



*RGGI Grant: Energy Efficiency  
Improvements in Educational,  
Municipal and Commercial Buildings*

***LighTec, Inc.***

**Merrimack, NH**

**[www.lightec.net](http://www.lightec.net)**

# *Program Concept*

- Leverage GHGER funds, in conjunction with, utility rebates (where available), and client contributions to fund viable and shovel ready, energy savings projects, that did not satisfy the clients economic criteria and therefore would not otherwise be implemented.

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# *Program Metrics*

- Program Metrics
  - Length: 18 months (2009-2011)
  - Grant Amount: \$316,000
  - CO<sub>2</sub> emissions reduction goal: 824 metric tons annually

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# *Overall Program Results*

- \$316,000 (18%) RGGI grant leveraged \$1.73 million in program costs.
  - Of the \$316,000 RGGI grant, approximately 64% helped fund customer projects.
- Program Funding Source Break down:
  - program participant 39%
  - SBC 24%
  - EECBG 18%
  - RGGI 18%
- Three full time positions were added at LighTec

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# *Program Tasks*

- **Task 1:** Perform 3 investment grade energy audits
- **Task 2:** Increase Energy Efficiency in 13 educational facilities, 2 municipalities and 2 industrial corporations
- **Task 3:** Education and training to students, faculty and maintenance employees.

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# *Task 1 Results*

- Detailed, Fuel Blind, Building Audit and Report.
  - Looked at all energy using systems in the building
  - Baseline Building Simulation (E-Quest),
  - Energy Efficiency Measure (EEM) recommendations with cost /benefit Analysis
- Completed for:
  - Town of Wolfeboro
  - Holy Cross Condo Association
  - Town of Merrimack

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# *Task 2 Results*

- LighTec Implemented 21 energy saving projects within 60 facilities. Efficiency measures included:
  - Building energy control systems
  - Installation of high performance lighting and lighting controls
  - 1 motor performance controller
- Exceeded emissions reduction goal by 133%
  - (1,100 vs. 824 metric tons of CO<sub>2</sub> annually).
- End-users saved \$344,000 cumulatively in annual energy costs.
- Combined annual energy savings of:
  - 1,405 MMBTU
  - 2,075 MWh
  - 621 kW (peak monthly demand reduction)

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# *Task 3 Results*

- Goal: to provide education to students, faculty and maintenance employees about projects and their efficiency measures that they can use at home.
- Educational options:
  - Presentation to staff
  - Posters to put in prominent locations
  - Newsletters describing projects
  - Any combination of these choices
- Chosen: 5 presentations, 14 lobby displays and 12 newsletters
- All Materials can be viewed on LighTec's website [www.lightec.net](http://www.lightec.net)

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# *Case Study: Hollis Municipal and School Buildings*



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# *Project Funding Sources*

- The Town of Hollis and its Local Energy Committee leveraged funding from the following sources:
  - Client Contribution: \$158,672 (35% of total project cost)
  - ARRA : \$143,001 ( 32% of total project cost)
  - RGGI : \$41,857 (9 % of total project cost)
  - System's Benefit Charge : \$107,235 (24% of total project cost)

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# *Project Scope*

LighTec, Inc. engineered and installed a high efficiency lighting and lighting controls project to replaced the 1990s vintage standard T-8 fluorescent lamps and ballast in the following locations:

<b>School Buildings:</b>	<b>Town Buildings:</b>	
Hollis-Brookline High School	Fire Station	Lawrence Barn
Middle School	Social Library	Transfer Station
Hollis Primary School	Police Station	Always Ready Engine House
Upper Elementary School	DPW Garage	Stump Dump Office
SAU Office	Town Hall	

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# Lighting Project Savings Summary: Hollis Schools

Annual Estimated Cost Savings:  
**\$55,332**

Annual Estimated kWh Savings:  
**356,982**

CO<sub>2</sub> Avoided: **176 metric tons**. Equivalent to:

- Carbon absorbed by **4,513** tree seedlings grown for 10 years
- Removing emissions from **34** cars and **19,731** gallons of gasoline consumed
- Removing **61** tons of trash from the landfill



# *Lighting Project Savings Summary: Hollis Municipal Buildings*

Annual Estimated Cost Savings:  
**\$8,155**

Annual Estimated kWh Savings:  
**49,566**

CO<sub>2</sub> Avoided: **24 metric tons**. Equivalent to:

- Carbon absorbed by **616** tree seedlings grown for 10 years
- Removing emissions from **5** cars and **2,695** gallons of gasoline consumed
- Removing **8** tons of trash from the landfill



# *Other RGGI Projects Completed*

- Brookline Schools and Municipal Buildings
- Hollis Schools and Municipal Buildings
- Chesterfield Elementary School
- Litchfield Schools
- Mt. St. Mary's Academy/ Manchester Music School
- New England College
- New Hampton School
- Newfield's Elementary School
- Rivendell Academy
- Wells Memorial Elementary School
- White Mountain Regional High School
- Dunbarton Town Hall
- Town of Tamworth
- Town of Wolfeboro
- Excalibur Machine
- NorthStar Direct
- PCC Structural's



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