistance of an experienced energy manager to coordinate the successful implementation of this project

List of Relevant Characteristics (Table preferred)

The Town of Sudbury owns 18 buildings (see Table below)

<b>Buildings</b>	<b>Bldg Sq Ft</b>	<b>FY08 Kwh</b>
DPW Offices - 275 Old Lancaster Rd (2 bldgs)	32,000	203,840
Flynn Building - 278 Old Sudbury Road	15,916	170,755
Town Hall - 322 Concord Road	12,789	42,572
Police Department	6,400	121,007
Fairbank Center - 40 Fairbank Road	27,076	213,440
Fairbank Ctr - Pool	11,000	384,800
Library	32,800	321,360
Fire Dept - 77 Hudson Road	7,400	84,480
Fire Dept - 505 Boston Post Road	3,484	17,685
Fire Department - North Road	3,484	13,815
Curtis Middle School - 22 Pratts Mill Rd	155,000	1,274,700
Loring Elementary - 80 Woodside Rd	71,451	528,320
Noyes Elementary - 280 Old Sudbury Rd	65,000	422,800
Haynes Elementary - 169 Haynes Rd	62,811	386,616
Nixon Elementary - 472 Concord Rd	58,215	345,360
Lincoln Sudbury H.S., 390 Lincoln Rd	383,543	3,438,098
Hosmer House, 299 Old Sudbury Rd	3,000	5,740

Park & Grounds Building, 509 Concord Rd	3,000	4,343
<b>Total</b>	<b>954,369</b>	<b>7,979,731</b>

Aerial map of closed landfill



Logistics (1-2 paragraphs)

Sudbury would contribute to the project by allocating Jim Kelly, our Town Building Inspector, as Sudbury Liaison. The Sudbury nine-member Energy Committee and Department of Public Works personnel will provide needed expertise and assistance. It would be our expectation that the Town of Sudbury would appropriate funds in the upcoming budget cycle for supporting capital projects and associated labor hours for the purposes of promoting sustainable energy plans and to fulfill our commitment to being a Green Community.

Conclusion and Long-Term

As a member of the Green Community Program, Sudbury’s long term goal is to reduce the impact our town has on our environment. The results of these projects would assist in meeting this goal as we would have the tools and knowledge needed to reduce our energy demand on conventional energy feedstock – both through facilitating needed behavior change and replacing inefficient equipment. The guidance provided by a Regional Energy Manager would inform our long-term budget planning so that needed capital equipment upgrades can be planned for appropriately. Additionally we would be able to move forward with any renewable energy development projects with confidence.



## 2011 DLTA PROJECT PROPOSAL

# Regional Energy Savings Performance Contracting

## Town of Sudbury

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On July 14, 2010 Town of Sudbury awarded the designation of a Green Community. Since then we have begun a number of programs which include

- Solar hot water heating panels on Atkinson Pool/ Fairbanks Community Center
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- Purchased a hybrid-electric vehicle for our Town Police Department
- Installing a new roof, double pane, low E windows and a new boiler plant at Noyes Elementary School
- Initiated studies to install a large scale, approximately 2MW, solar field on our town closed landfill
- Implemented the Stretch Energy Code

Sudbury is now looking to further projects that would enable us to reduce our reliance on conventional energy generation by reducing overall demand, increase the efficiency of our building stock and investigate in renewable energy technologies.

Purpose of Project (1-2 sentences)

The purpose of this project is to reduce our dependence on conventional energy generation. Specifically we would like to gain a heightened understanding of the efficiency upgrades our buildings require so that we can make the necessary improvements to our building stock.

Project Summary/Scope of Services (2-4 paragraphs)

Sudbury would like to have a comprehensive actionable energy audit conducted on all buildings. These audits would analyze the building envelope (insulation, window-type, boiler efficiency, air leakage, etc). It is expected that the deliverable would not only identify the recommended improvements but also prioritize the upgrades.

List of Relevant Characteristics (Table preferred)

ESCO Facilities

<b>Buildings</b>	<b>Bldg Sq Ft</b>	<b>FY08 Kwh</b>
DPW Offices - 275 Old Lancaster Rd (2 bldgs)	32,000	203,840
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Logistics (1-2 paragraphs)

Sudbury would contribute to the project by allocating Jim Kelly, our Town Building Inspector, as Sudbury Liaison. The Sudbury nine-member Energy Committee and Department of Public Works personnel will provide needed expertise and assistance. Additionally, the Town has conducted preliminary building energy audits on 9 buildings. These will be made available to the contracting organization prior to the audits. It would be our expectation that the Town of Sudbury would appropriate funds in the upcoming budget cycle for supporting capital projects and associated labor hours for the purposes of promoting sustainable energy plans and to fulfill our commitment to being a Green Community.

#### Conclusion and Long-Term

As a Green Community our goal is to reduce our energy utilization by 20% by 2015. The results this project would assist in meeting this goal by identifying building efficiency upgrades that would lead to a overall reduction in total energy demand.



January 14, 2011

**Clean Energy DLTA Projects: Letter of Interest**

To Whom It May Concern:

On behalf of my municipality, Town of Sudbury, I would like to express interest in the following FY 2011 DLTA proposals being offered by the Metropolitan Area Planning Council (check all that apply):

- € **Energy Services Performance Contracting** – a procurement process and contract facilitated by MAPC for an Energy Services Company (ESCO) to provide energy efficiency services to participating municipalities across the region.
  
- € **Preliminary Site Assessment Contracting** – a procurement process and contract facilitated by MAPC for an engineering company to conduct a “fatal flaw” analysis of potential renewable energy development sites in the region, to be identified by participating municipalities.
  
- € **Regional Energy Manager** – a MAPC staff member with energy expertise, available on an hourly basis to consult on or provide support for specific clean energy initiatives developed by each participating municipality. Project proposals and detailed requests for energy manager assistance to be submitted by the municipality and reviewed on a case-by-case basis.

I understand that a local match, while not required, is encouraged to demonstrate commitment to these projects. I will determine my municipality’s ability to contribute both in terms of funding and staff time, and get approval for participation in these projects with the relevant elected officials, boards, or other entities in my municipality.

By signing this letter, I acknowledge that MAPC will regard my municipality as an interested DLTA participant unless otherwise notified. This letter is not a binding agreement.

Sincerely,

(signature)

Maureen G. Valente, Town Manager