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10-02-319




Partner with Xcel Energy  
to Meet Your Energy Efficiency Goals

**Building green can no longer be considered a short-term trend. Businesses today are realizing the significant impact building green can have on their bottom line – whether constructing a new building or updating an existing facility. Energy conservation is a significant part of their building plans and we can help them reach certification goals.**

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A photograph of two men in an office setting. One man, wearing a light blue shirt, is leaning over a desk and smiling as he looks at a document. The other man, wearing a dark green t-shirt, is sitting at the desk and looking down at the document with a slight smile. The desk is covered with various papers and documents. In the background, there are shelves filled with binders and a framed picture on the wall.

## Building GREEN benefits everyone

According to the United States Green Building Council (USGBC), commercial buildings account for more than 70 percent of all electricity consumption and nearly 40 percent of all carbon dioxide emissions. Your efforts to reduce electricity use and other types of energy, such as natural gas for heating, will save energy and lower your utility bills. Reducing emissions and using fewer raw materials protects the environment and everyone in it. On a grand green scale, building green benefits:

- **Environmental systems** – protecting clean air, water and natural resources
- **Economic factors** – reducing costs and improving profits and productivity
- **Community** – contributing to overall quality of life

# Meet your energy conservation goals with us - the energy experts

As more business customers look for answers to their green questions, Xcel Energy is working hard to provide answers, as well as resources and programs designed to deliver solutions that make a positive impact on your bottom line while achieving energy conservation goals.

Through our Energy Design Assistance (EDA) program, we can provide free energy modeling and facilitate the integrated design process for our customers during new construction.

In addition, Xcel Energy offers a number of additional programs that can help identify and increase the energy efficiency of your existing building. Rebates and studies help offset the cost of qualifying high-efficiency equipment and processes while energy savings help you meet your green building goals, including ENERGY STAR® and LEED® certification.

Whether you aim simply to reduce your monthly energy bills or to have your building LEED certified, count on Xcel Energy to work with you to meet all of your energy conservation goals.



The U.S. Green Building Council (USGBC) is a non-profit community of leaders working to make green buildings available to everyone. Local chapters of the USGBC, such as the Colorado Chapter, provide local green building resources, education and leadership opportunities. Visit [www.usgbc.org](http://www.usgbc.org) for more information.

# What is Energy Design Assistance?

The Business New Construction – Energy Design Assistance (EDA) program from Xcel Energy offers a source of energy expertise to encourage energy efficiency in building design and construction practices. EDA offers design assistance in support of an integrated design process by providing computer energy modeling, funding to offset the cost of design time associated with energy analysis, financial incentives to improve cost effectiveness of choosing energy-efficient measures, and field verification to ensure that strategies are implemented. Best of all, the entire process is free to Xcel Energy customers.

**Customers interested in a certification process can participate in our Enhanced option. Requirements for the program include:**

- Buildings greater than 50,000 square feet
- Design teams and building owners must be in the pre-design or early conceptual design stage
- Projects must be able to reach 30 percent energy demand savings over ASHRAE 90.1-2004

## Energy Design Assistance Enhanced – helps you meet LEED® certification

**Participating in our Enhanced option ensures that your energy-efficiency strategies are included in your building design prior to breaking ground. The Enhanced option offers:**

- Guidance to help you choose the energy-efficiency measures that work best for your building type and which strategies have the most resource-savings potential
- Additional baseline modeling
- Partial documentation to the USGBC for Energy and Atmosphere Prerequisite 2- Xcel Energy will complete the portion of the documentation related to energy performance, however your design team of record will be responsible for the mandatory provisions in the final submission.
- Documentation to the USGBC for Energy and Atmosphere Credit 1 for either the Design or Construction submittal AND an opportunity for up to two series of question on the submittal to the USGBC

*While EDA offers the opportunity to utilize our services as you go through the LEED process, we recommend you work with an accredited professional and/or your design team to focus on your sustainable goal in site, water, energy, materials and indoor air quality as well as provide submittal documentation to the USGBC.*

## LEED recognizes performance in six key areas:

- Sustainable site development
- Energy efficiency
- Indoor environmental quality
- Water savings
- Materials selection
- Innovation in design

## Get started early

If you are unsure whether your building project is a good candidate for LEED certification, review the LEED Rating System Checklist that applies to your building type. According to LEED, your project is a viable candidate for certification if it meets all prerequisites and can achieve the minimum number of points necessary to earn the certification level.

