

Energy Conservation Initiative (ECI) Project Summary

Guterman Greenhouse, Facility 1068, 1068B

What We Did: Working in partnership with Cornell University Agricultural Experiment Station all greenhouse lighting and environmental controls throughout 47 greenhouse ranges were replaced. The new lighting is dimmable high pressure sodium (replacing on/off metal halide) and is controlled by the same environmental controls that operate the heating and cooling systems.

What It Cost: \$2,100,000

How Long It Took: 17 months. Completing April, 2013.

What We Saved: \$337,000 and 386 tons/year carbon equivalent annually.

Benefits: The new lighting is significantly more efficient and will be controlled to provide a constant amount

of total light energy (natural plus artificial) delivered to the plants each day. The environmental controls stabilize inside temperatures and dramatically reduce heating and lighting energy usage, with all data and controls web accessible to the user.

The Guterman project is dramatically increasing our ability to manage and reduce energy usage in our greenhouse space with state-of-the-art lighting and controls. Our continued collaboration with the Energy Management staff in Facilities Services is transforming sustainability in our growth chambers and greenhouses across campus.

Andrew Leed,
Greenhouse Manager, Cornell University Agricultural Experiment Station

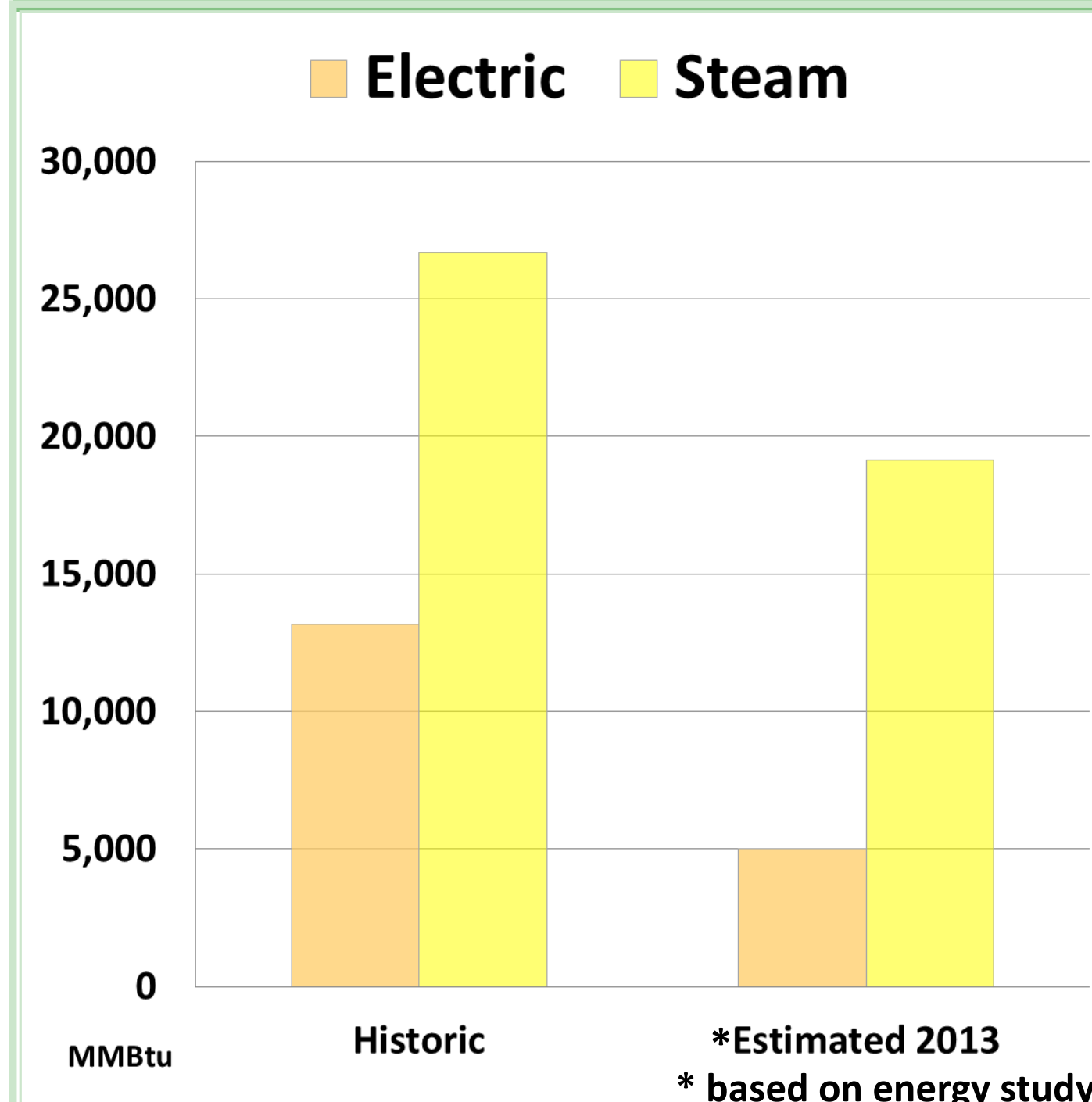
Guterman Greenhouse



[Map](#)

Guterman Greenhouse:
[Facility code 1068 Utilities Cost and Use](#)
[Facility code 1068B Utilities Cost and Use](#)

Guterman Greenhouse: Total Energy Use Pre & Post ECI



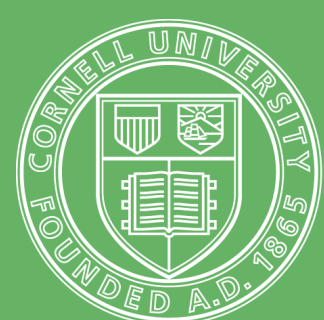
Guterman Greenhouse: ECI Savings Table

Utility	Historical Energy Use (MMBtu)	Est. FY 2013 Energy Use (MMBtu)	Energy Savings (MMBtu)	% REDUCTION	Historical Cost (billed rates)	*Est. FY 2013 Cost (billed)	Annual Savings \$	Equivalent # Homes
Electric	13,156	5,025	8,131	62%	\$270,000	\$103,000	\$167,000	203
Steam	26,677	19,139	7,538	28%	\$603,000	\$433,000	\$170,000	84
Chilled Water	-----							N/A
Totals	39,833	24,164	15,669	39%	\$873,000	\$536,000	\$337,000	287

Energy use based on project scope



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



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