

advertisement | [advertise here](#)

» LEARN HOW

See if our **\$0 co-pay card** could reduce the out-of-pocket cost of treating your child's asthma.

Xopenex
Respiratory Medication Solution

Restrictions Apply

FOR ASTHMA

XOPENEX (zō-pen-eks) is used to treat or prevent narrow airway (bronchospasm) in patients older with reversible obstructive pulmonary disease (COPD).

[About](#) | [Contact](#)[HOME](#)[CAREER / JOBS](#)[BLOGS](#)[EVENTS](#)[BOOKSTORE](#)[REPORTS](#)[NEW](#)[Blog](#)[Energy](#)[Efficiency](#)

Affordable Steps to Boost Energy Star Building...

Previous post

[« LA Auto Show Crowns 2011 Green Car of the Year](#)

Next post

[Building the Clean Energy Economy »](#)

Affordable Steps to Boost Energy Star Building Rating



Published on November 23rd, 2010 by [Chuck Colgan, CA Center for Sustainable Energy](#)

Posted in [Building](#), [Efficiency](#), [Lighting](#)

[Like](#)[Sign Up](#) to see what your friends like.

advertisement

4

[Share](#)

Once a building or facility manager has an [ENERGY STAR](#) statement of energy performance in hand they're ready to set goals for improvements that will raise their rating but are often faced with no budget and minimal management support. The key to turning

[Leave comment »](#)

Rating: ★★★★★

6

tweets

retweet

[its](#)
[gg](#)

Sears
Home Services
Central Heating Systems

IN-HOME
FREE
ESTIMATE

PLUS
SAVE UP TO
\$1,500
with qualified
ENERGY TAX
CREDIT

ACT NOW BEFORE
IT'S TOO LATE!

SearsHomeServices.com/HomeHeat
Ads by Google

that situation around is showing how common best practices that cost little or provide quick payback can create both energy and financial savings, according to Daryl DeJean, president of [Emerging Technologies Associates](#) of San Diego, Calif.

Why go for the [ENERGY STAR](#) label?

DeJean reports that buildings that qualify as [ENERGY STAR](#) generally operate 35 percent more efficiently than comparable average buildings and save \$0.50 per square foot on energy costs – savings that persist year after year.

Commercial building [ENERGY STAR](#) ratings compare energy use among similar types of facilities on a scale of one to 100, with buildings achieving a score of 75 or above reaching [ENERGY STAR](#) status. With a rating below 50, the facility is likely in need of capital investments for equipment and operational systems that could achieve high levels of improvement, but are going to be expensive. For facilities in the 50 to 74 range, significant savings can be achieved by concentrating on simple, low-cost measures, DeJean explained during a recent seminar on [ENERGY STAR](#) Best Practices held at the [California Center for Sustainable Energy](#) in San Diego.

DeJean outlined five steps to increasing building [energy efficiency](#) that identifies and sequences low-cost improvements from the cheapest and simplest to the more expensive and those that require equipment upgrades.

Where to Start Saving

The first step to better building performance is operations and maintenance. This is making sure things are calibrated properly and performing at optimal levels and times, a process broadly called retrocommissioning. Not only can this produce energy savings, it also will reduce breakdowns and the need for unscheduled maintenance.

A quick walk through a building with a precise handheld digital thermometer will allow you to compare the thermostat settings to real HVAC output, offering a potential savings of 1-3%. Adjusting the building's airflow return dampers to bring in the least amount of outside required for comfort and air quality can net 3-6% energy savings. Modifying janitorial services can also have an impact by cleaning one floor at a time or changing the schedule from night times to during work hours, resulting in a 1-8% savings. Simply by adjusting all electrical equipment and controls to ensure they are functioning as designed can net 3-11% savings. Total energy savings in the range of 8-28%

Example: A class A office building had an energy management system code error – an “and” instead of an “or” – which when corrected allowed duct heaters to function correctly, costing nothing and resulting in a savings of \$0.02 per square foot or \$3,700 annually.

The People Factor

Building occupants directly impact energy use because they often control the lighting, thermostats and electrical plugs in their offices or working spaces. Modifying occupant behaviors without infringing on personal preferences can go a long way toward gaining their participation in energy conservation.

Instituting an energy awareness program will get employees thinking in the right direction and could yield as much as a 2% energy reduction. You don't have to create your own program because you can link your efforts to any number of national campaigns. Two actions that empower employees are giving them the option of using direct light in work areas so the overhead lighting can be reduced and asking them to turn off equipment and lights while away from their space and during off hours. These two items could net a 5-6% savings.

Even greater savings are available by instituting a workplace policy of buying only [ENERGY STAR](#) equipment, installing monitor and computer power management software and switching off lights when daylighting is sufficient – taken to together, these measures could achieve a 2-7% savings. Total behavioral savings could be as much as 15%.

