

# CONTROL ENERGY USAGE FOR A BETTER BOTTOM LINE

By Meghan Richards

The state of the economy today certainly has many business owners concerned about the future. Now is the time to focus on the things you can control, such as your energy usage.

## WHERE DO I START?

It is certainly no surprise that energy costs continue to rise and will continue to do so as the demand for energy outpaces the available supply. So where does one start? The first step is to evaluate your facility's energy usage. Are the majority of your costs coming from your lighting or HVAC equipment? Do you feel drafts in your building in the winter? If you don't feel comfortable evaluating this yourself, look to consultants from companies that specialize in improving the energy efficiency of buildings. In fact, many local utility companies offer technical services and/or may pay part of a consultant's fee to create an energy reduction plan.

## SIMPLE PAYBACKS THROUGH LIGHTING

The next step is to focus on items with the greatest return on your dollar. In most facilities, upgrading the lighting is one of the easiest items to tackle and has the quickest payback. If, for example, you have one hundred 400-watt metal halide fixtures in your facility, they can be replaced with one hundred 4-lamp T-5 fluorescent light fixtures. This example would reduce your kilowatt usage by 50%. In many cases, payback for a new lighting system will occur in a couple of years. If you don't want to use the funds you have now, leasing may be an option. Leasing allows you to pay for most of the lighting upgrade through utility savings generated by your new energy-efficient system.

Newer lighting systems are available with occupancy sensor and photocell options. Bi-level switching gives you the option to switch on certain sections or rows of lighting in the building at a time, further enhancing lighting management capabilities. Evaluate your hours of operation and the level of play at certain times of day that may not need maximum light levels, and plan accordingly to maximize energy savings.

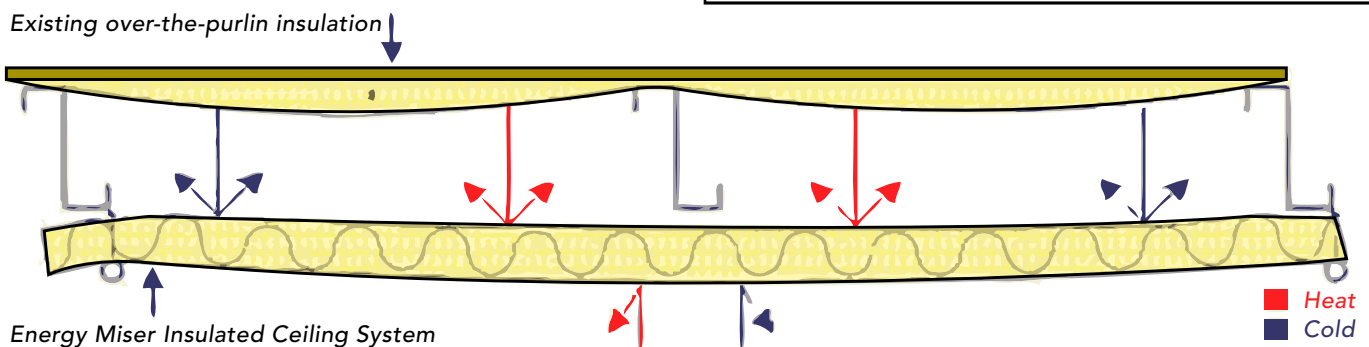
## HVAC & BUILDING ENVELOPE

HVAC and the building envelope (insulation) go hand in hand when talking about an energy efficient structure. Depending when your facility was built, the insulation might have been minimal if the effect of high energy costs weren't then on the radar. Even in buildings only five to ten years old, energy efficiency may have been sacrificed to compensate for soaring construction costs.

Improving the building envelope by adding insulation can drastically lower heating and cooling loads in the building and, in turn, allow for downsizing new energy efficient mechanical equipment.

When it comes to adding insulation to a building, look for a company that specializes in retrofit systems. Find an insulation system that has a lower layer of insulation installed

Fixture Description	Existing 400w Metal Halide	T-5 Fixtures
Quantity of fixtures	100	100
Lamps per fixture	1	4
Lamp Type	400w MH	T-5 HO
Watts per fixture w/ballast	460	234
Total Watts	46,000	23,400
Operating hours per day	16	16
Operating hours per year	5,824	5,824
KWH per year	267,904	136,282
Cost per KWH	0.1	0.1
KWH cost per year	\$26,790.40	\$13,628.20
<b>Total Savings Per Year</b>		<b>\$13,162.20</b>
<b>Savings %</b>		<b>49%</b>



below at least some of the structural steel in your building. This will block the heat and cold transfer through the structural steel in the roof. Reducing the radiant heat load will make your building more comfortable, and the HVAC equipment will run more efficiently.

**UTILITY REBATES & TAX DEDUCTIONS**

Utility companies and some state programs throughout the country are offering rebates to increase the energy efficiency of your building. In some cases, it is a set amount that is offered per light fixture or for an upgrade to a particular HVAC system. In these cases it is quite easy to navigate the paperwork. There are also utility companies that offer "custom measure" programs, which may include an insulation package or a more customized lighting system.

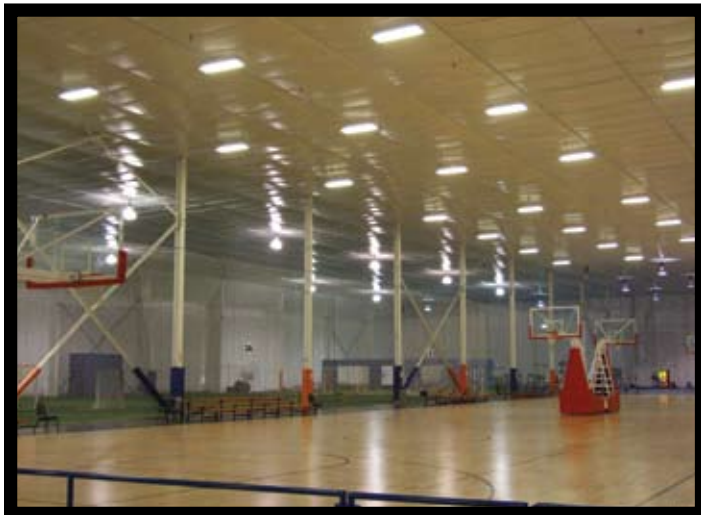
Further incentive to make improvements to an existing structure can be found in the Energy Policy Act of 2005, which allows tax deductions for improving the energy efficiency of an existing building through the building envelope, HVAC and lighting systems.

*Meghan Richards is the Systems Sales Manager for ICA.*

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