

Energy Conservation Initiative (ECI) Project Summary

Bradfield Hall Airflow Reduction, Facility 1028B

What We Did: The building systems are older “dual duct” design and require a much larger capital renewal cost than an energy conservation project can provide. The solution chosen to reduce energy usage was to re-commission airflows to all spaces to match airflow to current laboratory usage, and variable speed drives were added to the general exhaust to match the new constant volume supply airflows.

What It Cost: \$30,000

How Long It Took: 4 Months. Completed December 2011.

What We Saved: \$51,600 and 74 tons/per year carbon equivalent annually.

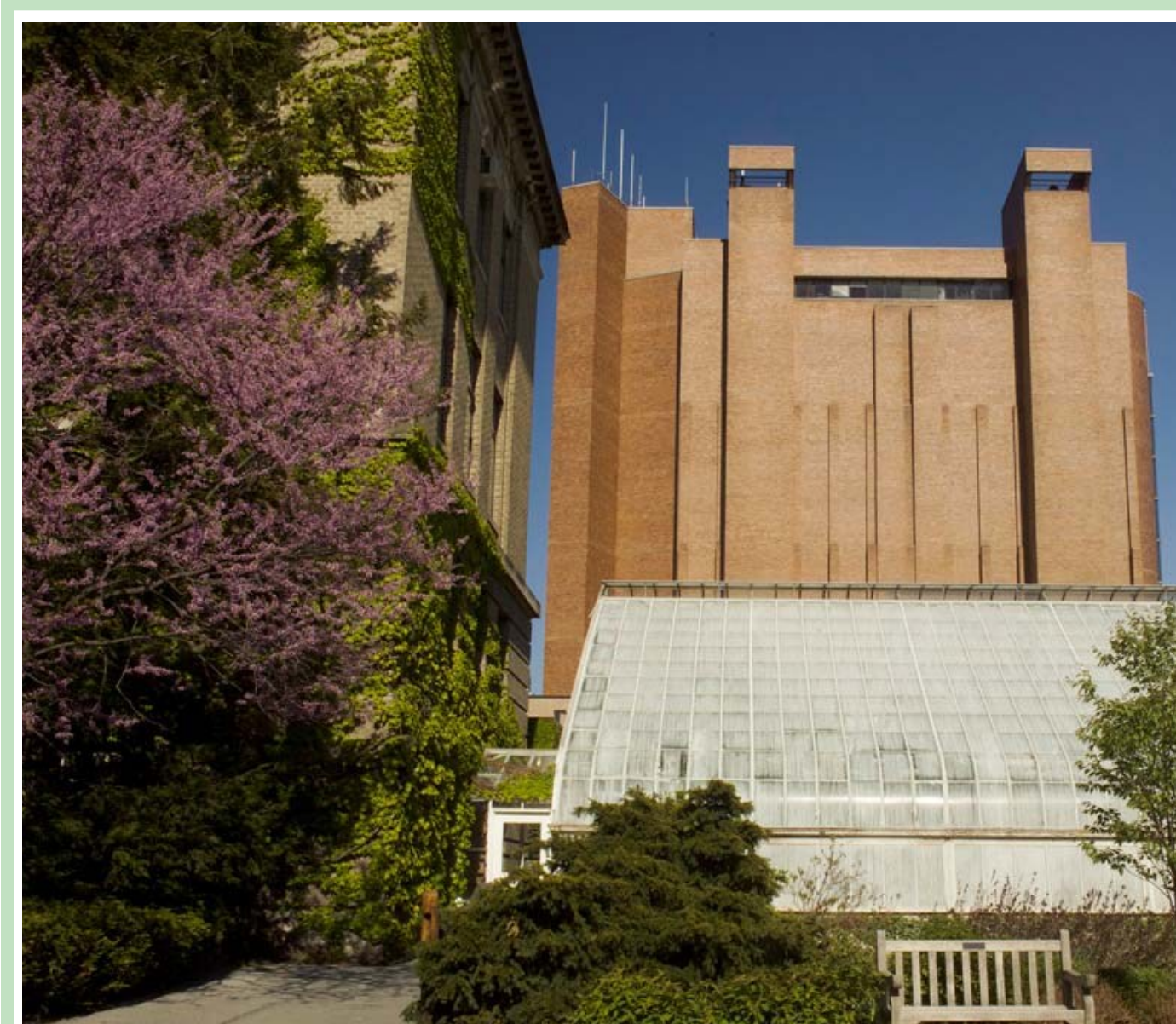
Benefits: Laboratory and office space pressurization is now correct and the total

building is now slightly positive. The airflows to all spaces match the space program and temperature controls are functional, providing more comfortable and safer working conditions along with energy savings. These changes will be followed in the future by a complete building systems replacement including variable airflow and heat recovery.

The ECI project has resulted in a more uniform building environment and increased occupant comfort level throughout, at a reduced monetary cost and carbon footprint.

