Sonoma State University's Salazar Hall *reduced its energy usage by* ***42.7%*** *through participation in Pacific Gas and Electric Company's energy-efficiency programs.*

The integrated energy plan utilized to renovate the 117,942 square foot Salazar Hall has created one of the most energy-efficient public buildings in Northern California. PG&E has worked with Sonoma State University on energy-efficient design since 1999, earning the University $446,000 in incentives from a number of energy-efficiency programs. The University benefited from PG&E's Demand-Side Management Program, as well as two incentive programs, the Savings By Design Nonresidential New Construction program and the Self-Generation program. Savings By Design provided design assistance and suggested energy-efficient technologies to improve the efficiency of Salazar Hall during its transformation from the former campus library to a student service center, comprised of offices, classrooms, and high-tech laboratories. The optimized design of Salazar Hall will yield significant energy savings over the life of the building.

Energy-Efficiency Features

Savings By Design offered design assistance for a number of energy-efficiency measures to be implemented in the construction of the integrated energy design:

- Energy-efficient glazing
- Daylighting
- Efficient lighting and lighting control systems
- Premium efficiency motors
- Variable speed drives (VSDs)
- Radiant floor heating
- Indirect/direct evaporative cooling/heating system

Incentives

Savings By Design awarded Sonoma State University with an incentive of **$106,279** for the energy-efficiency measures installed and influenced by the program engineers and design team. The University has received **$446,000** in total incentives from PG&E, a result of participating in multiple energy-efficiency programs which help substantially to offset the initial cost of investing in a variety of energy-efficient technologies.

This program is funded by California utility customers and administered by Pacific Gas and Electric Company, San Diego Gas and Electric, Southern California Edison Company, and Southern California Gas Company under the auspices of the California Public Utilities Commission.

Pacific Gas and Electric Company®

Energy Savings

The installed energy-efficiency measures have an **expected energy savings of 477,556 kWh and 25,399 therms annually. The building performance margin uses 42.7% less energy than allowed by California's Title 24 Energy Code**, a result of the savings from multiple energy-efficiency programs.

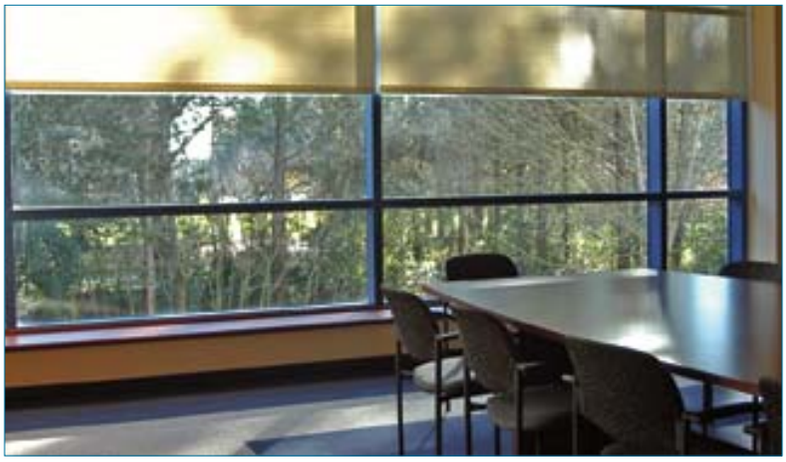
Emissions Reduction Summary

Producing electrical energy from non-renewable resources (such as fossil fuels) can generate a significant amount of waste; in particular carbon dioxide (CO_2), sulfur dioxide (SO_2), and nitrous oxide (NO_x). These pollutants have been linked to ecological problems including global warming and acid rain. Decreasing electricity and natural gas use helps curb the production of harmful pollutants. **The optimized building design for Sonoma State University's Salazar Hall is estimated to produce 36% fewer air pollutants than the base design.**

Lifecycle (20 Years)

	Standard Title 24 Base	**Optimized Design**
CO_2 Produced	13,719 tons	**8,722 tons**
NO_x Produced	7.89 tons	**5.02 tons**
SO_2 Produced	4.82 tons	**3.07 tons**

Disclaimer: These emission avoidance estimates are based on the factors used in the PROMOD model which was used to estimate emissions in the PG&E service territory. However, these factors are currently under review and subject to change.



Annual Energy Saved—Electric (kWh)

Standard Design	1,310,988
As Installed	833,431
Total Savings	477,557

Annual Energy Saved—Gas (therms)

Standard Design	39,657
As Installed	14,258
Total Savings	25,399

Annual Reduction (kW)

Standard Design	652.5
As Installed	356.9
Total Savings	295.6

Lighting for Salazar Hall (W/SqFt)

Title 24 Allowed	1.400
As Installed	1.039

Savings By Design is a statewide program encouraging high performance nonresidential building design and construction. Sponsored by California's four investor-owned utilities, the program offers building owners and design teams a wide range of services:

- **Design Assistance** provides analysis and information to help you design energy-efficient buildings
- **Owner Incentives** help pay for the investment of energy-efficient buildings
- **Design Team Incentives** reward designers who meet ambitious energy-efficiency targets
- **Energy Design Resources** offers a valuable palette of tools and resources to help facilitate the design of high performance facilities.

Please visit www.savingsbydesign.com and www.energydesignresources.com for more information, or call us at (415) 973-3803, or email savingsbydesign@pge.com.

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