If your building is a viable candidate, register your project with USGBC as early as possible in your planning process. This will serve as a declaration of intent that you are going to go through the LEED process for certification. The following is the general process for LEED:

- Submit an online registration form or mail your registration form to USGBC headquarters
- Review point options before you design your building or decide on an operations plan
- Develop supporting documentation and submit to USGBC for review
- Receive approval and certification
- Four levels of certification depend on accrued points for implementation of requirements:  
basic, silver, gold, platinum

## What is LEED?

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performances. LEED, which offers a third-party certification program, has become nationally accepted as the benchmark for the design, construction and operation of high performance green buildings.



Of the six key performance categories, energy efficiency measures in the Energy and Atmosphere section offer the greatest opportunity for businesses to achieve LEED certification points. Fortunately, Xcel Energy offers programs that provide rebates and study funding for many LEED energy saving requirements. For example:

- Our **Custom Efficiency** program offers rebates for energy saving equipment and processes that go beyond standard rebates, while earning LEED credits
- Our **Energy Management System** program offers rebates for energy performance measures that are eligible for LEED credits
- HVAC system efficiency improvements may qualify for our rebates and also earn LEED credits in the Indoor Environmental Quality section for increased ventilation and systems controls
- **Lighting Efficiency** offers rebates for qualifying lighting improvements that may qualify for site credits
- Study recommendations and funding through **Recommissioning, Data Center Efficiency, Commercial Real Estate** and **Energy Analysis** can help you get a head start on your sustainability goals.

# Participation in Recommissioning leads to energy performance credits

Recommissioning is another one of our conservation programs that aligns with the Energy and Atmosphere performance category for LEED Existing Buildings Operations and Maintenance. Recommissioning (sometimes called retrocommissioning) is the process of returning a building's mechanical and lighting systems, along with the building controls, to their peak performance. Studies show that typical recommissioning projects result in energy savings of 5 percent to 20 percent with many measures having simple paybacks of less than one year.

## What is Recommissioning?

Our Recommissioning program offers study funding for a thorough assessment of the existing equipment in your building. It encourages a tune-up approach to improve equipment rather than replacement. We also offer rebates to help you implement the recommendations found within your study. Although the study doesn't provide an entire LEED analysis, it provides a good start and the benefit of funding.

## With recommissioning you can:

- Optimize your HVAC operations
- Improve indoor air quality
- Earn LEED for Existing Building points
- Fine-tune your time-of-day schedules
- Reduce equipment wear and tear
- Increase your ENERGY STAR score

## Why participate in a Recommissioning study?

- Identify low- or no-cost energy-saving opportunities
- Help you find ways to increase the energy efficiency of your building
- Increase tenant and employee comfort because of improved indoor air quality, circulation and temperature control
- Reduce equipment wear and tear
- Make it your first step toward achieving LEED Energy and Atmosphere Credit 2



## Other energy efficiency rating systems are available

In addition to LEED, there are a number of other rating systems available. ENERGY STAR®, developed by the Environmental Protection Agency (EPA) in 1992, is a national symbol for energy efficiency. Buildings earn the right to use the label when they achieve a score of 75 or higher on a 1 – 100 energy performance scale. According to ENERGY STAR research, commercial buildings that have earned the label use on average 35 percent less energy than typical similar buildings and generate one-third less carbon dioxide.

# Uncover energy savings and potential rebates with Energy Analysis

Our Energy Analysis program offers tools to help you understand how your building uses energy and to identify ways you can save energy.

