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What is Green Design?

Design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants in five broad areas:

- Energy efficiency and renewable energy
- Sustainable site planning
- Safeguarding water and water efficiency
- Conservation of materials and resources
- Indoor environmental quality

Explore the New EDR Web Site

If you're involved in designing non-residential new construction projects, the Energy Design Resources (EDR) Web site should be your starting point to a convenient and easy-to-use reference for energy-efficient design and technology.

The redesigned Web site, which launched in August 2003, makes it easier than ever to find the information you need. The new database-driven operating environment allows you to search by topic, by building type, or by resource.

You can also access information by typing key words into the "search" feature of the Web site and can customize the site to your preferences with the "My EDR" feature.

The Web site is a collaboration of the four energy utilities in California: Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison, and Southern California Gas Company.

Visit the EDR website at:
www.energydesignresources.com

TAKE THE LEED™ IN GREEN BUILDING CERTIFICATION BY UTILIZING THE RESOURCES OF *SAVINGS BY DESIGN*



The LEED-certified Premier Automotive Group North American Headquarters in Irvine used the services of Savings By Design.

The word is out: Building green is building smart. Builders and developers, as well as architects and designers, are catching on that building green makes good economic sense as well as good environmental sense.

Sustainable design may seem like a modern concept, but builders have practiced its principles since before crude huts were constructed from fast growing bamboo. The standardization and assessment of environmental sustainability, on the other hand, are relatively new concepts.

The U.S. Green Building Council (USGBC) has developed one of the most prominent rating systems in use today. Its Leadership in Energy and Environmental Design (LEED™) certification program recognizes commercial building projects that have demonstrated a commitment to sustainability by "meeting the highest performance standards." The point-based rating system awards points for building attributes considered environmentally beneficial.

Building owners and their design team can get a leg up in their LEED certification by utilizing the resources of Savings By Design to meet the energy efficiency criteria established by LEED.

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LEED Point Distribution in Five Credit Categories



LEED Rating System

Possible Points: 69

26 to 32 points: Certified
33 to 38 points: Silver
39 to 51 points: Gold
52 to 69 points: Platinum

Cost and Payback Period for LEED Certified Buildings

LEED Points:	26 to 32
Typical Energy Savings:	30 to 40%
Incremental Construction Cost:	2%
Annual Utility Savings:	\$0.75/sq. ft.
Typical Payback Period:	Under 3 years

Source: Enermodal Engineering

Savings By Design Reaches Out to New Industries

Savings By Design financial incentives and design assistance are available to industrial and agricultural facilities and process loads not covered under California's Title 24 building energy standards. To facilitate participation, Savings By Design has commissioned and published the first round of four new industry-specific studies documenting standard building practices and best-practice energy efficiency opportunities.

Studies and program specifics are available for:

- Dairies
- Municipal wastewater treatment plants
- Cleanrooms
- Compressed air systems

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How Can Savings By Design Help with LEED Certification?

LEED certification is based on a sustainable rating system with five basic categories (see chart at left). Savings By Design can be a valuable team member in achieving energy efficiency, which is reflected in two categories: Energy and Atmosphere and Indoor Environmental Quality. Ten out of the 17 credits in the Energy and Atmosphere category are tied either directly or indirectly to energy efficiency. Since Savings By Design uses an integrated design approach, the design assistance can help achieve credits for Thermal Comfort and Daylight & Views in the Indoor Environmental Quality category.

“Since participants in the Whole Building Approach of Savings By Design must exceed California Title 24 standards by at least 10 percent, buildings are well on their way to meeting the LEED criteria,” said Holly Tucker, a Southern California representative for the USGBC. Randall Higa, manager of Savings By Design for the Southern California Gas Company added, “When project leaders work with us [Savings By Design], we can assist in cost-effectively maximizing credits to help attain the LEED rating that they’re after.”

Tom Lunneberg, P.E., vice president of CTG Energetics, worked with Savings By Design on the award winning, LEED-certified Premier Automotive Group North American Headquarters in Irvine. “The emphasis on energy efficiency that was brought to the table via Savings By Design helped the project further in its quest for energy cost savings, which improved their LEED points achieved under Energy and Atmosphere Credit #1,” said Lunneberg.

Who is Eligible to Use the Services of Savings By Design?

Projects must be located within the service territories of:

- Pacific Gas and Electric Company
- San Diego Gas and Electric
- Southern California Edison
- Southern California Gas

When Should Savings By Design Become Involved?

“The key is to engage us early in the design process,” said Higa. “It’s never too early to contact us.” He added that the earlier in

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In the upcoming year, studies on winery process systems, tank insulation, laboratories and data centers will also be developed and published. For copies of the studies or information on the programs, please contact Patsy Dugger at pwd2@pge.com or (415) 973-1019.

Savings By Design Services

- **Design Assistance** provides information and analysis tailored to the needs of your project to help you design the most cost-effective energy-efficient building.
- **Owner Incentives** help offset the costs of energy-efficient buildings.
- **Design Team Incentives** help defray the costs of the extra effort required to meet ambitious energy efficiency targets.

For more information, see www.savingsbydesign.com.

LEED Training Opportunities

The U.S. Green Building Council sponsors the following training courses. For information and registration, see www.usgbc.org.

October 27, 2003

LEED Certification Training - Intermediate
PG&E Pacific Energy Center
San Francisco, CA

November 5, 2003

LEED Certification Training – Intermediate
SoCalGas Energy Resource Center
Los Angeles, CA

December 4, 2003

LEED Certification Training – Intermediate
San Jose Public Library
San Jose

Another Green Building Opportunity

November 12-14, 2003

Green Build International Conference and Expo
Pittsburgh, PA
U.S. Green Building Council
www.greenbuildexpo.com

the design process that Savings By Design can provide energy efficiency recommendations, the more cost effective those energy efficiency measures would be.

