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 equiv-

alent 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.

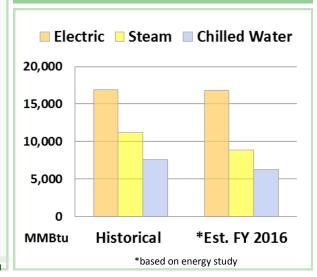
Mark Howe Campus Energy Manager Energy and Sustainability

Boyce Thompson Institute



Map Utilities Costs and Use

Boyce Thompson InstituteTotal Energy Use - Pre & Post EC



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 Wate	r 7,600	6,300	1,300	17%	\$140,000	\$115,000	\$25,000	26	
Totals	35,800	32,000	3,800	11%	\$740,000	\$660,000	\$80,000	61	

Energy use based on project scope

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

