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Saving our most precious resource, the environment, through lighting upgrades

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The onset of fall and the subsequent need for more lighting to offset the increasingly shorter days stands as an opportune time to reflect on America's balance sheet and remind ourselves of the importance of preserving our nation's natural resources. This has never been more endorsed at a national level than through the recent Energy Policy Act of 2005 and the 2007 Energy Independence & Security Act, which, among other things, support the critical concepts of energy efficiency, conservation, and the use of lighting technologies that promote environmental sustainability.

Energy-efficient lighting upgrades within the country's 5 million commercial, industrial, and institutional buildings do a great deal more than reduce energy costs, improve productivity, and enhance system quality...they also significantly benefit the environment and help conserve precious natural resources. Simply stated, reductions in energy consumption - achieved through the use of such products as energy-efficient lamps, ballasts, and lighting controls -- decrease the amount of pollutants emitted into the atmosphere by electric utilities, thereby reducing the ecological footprint we leave behind and helping to drive a more energy-efficient future for generations to come.

In all, over 20 million tons of pollutants including sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and carbon monoxide (CO) are emitted into the atmosphere every year as a by-product of electricity generation. Over time, emission of these pollutants has profound negative effects on the environment, contributing to the depletion of the ozone layer, increased levels of acid rain, and the heightened prevalence of cardiac and respiratory ailments among the American population.

Facilities of all sizes can actively contribute to the purification of the environment by becoming more energy-efficient. According to the EPA, an energy-efficient lighting upgrade within every 1,500 s/f of office space can save 10,000 kWh of electricity annually. In a 20,000 s/f facility, for example, this lighting upgrade would avoid the need for nearly 135,000 kWh of electricity each year, which equates to:

- *The prevention of almost 220,000 pounds of carbon dioxide from polluting the environment

- *Avoidance of the burning of 80 pounds of coal by an electric utility

- *The removal of 22 cars from U.S. highways, or the beneficial effects of planting 30 acres of trees

And every watt counts! According to the DOE, up to 1.4 pounds of CO₂ can be prevented from entering the atmosphere for every kilowatt hour of energy we save. A single lighting fixture upgrade that saves 315 kWh per year could reduce CO₂ emissions by 44 pounds, which is equivalent to the CO₂ absorbed by nearly 50 trees.

Thankfully, a broad range of energy-efficient lighting products -- such as T8 fluorescent lamps, electronic ballasts, LEDs, lighting controls, and occupancy sensors - can deliver high performance

while driving sustainable design. By routinely reducing energy consumption and costs by as much as 30-50%, such products help avoid the generation of both power and pollutants by utility companies while improving lighting system quality and reducing maintenance requirements. In fact, it is estimated that up to a third of the nation's current energy requirements could be met by the reductions in energy demand that the widespread use of these more energy-efficient lighting and electrical technologies would drive.

Overall, by being fully aware of their energy-efficient upgrade opportunities, facilities of all sizes can improve their financial bottom lines while proactively enhancing the health and welfare of our most precious resource - the environment.

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