Tips for Conserving Energy and Reducing Costs

Commercial Tips

- You can save energy and money, while potentially improving the quality of light for employees, by upgrading traditional warehouse-type (high-bay) lighting, along with traditional fluorescent office lights (T12 – T8), in your commercial facility. Lighting technologies and efficiencies have improved dramatically. Maybe it's time to take a closer look at your facility's lighting.

- Programmable thermostats automatically adjust your facility's temperature settings, allowing you to save energy while working or away. They contain no mercury, are more convenient and accurate than manual thermostats, and improve your workplace's comfort.

- Replace light fixtures or bulbs in your facilities most frequently used light fixtures with compact fluorescent lights (CFLs). CFLs use up to 66% less energy and last up to 10 times longer than traditional incandescent bulbs.

Residential Tips

- Homes with inadequate insulation waste significant amounts of energy, and money. A factor called R-value is a measure of insulation's resistance to heat flow. Installing insulation in ceilings, walls and floors with the highest R-value will greatly reduce your energy consumption and save you money.

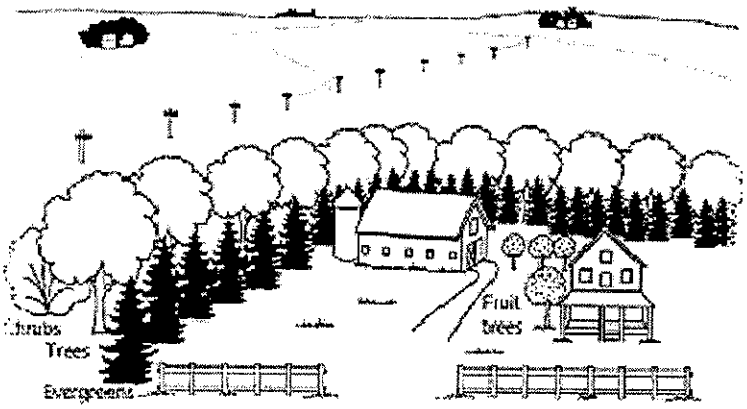
- An average home leaks 60% of its air every hour. This leakage rate will be even higher during periods of extreme weather. Seal all air leaks with caulking, weather stripping, or expanding foam. Common areas for air leaks include old windows and doors, attics, recessed lighting, gaps around plumbing and electrical penetrations, appliance vents, and fireplaces.

- Inefficient windows can add 10-25% to heating bills and up to 75% to summer air conditioning bills. The U-factor measures the amount of heat that moves through a window. The lower the U-factor, the better the overall insulating value. Look to install windows with U-factors of 0.35 or lower.

- Thermal shades and draperies are very effective for insulating windows and improving comfort. The shades, draperies or shutters are more effective if they are air tight or custom fitted, because they create a dead air space between themselves and the glass. As with insulation, the energy efficiency of window coverings is measured in R-values. The higher the R-value, the more it will protect your home from heat loss. The shading coefficient is also an important measurement for summer cooling, and it indicates the window coverings ability to shade against heat gain. The lower the number, the more effective the shade will be at protecting your home from the summer sun.

- Heating is the largest energy expense, accounting for approximately half of annual energy bills in colder climates. Replacing old heating equipment with new, more efficient models will save energy and money. Electric air source heat pumps use the difference between outdoor air temperatures and indoor air temperatures to heat and cool your home. When properly installed, an air source heat pump can deliver one-and-a-half to three times more heat energy to a home than the electrical energy it consumes. This is possible because a heat pump moves heat rather than converting it from a fuel.

- You can also dramatically reduce the need for heating your home by several key steps: Keep window shades and draperies open during the day, specifically those that face south. Planting windbreaks on the north and west sides of your home can reduce wind velocity by 85% and save you 10-25% on your heating bill.



A good windbreak would have an evergreen screen behind small flowering trees or large bushes that line the north and west sides of your home.

- Cooling accounts for another large chunk of your annual energy bill. Replacing old cooling equipment with new, more efficient models will also save energy and money. Air source heat pumps are 20% more efficient than standard air conditioner models and evaporative coolers are 2-3 times more efficient than central air conditioning units. Air conditioners are rated by a Seasonal Energy Efficiency Ratio (SEER). As of January 2006, there is a new federal standard of 13 SEER for all air conditioners. Purchasing a 15 SEER unit or higher qualifies you for a $300 tax credit.

- Ground source heat pumps are similar to air source heat pumps, only they use the constant temperature of the earth as the exchange medium instead of the air outside your home. Like a cave, this ground temperature is warmer than the air above it during the winter and cooler during the summer. Ground source heat pumps reduce energy consumption by up to 44% compared to air source heat pumps, and up to 72% compared to standard air-conditioning equipment. They also improve humidity control, maintaining about 50% relative indoor humidity, making them very effective in humid areas.

- You can also dramatically reduce the need for cooling your home by several key steps: Keep your windows, shades, and doors closed during the day. Install a whole house fan to draw hot air out of your home. Plant deciduous trees near windows facing east or west to provide shade from the sun. Install an attic fan and increase the number of soffits to remove hot air from your home. Use lighter colored roofing material.

- You can sharply reduce your energy bill by replacing old appliances with new, more efficient models. While they may be more expensive than comparable, less efficient models, your reduced energy bills will put that money back in your pocket long before the product wears out.

- Energy efficient lighting technology has come a long way recently, offering more choices in color, shape, size and fixtures. Most home lighting uses incandescent bulbs, which actually provide more heat than light, which not only waste energy but increase your cooling costs during the summer. Using CFLs will save you 75% on your lighting costs and will last up to 10 times longer than incandescent bulbs. Solar powered lights are also an excellent choice for outdoor lighting as they use photovoltaic technology to capture energy from the sun and store it in a battery to provide night lighting.

- Programmable thermostats automatically adjust your home's temperature settings, allowing you to save energy while working or away. They contain no mercury, are more convenient and accurate than manual thermostats, and improve your home's comfort.

- Heat pump water heaters use the same principal as air source heat pumps, only they are used to heat up your water instead of conditioning your home's air. They are about three times more efficient than standard electric resistance water heaters and can be used as either stand alone water heaters or can be integrated so that they heat your home's water along with conditioning your air.

- http://www.dsireusa.org/library/includes/map2.cfm?state=us&currentpageid=1

Access this link for a list of federal rebates and incentives that promote energy efficiency.

- http://www.dsireusa.org/library/includes/map2.cfm?CurrentPageID=1&State=MO&RE=1&EE=1

Access this link for a list of statewide rebates and incentives that promote energy efficiency.

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