Example: A Fortune 100 company instigated an energy awareness program and employees identified savings by placing vending machines in low-power mode at night and using occupancy-sensing power strips to control plug load.

Bring Down Lighting

An energy-saving lighting strategy revolves around reducing lighting, replacing energy-wasting bulbs and fixtures and installing lighting controls. Quick and easy things to do are changing incandescent bulbs to compact fluorescent lamps and high-intensity discharge lamps, converting old-style T12 fluorescents to energy-saving T8 or T5 tubes, using LED exit signs, removing unnecessary lighting and installing occupancy sensors and timer controls. The cumulative effect could be a 10-25% energy savings.

Example: Occupancy sensors that shut off lights in offices and hallways after 10 minutes of inactivity in a 58,500-square-foot building resulted in an annual savings of \$36,000 and a payback of about three years.

Adjusting the Air

Controlling and adjusting heating, ventilation and air conditioning (HVAC) systems, optimizing their start-up and shut-down times and lowering their output during evenings and weekends can produce a 7-23% energy savings. While minimizing these systems, it is crucial to remember that indoor air quality and human comfort are closely tied and a key factor in work productivity.

Example: A 14-story, 307,600-square-foot office building installed new controls for HVAC systems at a cost of \$56,000 that yielded a \$47,000 annual savings and a payback of just over a year.

Equipment Fixes

Most equipment upgrades are expensive, but a few low-cost actions that offer a fast return on investment should be considered, DeJean said. Start with motors in HVAC components. Check to see if they use variable frequency drives (VFDs). Because HVAC motors operate at part load most of the time,

VFDs can cut their energy use by about a third. Overall energy savings could be 1.5-9%.

Another quick retrofit for HVAC is the installation of heat recovery ventilation, such as an enthalpy wheel that uses out-going air to pretreat incoming air prior to heating or cooling, providing an energy savings of 2-5%. Simply relocating thermostats near return air ducts can produce a 1.5% savings.

Example: In one building, installing VFDs cost \$31,000 but yielded \$16,000 in annual savings. In another, relocating thermostats cost \$3,200 with an annual savings of \$2,500.

Making It Work

DeJean said that among the key elements of a successful [energy efficiency](#) strategy are data collection, benchmarking, goal setting, prioritizing and staged implementation. Then by tracking and measuring the measures taken, you can verify gains from upgrade efforts and reap the rewards of gaining [Energy Star](#) and other building certifications and awards.

Further Information:

[ENERGY STAR: Buildings and Plants](#)

[BOMA: Building Owners and Managers Association International](#)

For California: [Emerging Technologies Coordinating Council](#)

Like

photo: [Emerging Technologies Associates](#).



Welcome to the CleanTechies Blog! If you are new here, you might want to subscribe to the [RSS feed](#) or via [email](#) for updates on this topic.

Share and Bookmark:

Rating: 5.0/5 (2 votes cast)

Tags: [building performance](#) [efficiency](#) [energy savings](#) [energy star](#) [HVAC](#) [[Permalink](#)]
[Lighting](#) [occupancy sensors](#)

Posts you might like:

- [Every Company Needs a Corporate Energy Manager](#)
- [Learning the Lessons of Energy Efficiency](#)
- [Time to Change Habits, as well as Light Bulbs?](#)
- [AB 1103 – How You Can Benefit?](#)
- [Learn your Lumens, New Light Bulb Labeling in 2011](#)

advertisement



This entry was posted on **Tuesday, November 23rd, 2010 at 10:30 am** and is filed under [Building](#), [Efficiency](#), [Lighting](#).

You can follow any responses to this entry through the [RSS 2.0](#) feed or via [email](#). You can [leave a response](#), or [trackback](#) from your own site.

Previous post

« [LA Auto Show Crowns 2011 Green Car of the Year](#)

Next post

[Building the Clean Energy Economy](#) »

Leave a Reply

Name (required)

Email (required)

Website

XHTML: You can use these tags: `` `<abbr title="">` `<acronym title="">` `` `<blockquote cite="">` `<cite>` `<code>` `<del datetime="">` `` `<i>` `<q cite="">` `<strike>` ``

Please note: Comment moderation is enabled and may delay your comment. There is no need to resubmit your comment.

Submit Comment

☐ Notify me of followup comments via e-mail

Additional comments powered by [BackType](#)

Featured Partners



[Roll with CleanTechies-aholics](#)

[Home](#) | [About](#) | [Subscriptions](#) | [Advertise](#) | [Press](#) | [Affiliate](#) | [Contact](#) | [Terms of Use](#) | [Privacy Policy](#) | [Sitemap](#)
 Copyright © 2008-2010 CleanTechies, Inc. - All rights reserved

Time needed to produce page: 1.233