

# The Economics of Saving Energy

Over the last year a great deal has happened in the world's economy. Budget cuts and other forms of cost savings are evermore present in business today. Nearly everyone is being asked to accomplish the same results for less money. Fortunately, you will find information and tips in this article that could make a significant financial difference for your company and the environment at the same time.

## You are on the Front Lines in the Energy War

Many people have jobs that give the opportunity to impact energy savings for their companies. If you have control over the heating and air-conditioning, hot water, electric lighting, or you purchase facility maintenance supplies for an office or building, you are in a position to make a tremendous difference for both the environment and the bottom line. The results of your actions can also make a difference with our nation's dependency on foreign oil and help reduce global warming as well.

## Armed with Information and Ready for Action

Our goal is to arm you with the information you need to make simple, effective changes, frequently by just making different decisions in areas that you already control.

Many people know they could improve energy efficiency for the good of the environment, but did you realize that you could actually add to your profits through energy savings even in this climate of reduced budgets, sales and profitability? Saving energy may be one of the few places where costs can be reduced without negative impact, such as job losses. Your energy choices can make a real impact on the bottom line.

*"Business strategies built around the radically more productive use of natural resources can solve many environmental problems at a profit."<sup>1</sup>*

One of the main areas where profit can be moved from energy expenses and added to the bottom line is by reducing the use of carbon-based fuels like coal, natural gas, propane, gasoline and diesel. In most parts of North America, electricity is produced with coal or natural gas; thus reducing electricity use helps reduce the use of carbon-based fuels.

Here are our suggested "Eight Simple Steps to Energy Savings". Most of these steps you can begin immediately. Other actions may be

included in more mid- to long-term plans. In any case, consider these possibilities and the tremendous difference they can make for your company.

## Eight Simple Steps to Energy Savings Get An Energy Audit

Ask your energy company to arrange for a simple general energy audit. This is an inspection and analysis of the energy flows in your building—frequently at no cost—that will help point out where energy is being lost. An energy audit will assess the efficiency, condition and programming of mechanical systems such as the heating, ventilation and air conditioning systems and thermostats.

Armed with this information you may be able to make simple improvements such as upgrading door seals with weather stripping or replacing thermostats with more efficient programmable ones. A simple audit will show you improvements you can afford to make today and those that you can plan for in your budget. Either way, an audit will show you where there are energy losses—in other words, financial losses—that you can eliminate to recapture the money for your company's financial health.

A full-scale investment-grade audit is desirable in corporate settings where the cost of capital improvements must be weighed against the expected return on investments. Many companies that conduct such audits discover that investment in energy savings can result in unexpected financial returns.

## Watch for ENERGY STAR® Labels

The U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) sponsor a voluntary labeling program that helps you make informed decisions when purchasing many energy-using technologies. ENERGY STAR works with manufacturers, retailers and various levels of government to establish a more universal system for evaluating these technologies so you can easily see and compare

the energy efficiency of various products side-by-side. Look for the ENERGY STAR label whenever you are purchasing appliances, lighting products, windows, etc. Keep in mind that even a small improvement in energy efficiency can really add up over the years.<sup>2</sup>

## Reduce Water Heater Temperature

In the typical office setting, 120°F is sufficient for hot water. The difference is unnoticeable and you can save 18% of the energy that would be used to heat water to the 140°F that many water heaters are preset to. You might even want to consider a solar water heating system. This is a good place to initiate the use of solar energy without making a major investment because residential-style solar water heating systems—suitable for many office settings—are widely available, time tested and can cut hot water bills in half. You may also find that there are tax credit plans that can help with the cost in your state. Certainly look into the solar alternative if you are buying a new water heater.<sup>3</sup>

## Reduce Office Equipment Energy Use

Imagine that every computer and monitor in the United States was turned off at night. According to the Oregon Energy Council we could reduce carbon emissions by 7 million tons—the equivalent to the energy production of eight large power stations.<sup>4</sup>

Forget the myths you might have heard that it doesn't make any difference if you leave computers on all the time—or that shutting it off regularly might be harmful to the computer. If you want significant energy savings, turn computers off at night. After all, office equipment (including printers and copiers) consumes 16% of the energy used in the average office—a good reason for considering those ENERGY STAR ratings when purchasing new equipment.<sup>5</sup>





You can accomplish this new objective a number of ways. For example, you can make it mandatory for employees to shut off their equipment when they leave at the end of the day or have your cleaning staff turn off computers, monitors, printers and copiers.

Better yet, have your IT department configure the “energy saver” software settings that are standard on most computers. The “energy saver” settings will automatically turn off and restart computers and monitors at a specified time. The settings can easily be over-ridden by employees working overtime or second shift.

Also, have your IT department make sure that the automatic “power down” settings that trigger “sleep modes” are configured properly. Use of sleep mode can reduce electricity consumption 70% or more and nearly every computer has both energy saver and sleep mode configurations. Just a few minutes spent setting these up properly can have a huge payoff in energy savings.

