

# Energy Conservation Initiative (ECI) Project Summary

## Barton Lab Geneva, Facility 4935A

**What We Did:** The project upgraded Barton Hall laboratory building with a new building automated system with the newest digital control system. We installed new variable air boxes throughout the building for proper laboratory ventilation performance with occupancy based demand. We upgraded all the ventilation fans on each floor with new controls, new valves, damper actuators and variable speed drives. We also reconfigured some ductwork throughout the floors. The building exhaust system was brought up to modern code by installing a new exhaust manifold on the roof that allows for proper disbursement of exhaust effluent.

**What It Cost:** \$1,100,100

**How Long It Took:** 16 months.  
Completed January 2015.

**What We Saved:** \$77,000 and 65 tons/per year carbon equivalent annually.

**Benefits:** Updating controls and replacing variable air volume boxes throughout the building addressed a significant deferred maintenance item. The new controls enable the building to operate in a safer more comfortable manner.

The project was a success in updating outdated mechanical systems with newer more efficient systems reducing maintenance and energy use while improving comfort and lab safety for the occupants.

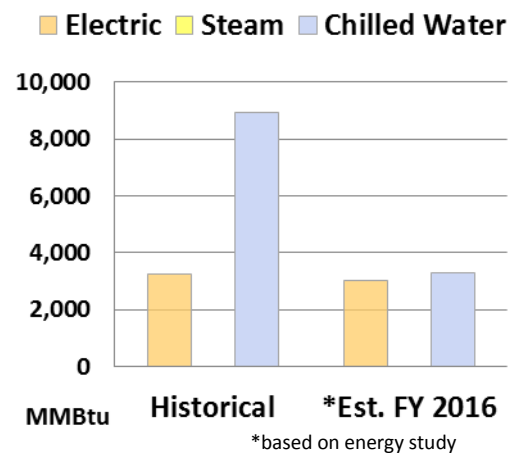
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### Barton Lab Geneva Upgrade



[Map](#)  
[Utilities Costs and Use](#)

Barton Lab Geneva Upgrade:  
Total Energy Use - Pre & Post ECI



### Barton Lab Geneva Upgrade: ECI Savings Table

Utility	Historical Energy Use (MMBtu)	*Est. FY 2016 Energy Use (MMBtu)	Energy Savings (MMBtu)	% REDUCTION	Historical Cost (billed rates)	*Est. FY 2016 Cost (billed)	Annual Savings \$	Equivalent # Homes
Electric	3,300	3,000	300	9%	\$78,000	\$73,000	\$6,000	8
Steam								
Chilled Water	8,900	3,300	5,600	63%	\$112,000	\$41,000	\$71,000	112
<b>Totals</b>	12,200	6,300	5,900	<b>48%</b>	\$190,000	\$114,000	\$77,000	<b>120</b>



Energy use based on project scope

Equivalent # Homes Savings based on average home use: 40 MMBtu Electric • 90 MMBtu Heat • 50 MMBtu Cooling

