



ENERGY EFFICIENCY IN STATE BUILDINGS

LEGISLATIVE REPORT

September 2013



SUBMITTED BY:

**CONNECTICUT DEPARTMENT OF ENERGY &
ENVIRONMENTAL PROTECTION**

Lead By Example Program Summary Update September 2013

“Lead by Example” Program: Energy Efficiency in State and Municipal Buildings

Department of Energy and Environmental Protection (DEEP)

Challenge: State and municipal government spend a lot of money on energy. Energy efficiency initiatives can help lower energy bills, however, many government entities lack the technical and fiscal resources to identify and make sound investments in efficiency upgrades.

Initiative: The “Lead by Example” program has developed the following initiatives to reduce energy use in state and municipal buildings: (1) energy equipment retrofits in state buildings using bond funds, and (2) large projects with multiple energy savings measures at state and municipal buildings through the State’s standardized Energy Savings Performance Contracting Program.

Impact:

- ✓ **Connecticut taxpayers will save \$1.84 million per year** through reduced state energy bills as a result of bond funded energy retrofits approved to date.
- ✓ Initial Energy Savings Performance Contracting projects at Department of Corrections, Connecticut Valley Hospital, and the Department of Motor Vehicles are projected to **save Connecticut taxpayers approximately \$5 million per year.**

As of September 1, 2013, **49 bond-funded energy efficiency retrofits in state buildings have been approved for a total commitment of \$11.258 million with an average payback of 6.1 years.** These projects are projected to save agencies approximately 610 billion British Thermal Units annually, which is equivalent to:

- ✓ **4,880,000 fewer gallons of gasoline used, or;**
- ✓ **5,126 homes in CT taken off of the electricity grid, or;**
- ✓ **43,571,428 fewer pounds of coal used, or;**
- ✓ **4,357,142 fewer gallons of home heating oil used.**

Initial projections for the Energy Savings Performance Contracting projects at Department of Corrections, Connecticut Valley Hospital, and the Department of Motor Vehicles estimate an **investment of \$75 million in energy savings measures across these three agencies, all of which will be paid back through guaranteed future energy savings within 15 years.** These projects and those that follow will result in rigorous measurement and verification to ensure the guaranteed energy performance and cost savings, installation of real-time monitoring devices to allow facility managers to continuously improve building energy use, and the creation of green jobs in Connecticut.

The Department is in the early stages of implementing a State Parks Renewable Energy Technology Initiative. This initiative is funded with \$1.0 million in Merger Settlement Funding and includes the installation of geothermal heating and cooling, solar photovoltaic, solar thermal hot water, solar lighting and other renewable technologies. This initiative will:

- ✓ Increase state government’s use of clean energy alternatives
- ✓ Increase the reliability of the state’s energy infrastructure by reducing strain on the electric grid, particularly during peak usage periods
- ✓ Increase energy surety by reducing dependence on fossil fuel sources and utilization of distributed onsite generation technologies

- ✓ Demonstrate alternative energy technologies in high visibility venues to educate the public and Lead by Example

Lead by Example Case Study:

Department of Transportation Energy Efficiency Project

The Department of Transportation maintains parking lot lighting at 118 commuter parking lots located throughout the State of Connecticut. The lots were illuminated by 543 High Pressure Sodium (HPS) type light fixtures operating on a "Dusk to Dawn" schedule equating to 4,200 hours per year for each fixture. The DOT is using \$345,000 in Lead by Example funding to convert all 543 light fixtures to Light Emitting Diode (LED) fixtures.

- ✓ The use of the LED fixtures is projected to reduce energy usage by 855,000,000 BTU annually, resulting in an annual cost reduction for electricity use of \$32,000. Additional savings of \$5,000 per year will be realized due to reduced maintenance costs from the longer life characteristics of the LED fixtures.
- ✓ All savings will be accomplished using existing DOT maintenance staff to install the LED fixtures.