energydesignresources

Energy Design Resources (EDR) offers a valuable palette of energy design tools and resources that help make it easier for architects, engineers, lighting designers, and developers to design and build high performance, energy-efficient buildings in California.

The EDR website (www.energydesignresources.com) serves as a portal for accessing this palette of energy design tools. Users may search by design category, technology, building type, or resource type.

Photo by Billy Hustace

Acquire the knowledge and techniques for implementing effective design strategies by visiting www.energydesignresources.com.

Design

Integrated Energy Design is a process that purposefully brings together the work of various design and engineering disciplines to produce buildings that cost less to operate; are easier to maintain; and are more attractive, marketable, comfortable, and sustainable than buildings designed through the more traditional, compartmentalized approach. The benefits of integrated energy design can often be achieved with little or no increase in first costs. *Tools available on the EDR website include e-News articles, case studies, and design briefs.*

Building Commissioning is the systematic process of ensuring that a building's complex array of systems is designed, installed, and tested to perform according to the design intent and the building owner's operational needs. The commissioning of new buildings will be most effective when considered throughout the planning stages and as early as schematic design. *Tools available on the EDR website include e-News articles, design briefs, design guidelines, and software tools.*

Energy Detailing specifies, counterchecks, and verifies the design details in the actual structure, maximizing actual building performance upon project completion. *Tools available on the EDR website include e-News articles, design briefs, design guidelines, and software tools.*

Design (Cont.)

Financial Analysis & Benefits can provide substantial economic return to building owners, developers, and tenants. Besides lower energy bills, additional benefits from improved occupant comfort, worker productivity, tenant retention, and property valuation can improve the financial performance of a project well beyond the basic energy cost savings. *Tools available on the EDR website include include e-News articles, and software tools.*

Applying LEED can be accomplished through the vast EDR database of energy efficient design practices that relate directly to meeting the intent of LEED as well as achieving specific credit requirements. *Tools available on the EDR website include links to LEED credits for Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation and Design. Case studies of successfully completed LEED-rated projects are also available.*

Upcoming Events

Find upcoming energy-efficiency training events near you, including live and/or online classes, short seminars, multiple day courses, certificate/credential courses, and special events. Below is a sample listing of classes offered at various locations throughout California.

- Introduction to ACCA Quality Installation Training Series
- Advanced EnergyPro for Title 24 and Beyond
- EnergyPro Nonresidential Software for Beginners
- Photovoltaic Site Analysis and System Sizing
- AIRMaster+ Specialist Qualification
- HVAC Fundamentals: New Ideas for Novices
- Financial Options for Solar - An Online Course
- Intermediate eQuest for Engineers and Energy Professionals
- Understanding Financial Analysis Methods for Residential Photovoltaic Systems
- ACCA Manual J - Equipment Sizing and Selection
- Auditing Electricity Use in Homes
- eQUEST Software Training: Introduction for Engineers and Energy Professionals
- Solar Water Heating Systems
- ACCA Manual D - Duct Design
- Title 24 Nonresidential Modeling Essentials
- Advanced ACCA Manual D
- Guide to Solar Billing - An Online Course

Energy Design Resources classes are offered at the following locations, as well as many other locations throughout the state:

Energy Education Center, Irwindale
Energy Education Center, Tulare
Energy Training Center, Stockton
EOC, Fresno
Pacific Energy Center, San Francisco
Pipe Trades Training Center, San Jose
SMUD, Sacramento

Visit www.energydesignresources.com for information on attending classes, including topics, dates, locations, times, and more.

Technology

Lighting Design enhances architecture. Good energy efficient lighting design enhances both the design and the performance of buildings. Knowledge of the opportunities and constraints of available and emerging lighting technologies is key to success with this crucial design element. *Tools available on the EDR website include e-News articles, case studies, design briefs, and software tools.*

Building Envelope Design not only provides the thermal barrier between the indoor and outdoor environment, but also plays an important role in determining how effectively the building can utilize natural lighting, ventilation, and heating and cooling resources. *Tools available on the EDR website include e-News articles, case studies, design briefs, and software tools.*

HVAC Design creates interior comfort by compensating for climatic conditions. Many efficient HVAC system design options exist than those used in current practice and must be explored by designers pursuing high performance buildings. *Tools available on the EDR website include e-News articles, case studies, design briefs, design guidelines, and software tools.*

Daylighting Design is the practice of utilizing natural light within a building, which requires careful planning to balance heat gain and loss, control glare, and adjust for variations in daylight availability. This design strategy can significantly cut energy use in buildings and has wide applicability to many different types of facilities. *Tools available on the EDR website include case studies, design briefs, design guidelines, and software tools.*

Stay up to date on the latest design software tools and download the most current versions today by visiting www.energydesignresources.com.

