"Reducing Energy Spend Requires Capital"

A Mythbuster Bulletin

by the Building Advisor™

Energy Mythbuster Bulletins shed truth on commonly held misconceptions within the Commercial Real Estate Industry with supporting facts, data, and insightful energy information.

The previous Energy Mythbuster Bulletin discussed not only how energy costs in commercial buildings can be controlled, but that according to ENERGY STAR, they are in fact the single largest controllable cost. Using energy diagnostic systems can take thousands of dollars off of a building's annual energy spend, increasing its net operating income and asset value.

Another misconception many owners/managers have is the notion that in order to reduce energy spend they have to invest in capital equipment. In today's economic climate many building managers have cut capital budgets to the bone, making paying the high upfront cost of energy retrofits next to impossible. At the same time, building owners and managers are under continued pressure to reduce operating costs. Increasing the industry is focusing attention on methods that can reduce operating costs without significant capital investment.

Leading the charge is the BOMA Energy Efficiency Program (BEEP), an innovative operational excellence program designed to teach commercial real estate professionals how to reduce energy consumption and costs with proven low- and no-cost strategies for optimizing equipment, people and practices.

Quantifying waste through low and no cost energy efficiency measures

$ savings within this table assumes 100,000 sf building with initial ENERGY STAR rating of 50 @ $0.09 per KWh.

Measure	Savings Estimate	
	%	$
Preventative Maintenance	7.0%	$ 15,171
Occupant Behaviors	3.5%	$ 7,585
Lighting	9.4%	$ 20,372
Controls	7.3%	$ 15,821
Equipment	3.5%	$ 7,585
Cumulative Interactive Total	**27.3%**	**$ 59,089**

Source: EPA

"BuildingAdvice's Energy Savings Assessment reports say 'Here's how we can help you.'"
- Dave Stroh, Wolin Mechanical, Des Moines, IA

Making the invisible visible

These low- and no-cost adjustments are illustrated and described within an Energy Savings Assessment Report. This report provides building managers and operators clarity on how their building's systems operate, identifies tenant comfort issues, and reveals instant savings measures

through fine-tuning of the systems that can be implemented by HVAC contractors, facility managers or building management. This report highlights the performance of the HVAC and lighting controls issues and determines if, and where energy waste in the building is occurring.

By making simple changes to building operations, owners can achieve immediate and substantial savings on their utility bills, beginning as soon as the month following adjustments.

Contractors and consultants empowered with the capabilities to help reduce energy costs by at least 10% through low and no cost activities build credibility and open the door for a larger scope of work that result in additional energy saving through retrofit opportunities.

Below are the Building Owners and Managers Association's (BOMA) top ten list of low- and no-cost adjustments, commonly identified in Energy Savings Assessment Reports.

Ashforth armed with BuildingAdvice realizes $26,975 reduction in energy spend the first year through implementing Low & No - Cost Measures

Company: Ashforth Pacific

Project Lead: Scott Lunski, VP of Operations

Building: One Pacific Square - 220 NW Second Avenue Portland, OR

Use: Class A Office

SF: 240,338

ENERGY STAR score before BuildingAdvice: 68

Annual energy spend before low & no cost measures: $324,456

Energy Conservation Measures Recommended by BuildingAdvice: Adjusting temperature setback, lowering heating setpoint, reducing the lighting schedule, installation of demand control ventilation system

Cost to implement conservation measures: $2,500

Annual energy spend savings realized: $26,975

Payback period: 0.1 years

Annual electricity savings realized: 140,253 kWh

Annual natural gas savings realized: 13,598 therms

Greenhouse gas emissions reduction: 17,383 lb. of CO_2

ENERGY STAR score after BuildingAdvice: 83

Top Ten Low-Cost & No-Cost Energy Efficiency Tactics for Buildings

(adapted from the Building Owners and Managers Association (BOMA)'s Energy Efficiency Program, BEEP)

1. **Reduce After Hours Usage of HVAC & Lighting** Is your equipment operating after hours? If it was, would you know?
2. **Optimize Start-Up Time and Equipment Sequencing** Turn on your equipment as late as possible in the morning to reach the desired set point when tenants enter the building, not hours before.
3. **Coast the Last Hour of Operations** While maintaining ventilation rates within code, you may be able to optimize the staging of system shutoff times, especially on days that tenants leave the building early.
4. **Outside Air Temperature Lockout** Simultaneous heating and cooling is throwing money out the window. Institute outside air temperature lockouts for heating and cooling systems.
5. **Water Supply Resets** Reset the chilled and hot water supplies based on outside air, and supply air temperature to use the minimum amount of energy to satisfy the set points.

6. **Supply Air Resets** To avoid unnecessary cooling and reheat issues, reset the supply air temperature to the maximum temperature needed to cool the space.
7. **Economizer Tune Ups** Are your economizer controls tuned and operating correctly to take advantage of the maximum amount of free cooling possible?
8. **Lighting Occupancy Sensors -** Consider installing occupancy sensors to reduce operating hours for individual zones.
9. **Daylight Controls on the Perimeter** Take advantage of daylight from large windows on the building perimeter by adding daylight controls to specific light fixtures.
10. **Adjust Dampers** Minimize the need to condition outside air by closing outdoor air dampers during the first and last hours of occupancy to permit fast warm-up and cool- down where code permits.

Getting Started

Immediate relief from the single highest operating cost of commercial buildings is available through the execution of low- and no-cost adjustments to existing systems identified by an Energy Saving Assessment. The Assessment report outlines “next steps,” for implementing no-capital energy efficiency measures in clear, simple detail, backed up by data and analysis. This pragmatic approach will save owners/managers money immediately, build credibility, and justify future investments in building performance.

Please visit www.airadvice.com/buildingadvice to learn about the industry proven energy services delivery platform, which includes web-based software and portable diagnostic equipment that provides energy waste analysis, monitoring, and reporting, as well as a team of management, sales, and engineering personnel who act as an extension of an HVAC contractor to uncover potential savings.