

Energy Costs Reduction and Management for Office Buildings

Office buildings are significant energy consumers using an average of 17 kWh of electricity and 32 cubic feet of gas per square foot. Moreover, industry data indicates that energy costs are 20% of the typical facility's annual operating budget.

As energy costs continue to increase, businesses are discovering the tremendous financial, operational and competitive value of energy cost reduction and improved energy efficiency.

Because HVAC and lighting comprise 65% of combined energy use in office buildings (47% and 18% respectively), they are where you should initially focus your energy reduction efforts. By centering on these key areas, companies have significantly improved energy efficiency while maintaining or improving occupant / employee comfort and productivity.

Because each facility is relatively unique, using a carefully planned "whole facility" approach, allows you to be confident that you are making the best, most financially and operationally prudent energy efficiency choices. You will find there are proven and recommended engineering approaches and technologies available that can guarantee results and by working with an experienced, energy services company or engineering firm, choosing the right options does not need to be complicated. Deciding where and how to begin can be fairly straightforward. The best first step is always to focus on quick, low cost or no cost solutions. This can include training staff to turn lights off when they leave unoccupied rooms, using occupancy sensors in offices, conference rooms, etc., using sleep mode settings for computers and other electronics when not in use, setting back thermostats during overnight and closed hours and having the HVAC systems serviced and cleaned on a regular basis. After you've addressed the "low hanging fruit", next steps can involve choosing from a variety of longer term options that are designed to deliver much greater energy savings. Options should be considered based on their proven track record of success, whether they are "approved" or "recommended" by organizations such as Energy Star, US DOE, USGBC, IEEE, etc., their cost effectiveness and return on investment as well as their consistency with your company's goals and culture. Some of the best options for office buildings include lighting upgrades to high efficiency fluorescent, CFL and/ or LED, use of occupancy sensors and day-lighting opportunities, sine wave modification for outdoor lighting circuits, liquid pressure amplification for central chiller plants, anti-compressor short cycling for roof top units, use of variable frequency drives, building management systems, reflective roof coatings and possibly equipment replacement for older equipment that is approaching the end of its useful life.

As you proceed with implementing energy efficiency measures, know that you don't have to do it alone. There are experienced firms that can help make recommendations and provide turnkey services for you. In choosing a partner to guide this type of "whole facility" approach for you, it is important to look at a number of factors. You may want to ask the following: What is their level of experience using these various technologies, do they use proven and recommended approaches, what are the credentials of their staff, are they members of key industry organizations, what is their level of knowledge of your industry, do they offer a free initial evaluation and do they offer guarantees at each step of the process. Remember, the sooner you begin, the sooner you start saving your organization's valuable and limited resources and improving your company's profitability!

About the Author

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