Buildings

Schools: High-performance school buildings that are designed to save energy can cost significantly less to operate than traditionally designed schools. More importantly, studies have shown that optimized school environments that include natural daylight and a connection to the outdoors can enhance students' ability to learn. *Tools available on the EDR website include e-News articles, case studies, design briefs, and links to other helpful online resources.*

Offices: Using energy-efficient design and technologies in new office buildings can cut energy costs significantly. Strategies for connecting a facility with its exterior environment have the potential to also enhance the interior environment, resulting in much more valuable employee productivity increases. *Tools available on the EDR website include e-News articles, case studies, and design briefs.*

Retail Stores: Retail stores have diverse loads, long operating hours, and high occupancy in the evenings. Planning for energy-efficient retail buildings starts in the design stages and should involve careful consideration for lighting, refrigeration, cooking, and space-conditioning systems and how they integrate together. *Tools available on the EDR website include e-News articles, case studies, and design briefs.*

Manufacturing & Distribution Facilities: Single-story manufacturing and distribution facilities, whether conditioned or not, are prime candidates for the use of natural skylighting systems to reduce the amount of lighting required during the day. Additionally, manufacturing process and space conditioning systems sometimes can provide opportunities for integration leading to energy savings. *Tools available on the EDR website include e-News articles, case studies, design briefs, and design guidelines.*

Hospitals & Labs: Hospital and laboratory energy use is dominated by the need to condition air for proper temperature and humidity conditions and to maintain safe and healthy environments by exhausting potentially hazardous air. Integrated energy efficiency design can reduce the high energy costs associated with these systems while meeting the demands of these specialized building types. *Tools available on the EDR website include e-News articles, case studies, and design briefs.*

Libraries & Assembly Buildings: Libraries offer the opportunity to demonstrate energy efficiency design strategies in a place that is a literal and symbolic gateway to knowledge in the community. Assembly buildings such as auditoriums and arenas have very specific and often times intensive energy requirements tied closely to time of use. *Tools available on the EDR website include e-News articles, case studies, and design briefs.*

Educate yourself about high-performance, energy-efficient design resources for specific building types by visiting www.energydesignresources.com.

Photo by David Wakely

Resources

Publications: EDR offers several publications, including Design Guidelines, Design Briefs, Case Studies, and Technology Overviews. *Tools available on the EDR website can be searched by publication type, viewed online in text format, and downloaded as a PDF for future reference.*

Software & Tools: EDR offers several web-based tools, including eQUEST®, eVALUator™, SkyCalc™, Commissioning Assistant™, SPOT™, Green Building Studio®, EDR Charrette™, and CoolTools™. *Tools available on the EDR website include a detailed explanation of purpose and benefit of each software tool, images and examples of outputs, and access to download PC versions of the software.*

Email Newsletters: e-News is an online newsletter published and distributed via the EDR website. *Tools available on the EDR website include all past issues of e-News, and an option to sign up and receive subscriptions to e-News.*

External Links: EDR offers external links to a wide array of online resources, including Associations and Organization, California State Resources, Federal Research and Programs, Regulations, Codes and Specifications, Commissioning Resources, Control Systems, Motors, General Research, General Resources, Publications, and Schools. *Tools available on the EDR website include links to all online resources sorted by category.*

Photo by Auda & Coudayre

EDR offers a valuable palette of energy design tools and resources that help make it easier for architects, engineers, lighting designers, and developers to design and build high performance, energy-efficient buildings in California. All of the resources detailed on this fact sheet can be found on the EDR website. **Learn about these diverse, cutting-edge design resources by visiting www.energydesignresources.com.**

Pacific Gas and Electric Company®	SMUD	SDGE A Sempra Energy utility®	Southern California Edison® An EDISON INTERNATIONAL® Company	Southern California Gas Company A Sempra Energy utility®
www.pge.com 1.800.468.4743	www.smud.org 1.877.622.7683	www.sdge.com 1.800.411.7343	www.sce.com 1.800.338.8502	www.socalgas.com 1.800.GAS.2000