

2010 Leading by Example Awards

Presented by the Commonwealth of Massachusetts



The **Leading by Example Awards** recognize outstanding efforts among Commonwealth agencies, public higher education institutions, and municipalities that have established and implemented policies and programs resulting in significant and demonstrable energy and environmental benefits.

The 2010 LBE Award Winners – a snapshot of their achievements

STATE AGENCIES

The **Massachusetts Department of Fire Services** expanded and renovated its training complex facility in Stow, creating a model for “what’s possible” in terms of building energy efficiency and sustainable design and construction practices. The new expansion provides 77,000 sq. ft. of new construction and 38,000 sq. ft. of renovated space, and despite a tripling of building size, the overall campus energy usage is projected to be reduced by 30% and greenhouse gas emissions by 40%. Onsite solar power will provide 8% of the total energy used. Water conservation strategies are incorporated throughout from low-flow fixtures to bio-swales to rain water collection for reuse in fire training, irrigation, and building non-potable uses. A total of 60,000 gallons will be stored for reuse throughout the campus, reducing potable water consumption by 65%.



This year, the **Massachusetts Department of Transportation** instituted its “GreenDOT Policy,” a comprehensive initiative requiring sustainability strategies and measures be incorporated into all of MassDOT’s activities, with a specific emphasis on: 1) greenhouse gas reduction 2) promotion of healthy transportation options—walking, bicycling, and public transit, and 3) support for smart growth development. The Policy sets a goal of reducing greenhouse gas emissions over 2 million tons by 2020, a reduction of about 7% below 1990 emission levels. MassDOT undertakes a range of sustainability initiatives in its operations including using recycled materials called RAP (Recycled Asphalt Pavement) in pavement projects, recycling tires for asphalt mix, and purchasing re-refined oil and bio-fuels for use in the agency vehicles. In addition, MassDOT continues to grow its MBTA low-emission fleet by incorporating compressed natural gas (CNG), emission-controlled diesel, and electric buses. MassDOT is exploring opportunities for onsite renewable energy at its facilities and just awarded a contract for the installation of a 1.65-MW wind turbine in Blandford (along the Mass Turnpike).

PUBLIC HIGHER EDUCATION

University of Massachusetts Amherst, the largest energy user among state facilities, generating some 20% of total state government greenhouse gas emissions, has successfully reduced its greenhouse gas emissions by 26% from the baseline (2002-2004), three years ahead of the 25% reduction requirement in Governor Patrick’s Executive Order No. 484. The Campus achieved this milestone through a combination of building efficiency measures, conversion to a 10 MW natural gas co-generation power plant, and the elimination of its coal-fired power plant. The new facility provides all of the Campus’ heating needs and up to 75% of its electricity needs. UMass Amherst is also evaluating the feasibility of a 1+ MW solar array on vacant fields. In addition, UMass Amherst has reduced its water consumption across campus with the installation of low-flow toilets and fixtures.



University of Massachusetts Medical School launched its Growing Green Program in 2009 to track energy use and performance as well as educate the campus and adjoining UMass Memorial Medical Center about the importance of sustainability. To reduce carbon emissions, UMass Medical has switched from oil to natural gas in several facilities, eliminating 900,000 gallons of #6 oil: the dirtiest of the fuels used to heat our buildings. In addition, a newly implemented electronic pay stub program for 6,600 employees will eliminate 3,000 pounds of carbon emissions each year. The Campus is also investing in a variety of energy efficiency measures from lighting to HVAC equipment. This past spring, UMass Medical opened its new state-of-the-art green Data Center at the South Street campus in Shrewsbury, which uses 40% less energy than the old data center.

The 2010 LBE Award Winners

MUNICIPALITIES

The **City of Medford's** commitment to green initiatives and investment in both energy efficiency and renewable energy dates back more than 10 years. In 1999, the City conducted its first baseline greenhouse gas emissions inventory and in 2001, became the first municipality in the Commonwealth to develop a climate action plan. Some of Medford's green initiatives include the conversion of all traffic lights in the City to LEDs, diesel retrofits of school buses, establishment of an anti-idling policy, energy audits at all public schools, and a residential single stream recycling program. In 2009, the City installed a 100-kW wind turbine at the Andrews and McGlynn School Complex, which now generates 10% of the school's electricity. In addition, the City completed feasibility studies for solar PV installations at all six public schools and recently issued an RFP for the installation of a minimum of 500-kW through a power purchase agreement. In June 2010, the City of Medford was designated a "Green Community" by the Commonwealth, meeting five criteria including adoption of the state's Stretch Energy Code.



The **City of Northampton** entered into \$6.5 million energy services performance contract to reduce municipal energy use by 20% as well as associated greenhouse gas emissions. This comprehensive approach to energy efficiency has resulted in a variety of projects in over 25 buildings including installation of high-efficiency boilers and windows, converting heating systems from electric and oil to natural gas, improved energy management systems, and solar pre-heating of building space. In addition, the City has installed high-efficiency LED lamp fixtures and florescent lamps at city parking facilities, and solar PV at JFK Middle School, the James House of Learning Center, and its vocational high school. In addition, Northampton has an 800-kW landfill gas to energy facility, which went on-line in 2007. The City also requires that all new municipal building construction meet LEED certification standards. Northampton's commitment to sustainability has resulted in 22 miles of bike paths and lanes, 140 bike parking spaces, and 12 bike lockers with an ongoing goal of a multi-use trail within 1/2 mile of 70% of residents.

The **Town of Greenfield** launched its "Greening Greenfield" campaign in 2007 in collaboration with its citizen Greening Greenfield Energy Committee. Soon after, the Town conducted a comprehensive energy audit that found that residents and businesses in Greenfield spent \$86 million on energy for buildings and transportation. The results of this audit have inspired action across the public and private sector including construction of a 2-MW solar array on the Town's closed landfill, working with an ESCO to invest \$4.1 million in energy upgrades to municipal buildings including schools, installation of LED traffic lights, and the *Greenfield 10% Challenge*—an initiative designed to enlist 10% of households and businesses to reduce energy use by 10% by the end of 2010; to date, 750 households and 40 businesses have signed the pledge. And last month, Greenfield broke ground on the first-of-its-kind zero net energy transit station. In addition to energy initiatives, the Town has a long-standing commitment to natural resource protection and has been designated a "Tree City" for the past six years by Tree City USA.



The **Town of Mashpee** has established an energy and waste management policy that will result in greenhouse gas emissions reduction, energy efficiency, enhanced recycling, and waste reduction, creating critical cost-savings for the Town. Mashpee is actively working with Cape Cod Light Compact on energy efficiency improvements and since 2007, has implemented \$107,000 in lighting and HVAC efficiency measures. At the DPW alone, these improvements have reduced electricity use by 50%. In addition, the Town is investing in renewable energy including a 2-kW solar array at Mashpee High School, 20-kW array at the public library, two 1.2-kW vertical micro-wind turbines at Heritage Park, and several new solar projects are in the pipeline totaling 350-kW. Feasibility studies are underway for a 1.32-MW ground-mounted solar array at the Mashpee landfill and up to a 1.5-MW wind turbine at the high school. The Town of Mashpee has a goal of reaching net-zero for municipal operations within five years.

All four 2010 municipal winners have been designated "Green Communities" by the Commonwealth. For more information go to: www.mass.gov/energy/greencommunities.

