

# Energy Conservation Initiative (ECI) Project Summary

## Boyce Thompson Institute, Facility 1076

**What We Did:** We upgraded and optimized the majority of the main air handlers for the building, with variable speed drives and new valves with modified ductwork to introduce return air thereby reducing energy consumption. We upgraded the legacy controls on the hot water heating systems to optimize and implement greater efficiency. We installed variable speed drives on exhaust fans to reduce energy consumption.

**What It Cost:** \$377,000

**How Long It Took:** 6 months.

Completed December 2014.

**What We Saved:** \$80,000 and 113 tons/per year carbon equivalent annually.

**Benefits:** The project addressed many deferred maintenance items removing pneumatic controls in installing variable speed drives on supply and exhaust fan motors. Updated control sequences were added to optimize energy use.

The energy conservation project at BTI addressed significant deferred maintenance. The updated building control system reduced energy use while increasing occupant comfort.

Mark Howe  
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Energy and Sustainability

### Boyce Thompson Institute

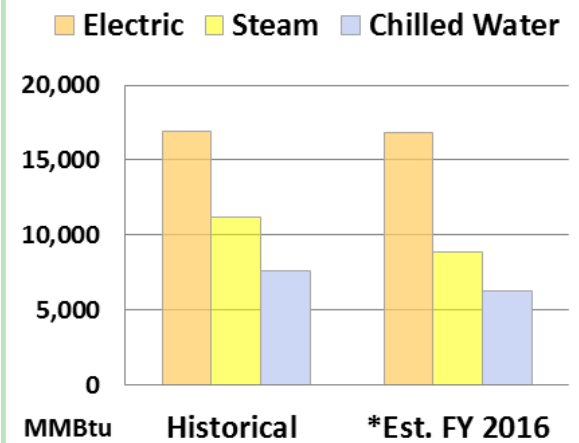


photo by Michael Carroll

[Map](#)

[Utilities Costs and Use](#)

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Total Energy Use - Pre & Post ECI



\*based on energy study

### Boyce Thompson Institute: ECI Savings Table

Utility	Historical Energy Use (MMBtu)	*Est. FY 2016 Energy Use (MMBtu)	Energy Savings (MMBtu)	% REDUCTION	Historical (billed rates)	*Est. FY 2016 Cost (billed)	Annual Savings \$	Equivalent # Homes
Electric	17,000	16,800	200	1%	\$348,000	\$345,000	\$3,000	5
Steam	11,200	8,900	2,300	21%	\$252,000	\$200,000	\$52,000	30
Chilled Water	7,600	6,300	1,300	17%	\$140,000	\$115,000	\$25,000	26
<b>Totals</b>	<b>35,800</b>	<b>32,000</b>	<b>3,800</b>	<b>11%</b>	<b>\$740,000</b>	<b>\$660,000</b>	<b>\$80,000</b>	<b>61</b>



Energy use based on project scope

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