Screen savers do not save energy. In fact, many of them boost energy use and they are merely decorative so disabling them will save energy, too.<sup>6</sup>

### Use Compact Fluorescent Light Bulbs

Incandescent bulbs are obsolete for many uses today. If you are not using Compact Fluorescent Light Bulbs (CFL) (look for ENERGY STAR qualified bulbs) then you are missing out on a huge savings opportunity. Each bulb is

estimated to save \$30 over its lifetime by using 75% less energy than an incandescent bulb and will pay for itself in about 6 months. One of the great features of CFL bulbs is they last 10 times longer—that means less time is spent replacing bulbs.<sup>7</sup>

### Turn Off the Lights

When you consider that more than 35% of the energy used by a typical commercial building is consumed by lighting, you understand why it makes a difference when lights are turned off at night and even during the day in infrequently used areas such as closets, storage rooms and bathrooms. You might want to consider motion detectors for those areas so building residents don't have to find the switch in the dark. With a little planning, you can reduce the lighting bill and still have plenty of light when and where people need it.<sup>8</sup>

### Maintain Your HV/AC System

Regular maintenance of your HV/AC system can save money in a number of ways. It is a good idea to have the entire system looked at by a professional before the heating and cooling seasons to make sure you are operating at peak efficiency.<sup>9</sup>

It is also recommended that you change air filters every 3 months. A dirty air filter makes a heating/air conditioning unit work harder and therefore consume more energy. You will see other benefits of regularly replacing filters. Less dirt and dust will build up inside the building's ventilation system to help avoid costly repairs and a longer life for the mechanical components.<sup>10</sup>

### Get Control of the Temperature

Whoever controls the thermostat controls the monthly energy bill. In many offices the control of the thermostat is an ongoing battle and a

source of endless power plays and complaints. If office workers are given free access, they tend to abuse the thermostat by cranking up the heat or air-conditioning much higher than necessary to resolve momentary discomfort that might be better solved with a sweater. You can end the battle for temperature control for economic reasons.

Establish appropriate settings and keep them that way. Reduce temperatures 2 degrees in the winter and increase them 2 degrees in the summer to keep comfort levels adequate while maximizing energy savings. Use programmable thermostats so that you can greatly reduce energy savings at night or over the weekend and adjust to more comfortable settings during the working day. Keep the thermostat under lock and key. Open window blinds or curtains to take advantage of solar heating in the winter and close them to reduce air-conditioning needs during the summer.<sup>11, 12</sup>

<sup>1</sup> From Harvard Business Review article A Road Map for Natural Capitalism, by Amory B. Lovins, L. Hunter Lovins and Paul Hawken, May-June 1999

<sup>2</sup> <http://www1.eere.energy.gov/buildings/energystar.html>

<sup>3</sup> <http://www.oeonline.org/resources/livinggreen/atwork/savingenergyatwork>

<sup>4</sup> <http://www.oeonline.org/resources/livinggreen/atwork/savingenergyatwork>

<sup>5</sup> <http://www.oeonline.org/resources/livinggreen/atwork/savingenergyatwork>

<sup>6</sup> [http://www.energysavers.gov/your\\_home/appliances/index.cfm/mytopic=10070](http://www.energysavers.gov/your_home/appliances/index.cfm/mytopic=10070)

<sup>7</sup> [http://www.energystar.gov/index.cfm?c=cfls\\_pr\\_cfls](http://www.energystar.gov/index.cfm?c=cfls_pr_cfls)

<sup>8</sup> [http://www.energysavers.gov/your\\_home/lighting\\_daylighting/index.cfm/mytopic=12280](http://www.energysavers.gov/your_home/lighting_daylighting/index.cfm/mytopic=12280)

<sup>9</sup> [http://www.energystar.gov/index.cfm?c=heat\\_cool\\_pr\\_maintenance](http://www.energystar.gov/index.cfm?c=heat_cool_pr_maintenance)

<sup>10</sup> [http://www.energystar.gov/index.cfm?c=heat\\_cool\\_pr\\_hvac](http://www.energystar.gov/index.cfm?c=heat_cool_pr_hvac)

<sup>11</sup> <http://www1.eere.energy.gov/consumer/tips/thermostats.html>

<sup>12</sup> [http://www1.eere.energy.gov/consumer/tips/heating\\_cooling.html](http://www1.eere.energy.gov/consumer/tips/heating_cooling.html)

<sup>13</sup> <http://www.epa.gov/epawaste/conservation/materials/paper/basics/index.htm>

## ENVIRO Expanding the Green

We are very happy to announce that this catalog offers our largest selection of green products and supplies yet. You will find these products easily identified with our Enviro-conscious logo. Here are some of the categories where you will find green products:

### Chemicals & Janitorial

Whether you are cleaning floors, spraying kitchen counters or performing many other cleaning tasks, you will find green products here that offer more environmentally friendly alternatives to traditional cleaning products. As improvements continue to be made, we encourage you to try new products all the time. In some states there are laws that mandate the use of green cleaning supplies, particularly in schools.

### Paper & Dispensers

Green choices for hand towels, facial and toilet tissue and paper napkins can be an easy environmental choice when there are so many cost-competitive options to choose from, some

using recycled paper. According to the EPA, recycling one ton of paper will save enough energy to power the average American home for six months, save 7,000 gallons of water, save 3.3 cubic yards of landfill space and reduce greenhouse gas emissions by one metric ton of carbon equivalent (MTCE).<sup>13</sup> So, recycling and using recycled paper products can make a huge difference.

### Mops, Brooms & Brushes

You will be surprised how many mop heads and other floor maintenance products are made with recycled materials these days. What a great way of getting the maximum use from our resources.

### Facility Maintenance & Safety

You will find many products here that are made from recycled materials and can also help you implement recycling programs by offering housekeeping carts that make recycling programs easy to manage. This is also where

you'll find low-energy Compact Fluorescent Light Bulbs.

### Waste Receptacles

Trash is a resource when you are able to help people sort the various categories of recyclable materials such as paper, glass, metals and plastic. You will find containers here that will help you implement recycling in your facility.

### Bags & Can Liners

Not only will you need bags and can liners for managing recycled materials, you have green options here too. Many trash bags are made from recycled materials with no sacrifice in capacity or strength.

### Foodservice

Choosing paper products makes environmental sense and may work for your business. You'll find greener alternatives for cups, plates and foodservice containers in this section.