- An Online Energy Assessment is a 30 minute free survey to help you identify ways to lower your energy bills and compare your facility's energy use to similar businesses (see [xcelenergy.com/EnergyAnalysis](http://xcelenergy.com/EnergyAnalysis))
- On-Site Energy Assessment analyzes your building profile in conjunction with a walk-through audit to identify opportunities to save energy and money

## The On-Site Energy Assessment begins with a visit from an independent engineer experienced in identifying energy-saving strategies from all kinds of buildings

- Starting with major mechanicals, including lighting, air conditioning, heating and ventilation systems, the engineer moves on to a thorough inspection of the building envelope, including walls, windows, roof and insulation.
- Once the assessment is complete, you'll receive a written report, with detailed information and feedback specific to your building's energy-saving potential. This will include potential costs, payback periods, and information about rebates your company may qualify for through Xcel Energy's business energy efficiency programs.

## Follow these steps to apply for the ENERGY STAR® label for your building

An Energy Analysis assessment can help you adjust your Energy Star label and provide you information to begin your labeling process. **(You will find these steps and necessary forms at [www.energystar.gov](http://www.energystar.gov))**

- Determine if your building meets the eligibility requirements
- Enter the required energy and building data in the ENERGY STAR Portfolio Manager
- Does your preliminary calculation total a rating of 75 or above?
- Validate the Statement of Energy Performance through a Professional Engineer
- Read and understand the ENERGY STAR Identity Guidelines
- Send a signed Letter of Agreement and Statement of Energy Performance (SEP) to the EPA (Environmental Protection Agency)

## Why participate in an On-Site Energy Assessment?

- Evaluate how your building is operating
- Identify key opportunities to save energy and money
- Improve your Energy Star rating
- Prioritize and plan energy saving projects
- Determine your break-even point for investments into energy savings



# Case Study

## Bethke Elementary School earns gold star for cutting energy costs in half

Bethke Elementary School, part of Poudre Valley School District in Fort Collins, Colorado, was designed to promote greater student and staff productivity, less absenteeism and better health, to have less impact on the environment and provide operational cost savings.

The result is an award-winning 63,000 square foot, 2-story building that uses roughly 40-50% less energy to operate than a comparable school designed without sustainability features. Among other things, it involves a state of the art evaporative system to address its cooling load and allow for year-round air conditioning, a super-insulated building envelope, high efficiency boilers, and operative windows that provide daylighting to 90% of the building's interior.

Bethke Elementary School is the first school in the country to achieve the Gold LEED certification, the first school ever to receive three Green Globes out of four from the Green Buildings Initiative and was designed to earn the ENERGY STAR award.

### Xcel Energy funding:

Modeling Cost	\$26,994
Incentives	\$65,450
<b>Total \$ provided on project</b>	<b>\$92,444</b>

### Project results summary: (Energy savings based on IECC 2003)

Increase in Upfront Building Cost (Energy only)	\$123,000
Estimated Annual Energy Cost Savings	\$34,570
Annual Electrical Savings	274,257kWh
Annual Natural Gas Energy Savings	234 MMBTU
Total Conditioned Area	63,000 square feet
Percentage of Electric Peak Demand Savings	64%



Photos courtesy of Paul Brokering Photography

# Bethke Elementary School Energy Savings - How Did They Do It?

The Poudre Valley School District used an integrated design approach by bringing energy experts from Xcel Energy together with the architect, engineers, contractor, building owner and others during initial planning stages. The idea is that the advice and expertise of each discipline is maximized when they considers the building as a whole.

Bethke Elementary is seventh in the district's growing line of high performance buildings. The district's team goal is to make each one better and more efficient than the last.

## Features designed into Bethke Elementary include:

- Direct/indirect evaporative cooling
- High efficiency boilers for heating
- High efficiency/on demand boiler for domestic hot water
- Full control of lighting and HVAC with building automation system
- High efficiency automated irrigation system and low water use landscape design
- Increased wall and roof insulation
- Tower-free cooling
- High performance glazing
- Reduced lighting power density
- Stepped daylighting controls
- ENERGY STAR equipment
- Displacement ventilation in gym and cafeteria
- Solatube® daylighting
- Heat recovery
- Premium efficiency electric motors and variable frequency drives on all motors above 1 hp and larger.
- 10 kW photovoltaic system

**All of these things increase the building's efficiency, reliability and comfort and simultaneously decrease energy usage, costs and maintenance.**



Photos courtesy of Paul Brokering Photography