UNDERSTANDING

Retrofit Municipal Buildings

climate & energy

PURPOSE

To increase energy efficiency and reduce energy waste in municipal buildings.

Public buildings lose significant amounts of energy through poor insulation of walls, windows, ducts and pipes, as well as poor monitoring and maintenance of building structures. When municipalities improve energy efficiency by retrofitting public buildings, they use less energy over the long-term, reduce pollution, lower the amount of greenhouse gas emissions from their operations, and reduce energy spending.

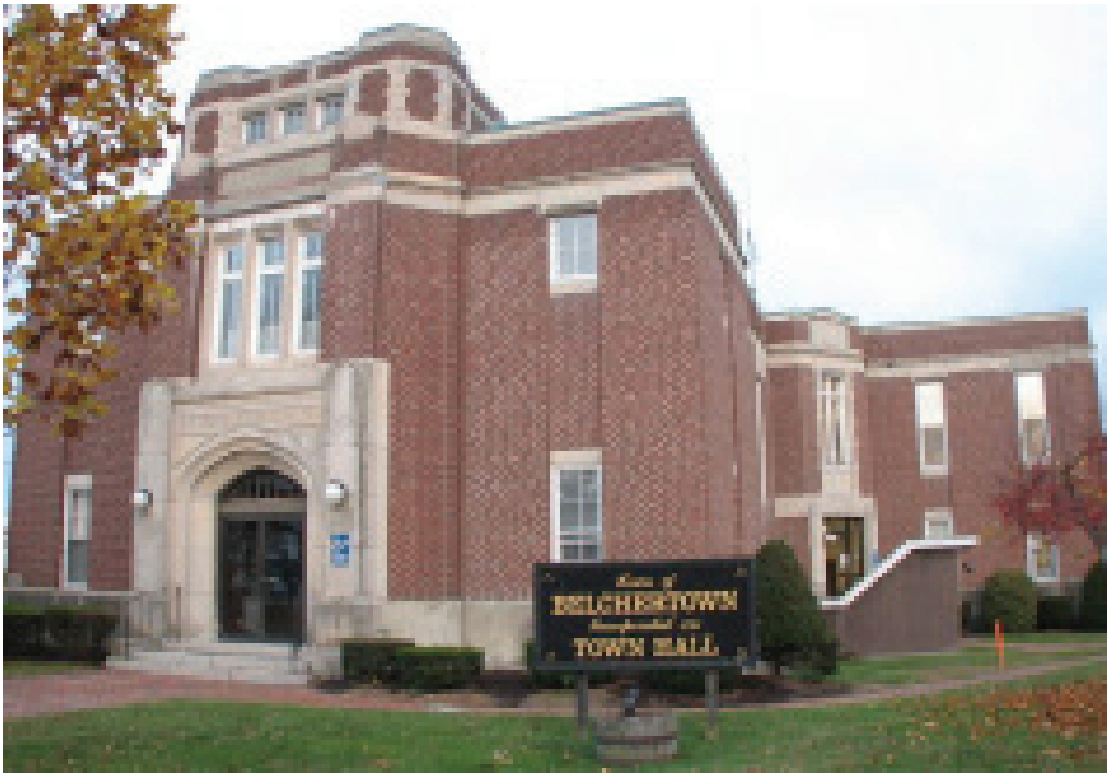
HOW IT WORKS

Older public buildings are often energy inefficient. They can quickly lose heat in the winter and prove difficult to keep cool in the summer because of a compromised building envelope that allows a large volume of air exchange between the outside and inside of the building. Securing this building envelope with better insulation, window glazing, as well as updating the mechanical systems of a building, such as the boiler, air conditioners, lighting and plumbing will help reduce energy use, cost, carbon dioxide emissions and other pollutants.

A municipality can partner with an Energy Service Company or the local utility company to complete energy audits of buildings. The steps in this process are to agree upon:

- **proposed improvements;**
- **timeline for improvements;**
- **payback period on improvements; and**
- **financing for the work to be completed.**

Often the Energy Service Company will guarantee that the energy savings from proposed improvements will at least equal the cost of the proposed improvements, thus allowing the improvements to move forward without any out of pocket expenses for the municipality.



Belchertown Town Hall received energy efficiency upgrades in 2011

EXAMPLES OF WHERE STRATEGY HAS BEEN ADOPTED

Belchertown, Massachusetts authorized the use of either traditional tax-exempt bonds or qualified energy conservation bonds to pay for the installation of roughly $3.3 million worth of energy upgrades for town and school buildings. The energy services company predicted that the upgrades will save the town $256,000 annually for a period of 17 years. These savings are based on fuel and electricity prices for 2010.

West Springfield, Massachusetts approved bonding $3.8 million to fund energy-saving projects for various municipal buildings such as boiler replacements for several of the town's schools. The energy service company guaranteed that the improvements would generate savings, and the contract with the City states that the company will pay the city the difference if it does not.

Toledo, Ohio sold bonds to finance a project with a systems controls company to complete energy efficiency improvements in municipal buildings. The contract with the city's systems control company guaranteed that financial savings from improved efficiency

would pay back the bonds—any shortfalls were covered by the controls company and any savings accrued to the city. This financing system has paid for building improvements of over $10 million.

Portland, Oregon completed comprehensive retrofits of city buildings that included installing energy efficient lighting and windows. These energy efficiency measures resulted in cost-savings through lower utility bills. Portland has saved over ten percent on annual utility bills, or approximately $1 million per year, since implementing the program.

LINKS TO MORE INFORMATION:

INFORMATION ON ENERGY SERVICE COMPANIES PROVIDED BY THE NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES:
http://www.naesco.org/

INFORMATION ON THE FUNDING OPPORTUNITIES THROUGH THE MASSACHUSETTS GREEN COMMUNITIES PROGRAM:
http://www.mass.gov/?pageID=eoeeasubtopic&L=3&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Green+Communities&sid=Eoeea

INFORMATION ON PORTLAND OREGON'S CITY ENERGY CHALLENGE:
http://www.smartcommunities.ncat.org/success/city_energy.shtml

FOR MORE INFORMATION, PLEASE CONTACT

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