



Rebuild America Success Stories highlight partnerships working to improve communities by practicing energy awareness and investing in energy-saving measures.

- New Building Design
- Existing Building Improvement
- Operations and Maintenance
- Renewable Energy Technologies
- Financing Building Improvements

City of Medford Improves Community Through Energy Efficiency

Colonial Settlement Makes History Through Retrofits

The City of Medford, located near Boston, is one of the oldest cities in America. Founded in 1630, the City has overcome obstacles to stay strong and viable. In response to the rise in energy use and greenhouse gas emissions in Medford, city officials have worked diligently to upgrade municipal buildings and facilities to achieve a higher, more efficient standard. Rebuild America is providing technical assistance and guidance to keep the City ahead of the curve as the nation works towards energy independence and efficiency.



The Challenge

In 1999, Medford's leaders realized that their municipal and community buildings were consuming a lot of energy. Emissions of greenhouse gases were also a problem. Government officials created an Energy Task Force to help solve these energy and environmental issues. Task Force members include representatives from public works, schools, fire divisions, police, engineering, housing authorities and local utility companies.

The development of a "Climate Action Plan" helped get the City moving on environmental and conservation initiatives. Under the plan, Medford targeted high-energy use buildings for improvements.

The Solution

The action plan was a valuable tool in starting Medford on an energy-efficient path. To help with the implementation of planned and future projects, the City of Medford joined Rebuild America in 2002. The Massachusetts Division of Energy Resources, Rebuild Massachusetts Program, provided funds and technical assistance to help Medford configure a baseline for its energy use in municipal buildings. Through an energy management system, the City monitors, records and analyzes energy use and costs.

The City of Medford has completed and has underway several energy-efficiency upgrades throughout the community. One of the first efficiency projects took place at Medford City Hall. In 1999, municipal officials decided to convert the building's

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Partnership Facts:

Name of Partnership:
City of Medford

Targeted Buildings:
Local Government

Space Improved:
Over 50,000 square feet

Annual energy cost prior to project: Approximately \$2 million (this includes all buildings, traffic lights, and streetlights)

Annual energy savings:
Approximately \$60,000 per year

Amount invested in energy-saving project or initiative: Approximately \$50,000

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For more information about energy-saving technologies, visit the Business Partners section of the Rebuild America Web site: www.rebuild.gov or contact Rebuild America at: 252-459-4664.

heating oil source to natural gas. Indoor fluorescent lighting was also upgraded from magnetic to electronic ballasts and eight photovoltaic panels were installed on the roof of the Hall. These improvements reduced energy costs by more than \$7,000 annually and carbon dioxide levels by 133 tons per year.

Lighting Improvements

After joining Rebuild America in April 2002, the City changed all of its traffic signals from incandescent bulbs to light emitting diodes (LEDs). This project has estimated energy savings of 90 percent. Since the lighting fixtures have an increased life of at least seven years, the maintenance costs are drastically reduced. Backup batteries are also included in the new traffic lighting through photovoltaic sources. This is an extremely important safety component because traffic signals will continue to work in the event of power failure.

Economic benefits from the new LEDs were a strong incentive for the City to convert its lights. The City of Medford is receiving a 45 percent rebate on capital costs from Massachusetts Electric. Additionally, the City projected an annual cost savings of \$27,600 with a 21-month payback period.

Solar Power

Building on its success with LEDs, Medford explored another type of energy-efficient technology: photovoltaics. Solar panels were installed in Hormel Stadium, a public stadium and home of the Medford High School Mustangs. Dagle Electric and Contracting, a local contractor, helped city officials install the solar panels at minimal cost. The new panels are expected to generate enough power to light all of Medford High School's night football games.

What the Future Holds

The City of Medford is continuing to work with the Energy Task Force and the Commonwealth's Rebuild Massachusetts Program to further the energy-efficient and environmental advancements of the community. Through monitoring of the energy management system, city buildings will be serviced based on their annual efficiency index and energy needs.

To learn more visit: www.eere.energy.gov



A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

Rebuild America is a U.S. Department of Energy program that focuses on improving communities through energy-saving solutions.



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