

Energy Management

Most communities across Massachusetts, caught in the squeeze between decreasing revenue growth and increasing fixed costs, are struggling to maintain service levels. As a result, in efforts to maintain core services, they are exploring options to streamline operations and cut expenses. Energy is a major operating cost for cities and towns and one of the few that local governments can exercise some control over. Significant gains have been achieved through the work of local energy committees, community-wide energy audits, performance based contracts with energy service companies (ESCOs) and grant availability. Also in the mix are industry rebate programs, group purchasing arrangements and investments that target reductions in energy consumption and/or generate electricity.

At the same time, the lack of financial and technical resources has prevented many communities from pursuing and realizing these energy savings. In response to this need, the Green Communities Division was created within the Department of Energy Resources (DOER) in 2008. The goal of the Green Communities Division is to help cities and towns create energy efficiencies in public buildings, manage energy costs and advance the use of renewable sources to generate clean energy.

The Division makes information about the benefits of energy efficiency and renewable energy available on its website and through publications. It facilitates informed local decision-making and provides guidance in navigating the energy management process through consultant-type services provided by regional coordinators assigned to each Massachusetts city and town. The Division serves as a clearinghouse of best practices among municipalities and promotes opportunities to receive funding for energy improvements. Specifically, the Green Communities Division provides:

- Education about the benefits of energy efficiency and renewable energy
- Procurement guidance through the Energy Management Services process
- Facilitation of informed decisions and actions
- Collaboration through shared best practices among cities and towns
- Local support from regional Green Communities coordinators
- Opportunities to fund energy improvements
- Tools and technical assistance

The Division has [Regional Coordinators](#) located in four different regions of the Commonwealth available to work with all local and regional government entities to pursue

clean energy initiatives. They can help to address any barriers that may prevent implementation of energy efficiency measures and renewable energy projects and can act as a technical resource to answer energy related questions.

MassEnergyInsight

The Green Communities Division provides a free web-based tool, called MassEnergyInsight, to Massachusetts cities and towns to help a municipality collect and manage its energy use data. This tool organizes certain base line information to determine current energy use and costs. With this knowledge, the community can better identify what measures can help reduce energy use and make sound decisions to maximize energy efficiency.

MassEnergyInsight provides access to energy use information for municipally owned and operated buildings, water treatment plants, streetlights, and vehicles that enable cities and towns to perform key energy management tasks, such as:

- Develop an energy use baseline
- Benchmark building performance
- Identify priority targets for energy efficiency investments
- Show the results of energy efficiency investments
- Highlight any irregularities in energy use
- Develop a greenhouse gas emissions inventory
- Generate reports for stakeholders
- Forecast energy budgets

Access to the DOER tool can be found at [MassEnergyInsight](#).

Municipal Energy Efficiency

Many municipalities and other local and regional public entities find using the services available through the [Mass Save Municipal Program](#) an effective way to implement efficiency measures in their buildings. In 2011, approximately 90 municipalities worked with Mass Save® to collectively save more than 25,000,000 kWh of electricity (equivalent to the electricity needed to power close to 3,500 homes) and 420,000 therms of natural gas (equivalent to the amount of natural gas needed to heat more than 400 homes). If you are interested in identifying and pursuing energy efficiency measures, you can contact your electric and gas account representative(s) or see the Mass Save website. In addition, your

Green Communities Division Regional Coordinator is also available to assist you through this process.

Energy Management Services

An avenue that has also proven to be successful for some communities is the use of a performance based contract with a private energy services company (ESCO) to achieve efficiencies and savings. Under an energy management services (EMS) contract with a city or town, an ESCO will perform all or some of the following:

- Design energy saving capital improvements or projects
- Install and construct the capital improvements or projects
- Maintain energy equipment after installation or construction
- Measure and verify the resulting energy savings
- Guarantee results

The performance based aspect of the agreement is a critical component and serves as a strong incentive for communities. It refers to a guarantee by the ESCO that the dollar savings in energy costs will be sufficient to cover the cost (usually debt) to implement the efficiency measures. If the new energy systems or improvements fail to perform as projected and savings fall short, the ESCO guarantee will fill the gap. In effect, the city or town benefits from an energy saving capital improvement with potentially no budgetary impact. Once the payback period passes, the dollars saved through more efficient energy systems become real dollar savings in the budget.

First Steps toward ESCO Agreements

The first step any community should take if it is interested in pursuing an EMS agreement with an ESCO is to contact DOER for technical assistance. Because DOER approval is needed for all EMS proposals, communities can benefit from DOER guidance. DOER can help define projects and can help communities understand the filing and reporting requirements imposed by M.G.L. c.25A, §§11C & 11I. Among other resources available on the DOER website are the following:

- Checklist for completing a Certificate of Compliance, which is evidence of DOER project approval,
- Step-by-step guide for contracting with an ESCO;

- Model EMS Request for Proposals or Request for Qualifications;
- Model Energy Audit Agreement; and
- Model EMS Final Contract.

Massachusetts General Laws establish uniform procedures for public agencies when contracting with ESCOs for energy management services. Because of the highly technical nature of the procedures, it is a prudent decision to work with DOER. Some communities have hired an independent consultant to represent their interests and guide them through the ESCO negotiation process. These consultants or “owners’ agents” are typically compensated from the energy savings generated by the project.

Green Communities Designation and Grant Program

Among its programs, the DOER Green Communities Division provides technical assistance to cities and towns seeking a Green Communities Designation. Once designated, communities are eligible to receive grants to fund local projects that reduce energy consumption. Grants can also be used to create clean, renewable and alternative energy initiatives and to encourage economic development in the clean energy sector. To be successful, cities and towns must meet five rigorous qualification criteria requiring that they:

- 1) Provide as-of-right siting in designated locations for renewable/alternative energy generation, research & development, or manufacturing facilities;
- 2) Adopt an expedited application and permit process for as-of-right energy facilities;
- 3) Establish a benchmark for energy use and develop a plan to reduce the baseline by 20 percent within 5 years;
- 4) Purchase only fuel-efficient vehicles;
- 5) Minimize life-cycle energy costs for new construction i.e. adopt the Stretch Energy Code

As of December 13, 2012, 110 cities and towns have earned the Green Community Designation. To date the Division has distributed close to \$28Million in grants to these communities. The Energy Reduction Plans of the 110 communities project a five-year energy reduction of more than 1,809,059 MMBTUs, equivalent to the annual energy consumption of 13,600 households.

This article was written with contributions from the staff of the Green Communities Division of the Massachusetts Department of Energy Resources.