



BUILDING DESCRIPTION

Hagey Pediatric Regenerative Medicine research facility is a lab building used by Stanford School of Medicine. Hagey lab areas were operating at more than six air changes per hour and thereby using more energy than required.



Building Number	07-570
Gross Square Feet	13,000
Building Type	Laboratory
Year Constructed	1975

PROJECT OVERVIEW

Air Handler Unit 1 (AHU1) in Hagey is a constant air volume system with 100% outside air that serves approximately 7,900 ft² of laboratory space in the building. This project installed VFD's on AHU1 and general exhaust fans (EF) EF3 and EF4 to lower air flow rates to six air changes per hour (ACH). Additionally, supply air temperature reset was implemented to take advantage of favorable outside air conditions. Supplemental hardware and programming were added to direct digital controls of the air handler to enable visibility and control of the VFD and supply air temperature reset.



Before- Existing lab air handler

After- Existing lab air handler with VFD



KEY PROJECT METRICS

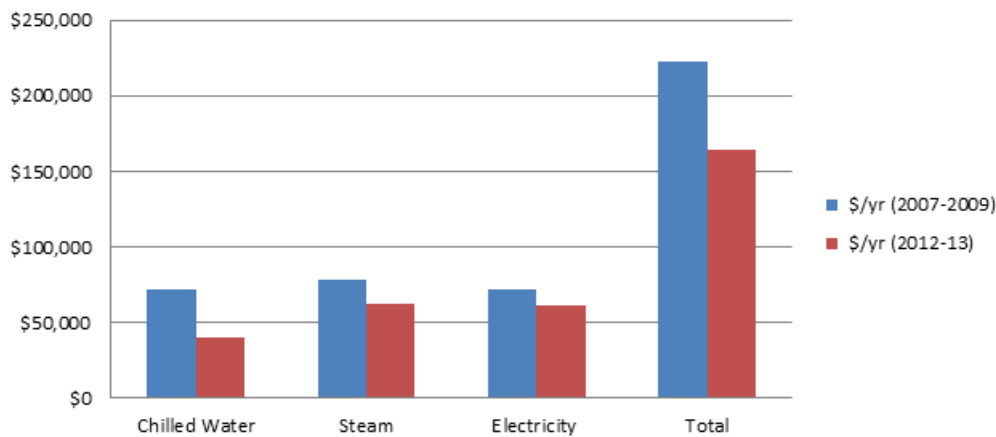
Online Date	October 2013
Project Cost	\$61,348
Simple Payback	1 years
CO2 Savings	172 tons/yr
Baseline Energy Use*	
Chilled Water	166,059 ton-hrs/yr
Steam	3,752,683 lbs/yr
Electricity	687,287 kWh/yr
Cost (2015 rates)	\$222,358 /yr
Energy Savings**	
Chilled Water	72,587 ton-hrs/yr
Steam	770,613 lbs/yr
Electricity	100,240 kWh/yr
Avoided Cost(2015 rates)	\$89,391/yr

PROJECT TEAM	
Stanford Team Member	Role
Shalani Singh	ERP manager
Roldan Penagos	School of Medicine Project Manager
Non-Stanford Team Member	Role
AGC	Contractor

* Average 2007-2008

** Estimated. Awaiting final measurement and verification results.

Annual Energy Costs Pre and Post Retrofit



*Pre- and post-retrofit costs normalized by applying FY 2015 rates to pre- and post-retrofit energy usage.

MORE INFORMATION

FACILITIES ENERGY MANAGEMENT

Leslie Kramer, Energy Retrofit Programs Manager, 650.725.5388, lfkramer@stanford.edu