Nine campuses of the Los Angeles Community College District are currently working with Savings By Design as they pursue LEED certification for multiple construction projects on each campus. Savings By Design was called in to assist before the sustainability standards were adopted. “The district is at an advantage [in attaining LEED certification] because we have been working very closely with them for a long time,” said Higa.

Fluid Versus Fixed

Higa likes to get the design team involved at the earliest possible point, while the design is fluid, as opposed to attempting to tack on energy efficiency to a fixed plan.

“In the early phases of design,” Higa continued, “you’re still trying to determine the shape, orientation, and massing of the building. Early in the design, you can make those changes with potentially very little or no cost. However, if you do it down the road in the design, one small change—such as changing the location of a window—can be catastrophic.”

Added Advantages

As a bonus for participating in the Savings By Design program, the design team for Premier Automotive Group North American Headquarters in Irvine earned Design Team Incentives for meeting ambitious energy efficiency targets. The incentive money provided funding for eight members of the project team to attend ENVIRONDESIGN 6, a sustainable design conference in Seattle in 2002.

The building’s design team also went on to receive a Merit Award in the 2003 Savings By Design Energy Efficiency Integration Awards.

For more information about LEED certification, visit the USGBC Web site at www.usgbc.org, and to learn more about Savings By Design, visit www.savingsbydesign.com. 

Fall Training Schedule

Abbreviation	Explanation
Anaheim	Southern California Gas Company's Anaheim facility 1919 S. State College Blvd. Building G Anaheim (562) 803-7500
CTAC	SCE's Customer Technology Application Center 6090 N. Irwindale Ave. Irwindale (626) 812-7537 or www.sce.com/ctac
ERC	Southern California Gas Company's Energy Resource Center 9240 E. Firestone Blvd. Downey (562) 803-7500 www.socalgas.com/resource_center/erc_seminar_info.shtml
NUCF	National University Conference Facilities 9388 Lightwave Ave., Room 123 San Diego (858) 636-5726 or vvapl@semprautilities.com
PEC	PG&E's Pacific Energy Center 851 Howard St. San Francisco (415) 973-7268
San Jose	PG&E-sponsored training at Leininger Learning Center Kelley Park (off Senter Road between Alma and Story Roads) San Jose (415) 973-7268
Victor Valley	Victor Valley College 18422 Bear Valley Rd. Victorville Register through CTAC at (626) 812-7537 or www.sce.com/ctac

Date	Course	Time	Location	AIA Units
16-Oct	Rebuild America: Envelope Technologies	8:30 a.m. - 12:30 p.m.	San Jose	3.5
16-Oct	Efficient and Effective Design for Merchandising	9 a.m. - 4:30 p.m.	PEC	6
17-Oct.	Using LEED with Green Interior Design	8 a.m. - 2:30 p.m.	ERC	5
21-Oct	High Performance Schools Workshop	9 a.m. - 4:30 p.m.	San Jose	6
22-Oct	Rebuild America: Integrated Controls	8:30 a.m. - 12:30 p.m.	Bakersfield	3.5
23-Oct	Lighting for Interior Design	8:30 a.m. - 12:30 p.m.	CTAC	4
23-Oct	Rebuild America: HVAC and Mechanical Technology	8:30 a.m. - 12:30 p.m.	Fresno	3.5
23-Oct	Basics of Photovoltaic Electric Systems	9 a.m. - 4:30 p.m.	San Jose	6
28-Oct.	High Performance Schools Workshop	9 a.m. - 4:30 p.m.	Anaheim	6
28-Oct	Exceeding Title 24	9 a.m. - 1 p.m.	PEC	3.5
29-Oct.	High Performance Schools Workshop	9:30 a.m. - 4:30 p.m.	ERC	6
29-Oct	Exceeding Title 24	9 a.m. - 1 p.m.	San Jose	3.5
29-Oct	Optimizing VAV System Design from Box Selection to Controls	9 a.m. - 4:30 p.m.	PEC	6
30-Oct	Insulate Right!	9 a.m. - 3 p.m.	Stockton	4.5
30-Oct	Bringing Energy Efficiency Into the Early Stages of Design	9 a.m. - 4:30 p.m.	PEC	6
30-Oct	eQUEST Training	8:30 a.m. - 4:30 p.m.	CTAC	7
4-Nov	Lighting Software: Enter the Matrix	9 a.m. - 4:30 p.m.	PEC	6
5-Nov	Nonresidential Envelope & Lighting Modeling with EnergyPro	9 a.m. - 4:30 p.m.	PEC	6
6-Nov	Advanced Nonresidential Building Modeling with EnergyPro	9 a.m. - 4:30 p.m.	PEC	6
12-Nov	Design Strategies for High Performance Glass	9 a.m. - 1 p.m.	CTAC	3
12-Nov	The Energy+Demand Response Equation	9 a.m. - 1 p.m.	PEC	3.5
13-Nov	Rebuild America Technology Seminar - Commissioning and Financing	9 a.m. - noon	CTAC	3
18-Nov	Skylighting in Buildings with Finished Ceiling Systems	10 a.m. - noon	PEC	2
18-Nov	Skylighting and Lighting Controls Product Showcase	12 p.m. - 6 p.m.	PEC	0
18-Nov	Skylighting in Buildings with Exposed Structure	2 p.m. - 4 p.m.	PEC	2
19-Nov	Design Review Training Class	9 a.m. - 1 p.m.	PEC	3.5
20-Nov	Design Review Training Class	9 a.m. - 1 p.m.	San Jose	3.5
21-Nov	Lighting and Daylighting for Architects and Designers	8:30 a.m. - 1:30 p.m.	Victor Valley	4