

# Energy Conservation Initiative (ECI) Project Summary

## Emerson Heat Recovery, Facility 1028E

**What We Did:** The office and general space relief air was ducted to the lab's outdoor air intake which converted the existing 100% outside air supply system to a "mixed air" system. The laboratory space exhaust is not returned and leaves the building through dedicated exhaust. New air flow and temperature controls along with return ductwork were added to the system.

**What It Cost:** \$120,300

**How Long It Took:** 4 months. Completed October 2013.

**What We Saved:** \$25,500 and 48 tons/per year carbon equivalent annually.

**Benefits:** The returning of office and general space air as part of a "mixed air" system is very normal and reduces the need to heat and

cool new air to provide temperature control in the occupied spaces. Air is only 100% exhausted from laboratory spaces. Because this "older" design did not have a return air component, energy use was significantly increased higher than necessary.

The reuse of conditioned air from offices is a common practice in new facilities and will have a huge benefit in reducing the carbon footprint of Emerson Hall. In addition, updating the building HVAC controls provides increased functionality as well as contributing to a reduction in energy use.

Brian Flannigan  
Facilities Manager

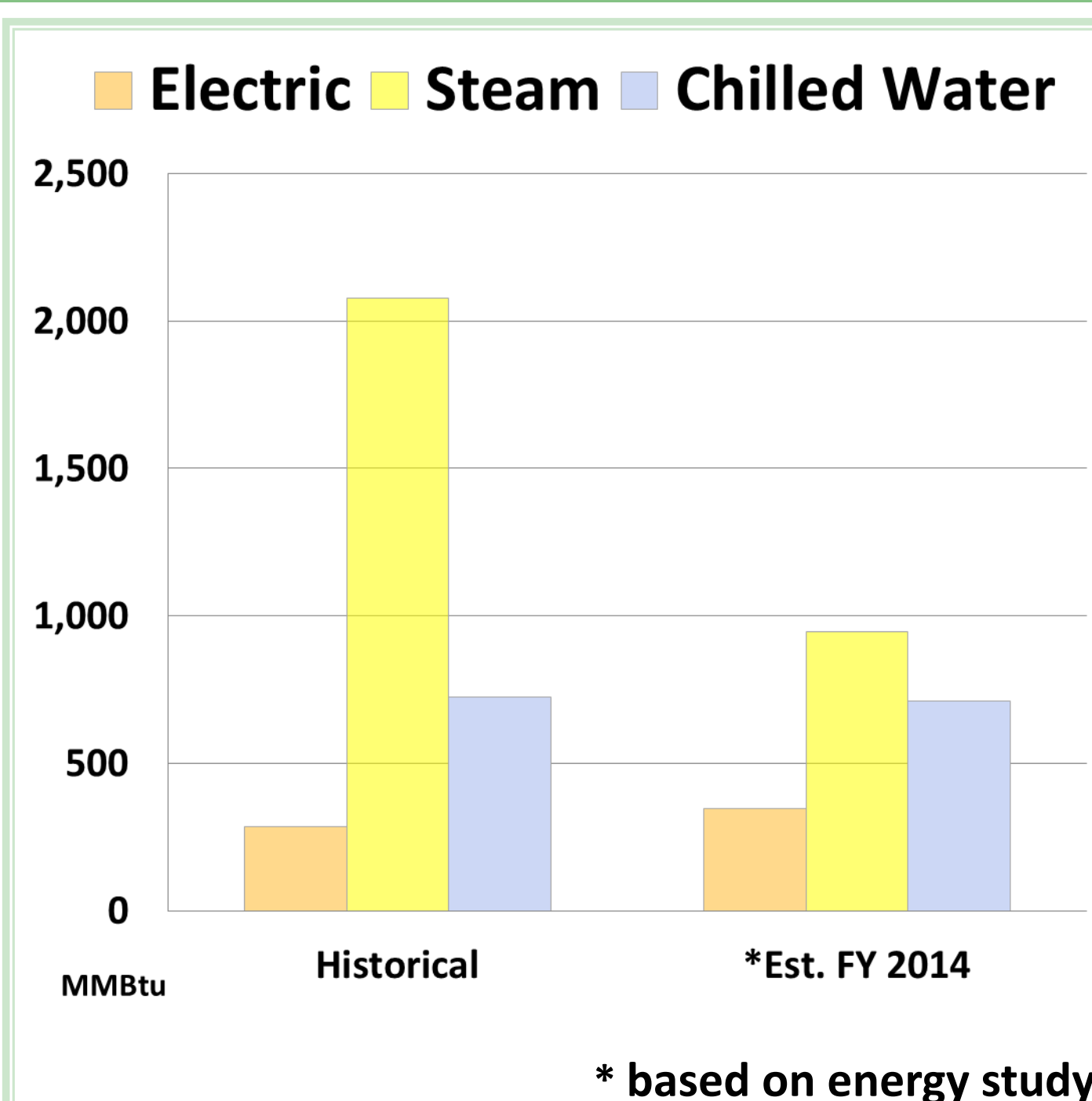
### Emerson Heat Recovery



[Map](#)

[Utilities Costs and Use](#)

Emerson Heat Recovery:  
Total Energy Use  
Pre & Post ECI



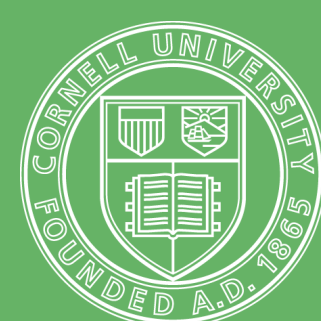
### Emerson Heat Recovery: ECI Savings Table

Utility	Historical Energy Use (MMBtu)	2014 Energy Use (MMBtu)	Energy Savings (MMBtu)	% REDUCTION	Historical Cost (billed rates)	*Est. FY 2014 Cost (billed)	Annual Savings \$	Equivalent # Homes
Electric	300	300	0	0%	\$5,900	\$5,900	0	N/A
Steam	2,100	900	1,200	57%	\$46,900	\$21,400	\$25,500	10
Chilled Water	700	700	0	0%	\$13,300	\$13,300	0	N/A
<b>Totals</b>	<b>3,100</b>	<b>1,900</b>	<b>1,200</b>	<b>57%</b>	<b>\$66,100</b>	<b>\$40,600</b>	<b>\$25,500</b>	<b>10</b>



Energy use based only on affected systems within project scope

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



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