Written by Amanda Martyka, Assistant Editor
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It's Easy Being Green

Is it a good idea to go green with your facility during a recession? The decision-makers behind two of America's skyscrapers think so. The Willis (formerly Sears) Tower in Chicago is undergoing a $350 million retrofit that will include wind turbines and extensive energy-efficiency improvements, according to TreeHugger.com. Likewise, New York City's Empire State Building is receiving a $20 million retrofit that will reduce its energy usage by 40%, with annual energy savings in the region of $4.4 million.

You're not alone if you haven't gone green in your operations. According to Dan Bulley, senior vice president of the MCA of Greater Chicago and executive director of the Green Construction Institute, many businesses haven't gone green because they don't know where to start. "Green practices may seem time-consuming and extraneous to day-to-day operations," Bulley says. "But, going green is a lot like a workplace safety program: it takes some extra effort, but the results are well worth the investment."

Don't have the budget of a skyscraper retrofit? Even with limited funds, there are simple steps that can be easily implemented to begin reaping the benefits of a sustainability program. Some of the steps may sound familiar, but with the hefty long-term savings it may be time to initiate them in your facility—*and maybe even in your own home*.

One green step at a time

When initiating a sustainability program, a green inventory, using the LEED Green Building Rating System, is a good place to begin. Developed by the U.S. Green Building Council, this

system is the benchmark for the design, construction and operation of high-performance green buildings, which can be rated at one of several levels, including Certified, Silver, Gold and Platinum.

"The best way to green your business is to use the five areas of sustainability established by the LEED system," Bulley says. "This doesn't mean you have to pursue a LEED rating for your building. You should use their system because it is well-organized and practical." These five areas are divided as follows:

Division 1…
The first division is the building's site. Bulley suggests planting trees, shrubs and flowers, especially native species that don't affect the local ecosystem and require little to no watering, outside your facility. Shrubs should be planted where they can absorb and filter storm water. Make sure any trees planted will shade your facility (to potentially cut cooling costs) or parking lots (to reduce the urban heat island effect, which raises the temperature of your entire site.)

Division 2…
The second division is water conservation. To save money, Bulley recommends replacing sinks and toilets with low-flow fixtures as well as implementing faucets with sensors. As you would in your home, ensure that faucets are checked for leaks and fixed.

The biggest energy wasters
Division 3…
The third area to consider is also the largest: energy usage. Heating/cooling systems and lighting are often the biggest energy wasters in a workplace. Heating, ventilation and air-conditioning systems (HVAC) should be properly maintained as, according to Bulley, you can lose 15%+ of your system's efficiency from direct filters and coils and other impediments.

The age-old suggestion, ‘turn down your thermostat,' also saves money. Don't overheat or overcool your building. If it's overheated, people may open windows and thereby waste energy.

Lighting upgrades also offer a quick payback, Bulley states. "Today's more energy-efficient lighting systems may seem expensive, but they often pay for themselves within a year."

Division 4…

Materials and resources are the fourth division, with recycling the most common measure. "If you own your own building, contact your waste hauler to review your recycling options. Some automatically sort all trash," Bulley says. "If you are a tenant in a building that does not recycle, you should ask building management to start." Other suggestions within this division include:

- Using paper with recycled content;
- Recycling used toner cartridges. Refilled toner cartridges cost less than new ones;
- Buying locally produced items;
- Buying used or remanufactured office equipment;
- Repairing furniture and fixtures rather than replacing them;
- Disposing of batteries and fluorescent lights properly-they do not belong in landfills.

Health and comfort

Division 5…

The last division is indoor environmental quality. This is often overlooked, since most people focus on energy savings when thinking about green concerns. However, employee health and comfort are also important.

"In the old days, you either had energy efficiency or good ventilation," Bulley notes. "LEED makes you balance these factors. It's certainly possible to have both."

If you employ a cleaning company, make sure they use green products, such as biodegradable cleaning agents free of harsh chemicals. If your office is remodeling, the new paint, wallpaper and carpeting should be low-VOC (Volatile Organic Compounds) to limit the irritating gases that may be emitted by these products after installation.

Beyond the basics

The previous suggestions are only a rudimentary look into the steps your company can take to begin a basic sustainability program. Check in with *The Green Edge* each month to learn more

about the latest products and services available to help your company take its green initiatives another step further and your cost savings even higher.

Mechanical Contractors Association Chicago
Burr Ridge, IL

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Greenhouse Gas Monitoring

ABB has announced upgrade solutions for the Advance Optima AO2000 Series Continuous Gas Analyzers (CGA). This expands monitoring capability to include CO_2 greenhouse gas emissions measurement to address expected US EPA environmental compliance requirements. These regulations will impact reporting requirements for cement kilns, nitric acid plants, power generation, incinerators, refineries and petrochemical plants. ABB continuous gas analyzers accurately measure emissions at very low levels to establish, maintain and prove compliance. Built for reliability, ease of maintenance, sensitivity and flexibility, these analyzers are engineered to work with the plant's specific stream compositions and within designated measurement ranges. A full range of upgrade options are available to meet site- and application-specific requirements. Upgrade options for non-ABB analyzers are available upon request. Installation and commissioning services for all upgrades can be implemented on-site by ABB factory-certified service engineers.

