

Town of Sutton

Municipal Energy Efficiency



CASE STUDY

BACKGROUND

In 2008, Selectman Michael Chizy set a goal to reduce energy consumption and pursue renewable energy options in Sutton, a town on Route 146 in the Blackstone Valley. The town began to identify projects that they could invest in to lower long term operating costs and benefit the environment, and the school department kicked the effort off by upgrading to energy-efficient lighting and planning its first solar energy project.

The Board of Selectmen voted to pursue designation as a Green Community in 2011. One of the criteria to earn designation in the Green Communities program is to establish an energy use baseline and develop a plan to reduce energy use by 20 percent within five years. Initially the Town Administrator managed this effort, and then it was taken over by the Planning Director. Both have worked closely with the School Business Manager, who is focused on reducing operating costs for her department, which accounts for the majority of the town's budget and energy use. In 2014, the Planning Director collaborated with her peer in the neighboring town of Millbury to apply for DOER's energy manager grant program, which has provided funding to hire a part-time Energy Manager who splits her time between the two towns.

AT A GLANCE:

- ♦ Population: 9,600
- ♦ Size: 34 square miles
- ♦ Reduction of municipal energy consumption: 21%
- ♦ Annual energy cost savings: \$114,000

LEARN MORE:

- ♦ http://suttonma.org/pages/SuttonMA_Green/index

ACTIONS

Sutton has taken a multipronged approach to reducing its energy consumption, and in a short time energy efficiency has become an integral part of the town's operations and planning.

Energy audits – Sutton took advantage of free energy audits provided through its electric utility company, National Grid. Audits were conducted in all town facilities, and staff found them very helpful for identifying energy efficiency measures and providing documentation necessary for grant applications.

Energy efficiency measures

Sutton has implemented energy efficiency measures in every town facility. These were funded through a combination of municipal funds, two Green Communities grants from DOER, and utility rebates. The town prioritizes measures with a simple payback period of less than five years.

- ♦ **Exterior lighting upgrades** – The town converted its street lights to high pressure sodium technology in 2011 through a utility program, and Town Meeting voted unanimously to further upgrade to LED lighting in 2015. Lighting was also upgraded to LED lighting in the parking lot of the school complex, which includes all of Sutton's schools on one site.
- ♦ **Interior lighting upgrades and controls** – In most town facilities, Sutton has upgraded to energy-efficient lighting and installed occupancy sensors to automatically turn lighting on and off based on occupancy. The school complex also has daylight dimming sensors to take advantage of natural light when possible.
- ♦ **Efficient equipment selection** – Sutton chose high efficiency models when replacing the aging water heater and boiler at the Municipal Complex, which includes Fire, Police and Administrative Offices.
- ♦ **HVAC controls** – Several measures have been taken to reduce electricity and oil use in Sutton's heating, ventilation and air conditioning (HVAC) systems:
 - Variable frequency drives in the school complex adjust motor speeds to match output requirements.
 - A heat recovery system in the Municipal Complex preheats incoming fresh air in the winter by transferring heat from the outgoing exhaust air.
 - Demand control ventilation in the school complex automatically adjusts the amount of outside air let into the building to ensure that occupants are provided with the right amount of fresh air and optimize energy use.



Sutton's Board of Selectmen displays Green Communities sign

Removal of unnecessary equipment – Sutton removed the soda machines in the Municipal Complex. Staff now bring drinks in and store them in the existing refrigerators.

Efficient vehicles – Sutton purchased its first hybrid vehicles and adopted a policy requiring town departments to consider fuel efficiency for all vehicles, even the larger vehicles that are exempt from the Green Communities requirement. The town has also made efforts to reduce fuel use by avoiding idling vehicles.

Energy awareness program – Sutton has reduced wasted energy in town facilities by reminding staff to take basic steps such as turning lights off when rooms aren't occupied, using energy saving mode on equipment, and turning computers off over the weekend. Educational materials have been distributed to employees and the Town Administrator regularly emphasizes the importance of this effort at staff meetings. Signs are posted near light switches and on copy machines, and people remind each other when they see lapses. These efforts have been successful in making energy-efficient behavior a part of the culture for town employees.

