



**BUILDING DESCRIPTION**

Beckman Center for Molecular and Genetic Medicine (Beckman), named after The Arnold and Mabel Beckman Foundation, houses the majority of basic research done by the Stanford School of Medicine. The building has six floors, where each floor is a mix of laboratory space and offices, with conference rooms on the first and second floor.



Building Number	07-530
Gross Square Feet	178,303
Building Type	Lab
Year Constructed	1988

**PROJECT OVERVIEW**

The building’s main supply and exhaust system was converted to a zone level Phoenix Laboratory DDC system and integrated with the existing Siemen’s Apogee system. The building’s minimum air flow was reduced and still meets Stanford EH&S standards and applicable code. Laboratories with multiple fume hoods and non-laboratory spaces were converted to VAV systems using Phoenix controls. Exhaust inlet bypass dampers were installed and exhaust stack exit velocity on the main exhaust systems were reduced to optimize air exhausting. VFD’s were installed on the main AHU’s and exhaust fans.



Beckman Center’s laboratories with multiple fume hoods were converted to a VAV system using Phoenix controls.

**MORE INFORMATION**

**FACILITIES ENERGY MANAGEMENT**

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



**KEY PROJECT METRICS**

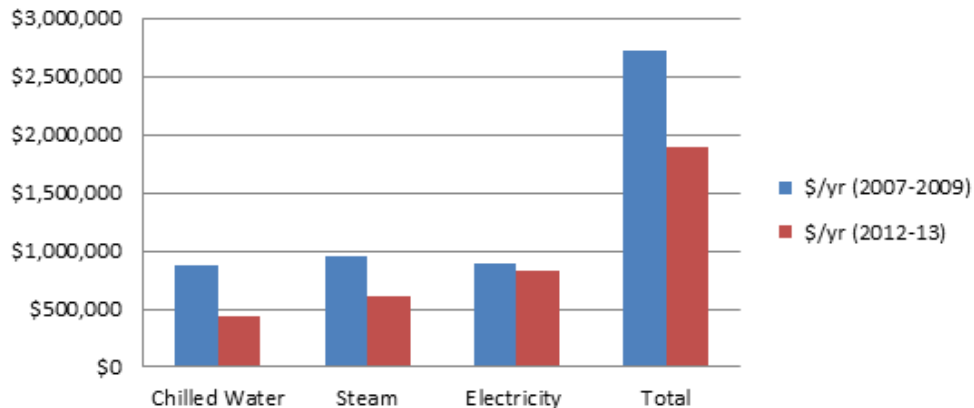
Online Date	2011
Project Cost	\$6,200,000
PG&E Rebate	\$632,505
Simple Payback	6.7 years
CO2 Savings	2,605 metric tons/yr
<b>Baseline Energy Use*</b>	
Chilled Water	2,037,318 ton-hrs/yr
Steam	45,239,134 lbs/yr
Electricity	8,555,045 kWh/yr
Cost (2013 rates)	\$2,724,084/yr
<b>Energy Savings**</b>	
Chilled Water	1,020,215 ton-hrs/yr (50%)
Steam	15,818,514 lbs/yr (35%)
Electricity	575,709 kWh/yr (7%)
Avoided Cost(2013 rates)	\$833,765/yr (31%)

\* Average 2007-2009

\*\* Savings based on usage in 2012-2013

PROJECT TEAM	
Stanford Team Member	Role
Scott Gould	WBERP manager
Gary Malinverno	Director, School of Medicine Facilities
Roldan Penagos	Project Manager, School of Medicine Facilities
Non-Stanford Team Member	Role
Taylor Engineering	Energy Study and Design consultant
AGC	Contractors

**Annual Energy Costs Pre and Post Retrofit**



\*Pre- and post-retrofit costs normalized by applying FY 2013 rates to pre- and post-retrofit energy usage.

**MORE INFORMATION**

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