ABB
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Remote Power Source For Harsh Environments

[redacted]

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Energy-Efficient Pumping

ITT's Bell & Gossett Technologic® 502 variable speed pump controller utilizes the latest generation hardware platform with advanced pumping software and proven algorithms to create a smarter, more cost-efficient and energy-saving pump system for HVAC and pressure booster applications. The 502 integrated pump controller and adjustable frequency drive offers features that increase ease of set-up and menu navigation, lengthen equipment life and lower operating costs, including:

- Control of up to four parallel pumps
- Four analog inputs for a combination of zone sensors, flow sensors and suction sensors
- Customized algorithms to handle the entire range of pumping applications
- Program safeguards against damaging hydraulic conditions
- Local and remote start/stop capability

- RS-485 Communications
- Plain English diagnostic display with soft-touch keypad switches

Designed to provide equipment payback in 1-3 years, the Technologic 502 reduces its environmental impact via efficiency and water conservation. It contributes to LEED certification and also may qualify for economic stimulus rebate or local utility incentives.

Bell & Gossett
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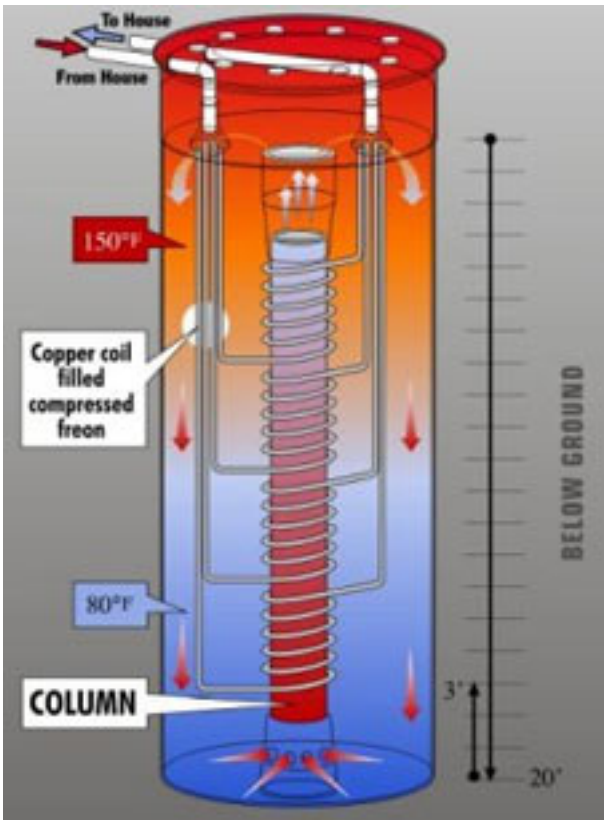
HVAC In A Bottle

GeoEnergy Enterprises' GeoColumn is a new



GeoColumn – Graphic representation not to scale. Graphic courtesy of GeoEnergy Enterprises, LLC. hybrid HVAC system that offers the efficiency of heat pump systems and the benefits of direct exchange (DX) ground source heat exchangers, which produce heat from the surrounding earth. However, it eliminates the costly and often difficult excavation or deep-well drilling these systems require. This system is a self-contained ground source heat pump that does not require ground water, water pumping or anti-freeze agents to function. And,

unlike other ground source systems, it can be installed in a relatively small space. In fact, the GeoColumn is housed in a sealed vessel 28 inches in diameter. Inside the container, a gas heat exchange medium circulates through coils of copper tubing submerged in ordinary, unconditioned water. The entire system is buried in a borehole just 23-feet deep, which can be easily dug by light, truck-mounted drilling equipment. According to the company, GeoColumns are also easy to set up— *local HVAC crews can do it without special training or equipment* . The system requires little maintenance over its anticipated long service life. Additionally, the copper tubing used for the heat exchanger has a longer lifespan than systems that use plastic in-ground tubing.

GeoEnergy Enterprises
Katonah, NY

For more info, enter 34 at www.MT-freeinfo.com

A Green Solution For Tapping Fluid

SafeTap Ultima is a natural-based tapping fluid made from 100% renewable materials and is totally biodegradable. The composition provides a high viscosity and lubricity, and its natural base makes it safer for operators and metals, especially aluminum. SafeTap Ultima is non-staining and completely odorless. According to the company, it not only prolongs tool life and creates better threads in tapped holes, but it also creates a safer and cleaner work environment for employees. Since SafeTap Ultima contains no mineral oils or solvents, there is no oily residue left on the work pieces. The product is designed for use on all metals and offers an environmentally friendly, high-performance, green alternative to oil-based tapping fluids. It is available in 16-ounce bottles as well as 1-, 5- and 55-gallon containers.

ITW ROCOL North America
Glenview, IL

For more info, enter 35 at www.MT-freeinfo.com

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