Community engagement – Staff continuously work on educating residents about the town's energy efforts and successes, through the local access television station, press releases in the local newspaper, and presentations at the senior center and the high school environmental club. These efforts have helped gain public support for energy projects and funding from Town Meeting.

Department budgets – Town staff understand that cost savings from reducing energy use can make room in their operating budget for other uses, so they look for energy efficiency opportunities throughout the year and bring ideas to the Planning Director or Energy Manager.

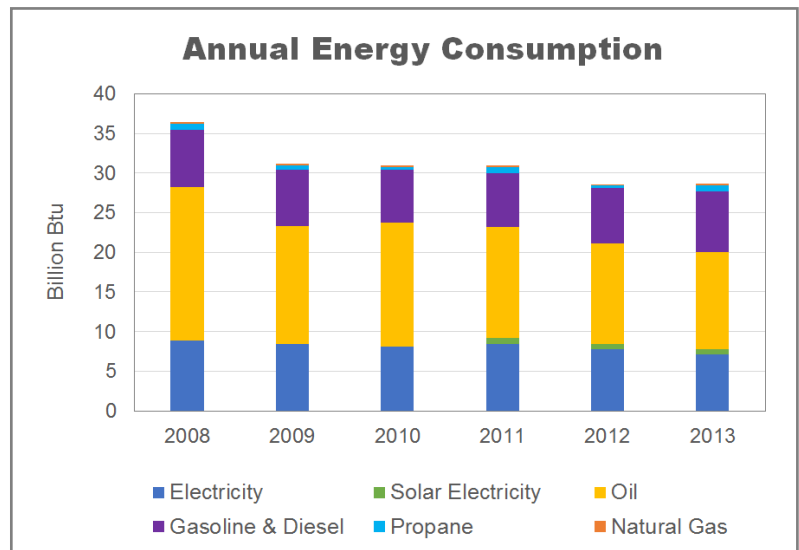
Energy efficiency fund – To assure an ongoing source of funding for these efforts, in 2013 Sutton committed at least 3 percent of future annual capital plans to energy efficiency projects.

Capital planning – Sutton has added a question about energy efficiency to the form that department heads use to submit their capital planning requests each year, and that information is considered when prioritizing projects.

RESULTS

Sutton reduced municipal energy consumption by 21 percent from 2008 to 2013. The town's annual energy savings is approximately \$114,000 to date. After Green Communities grants and utility incentives, the payback period was less than two years for most of the energy efficiency measures taken.

To date, Sutton is the smallest community and the only one in central Massachusetts to achieve the program's goal of reducing energy use by at least 20 percent. The town has committed to energy efficiency as an ongoing priority, so after reaching that goal, they are looking to what they can do next.



RECOMMENDATIONS

Emphasize leadership's support. Strong leadership has been a key factor in Sutton's success as a Green Community. The Town Administrator and Board of Selectmen have made energy efficiency and renewable energy a priority, and staff understand that they are expected to contribute to these efforts.

Communicate with the community. Resident support of energy projects and associated funding requests has been bolstered by outreach about the benefits of these efforts and the town's successes to date.

Use all available resources to achieve cost-effective energy savings. By prioritizing cost-effective measures and using technical support and funding provided by DOER and their utility, Sutton saw a payback of less than two years for the many of the investments they have made in energy efficiency. The town also achieves some energy savings from behavioral measures that have no implementation cost.

Integrate energy efficiency into operations and planning. Sutton has included energy efficiency as a consideration in their capital planning process, committed to investing a portion of their annual budget in energy efficiency, and encouraged staff to consider the impact of their daily actions and purchasing decisions on the town's energy consumption.

"Energy efficiency is now a part of everything the town does."

- Jennifer Hager,
Planning Director