Brian Flannigan
Facilities Manager

Bradfield Hall Airflow Reduction

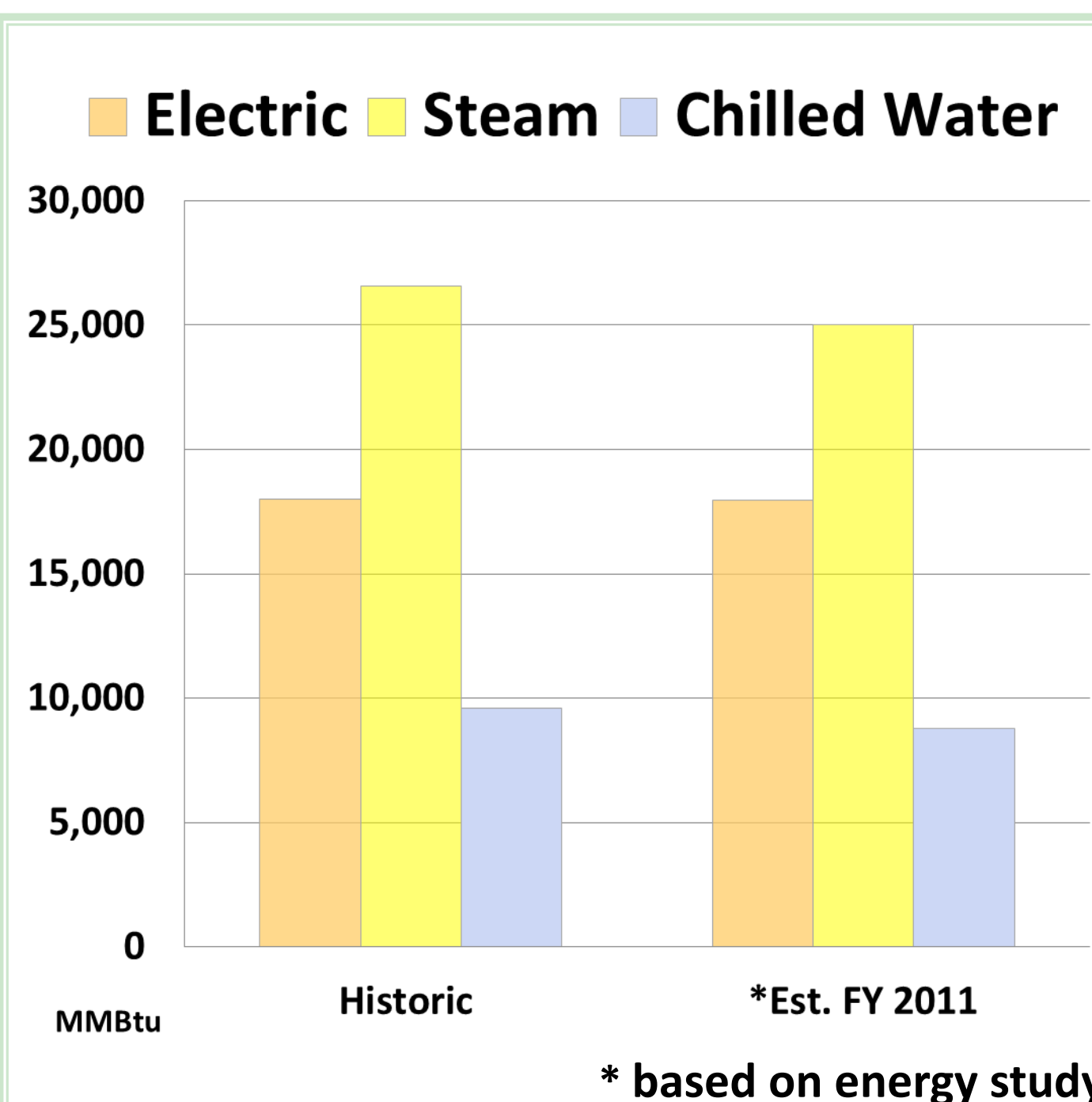


[Map](#)

[Utilities Costs and Use](#)

Bradfield Hall Airflow Reduction

Total Energy Use
Pre & Post ECI

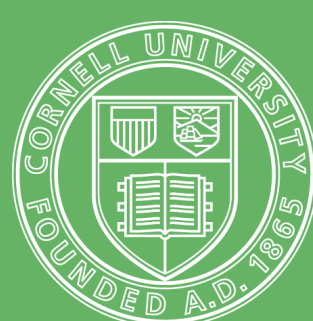


Bradfield Hall Airflow Reduction: ECI Savings Table

Utility	Historical Energy Use (MMBtu)	2011 Energy Use (MMBtu)	Energy Savings (MMBtu)	% REDUCTION	Historical Cost (billed rates)	*Est. FY 2011 Cost (billed)	Annual Savings \$	Equivalent # Homes
Electric	18,000	17,900	100	1%	\$370,000	\$368,000	\$1,600	3
Steam	26,600	25,000	1,600	6%	\$600,600	\$565,800	\$34,800	20
Chilled Water	9,600	8,800	800	8%	\$176,000	\$160,800	\$15,200	16
Totals	54,200	51,700	2,500	5%	\$1,146,200	\$1,094,600	\$51,600	39

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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