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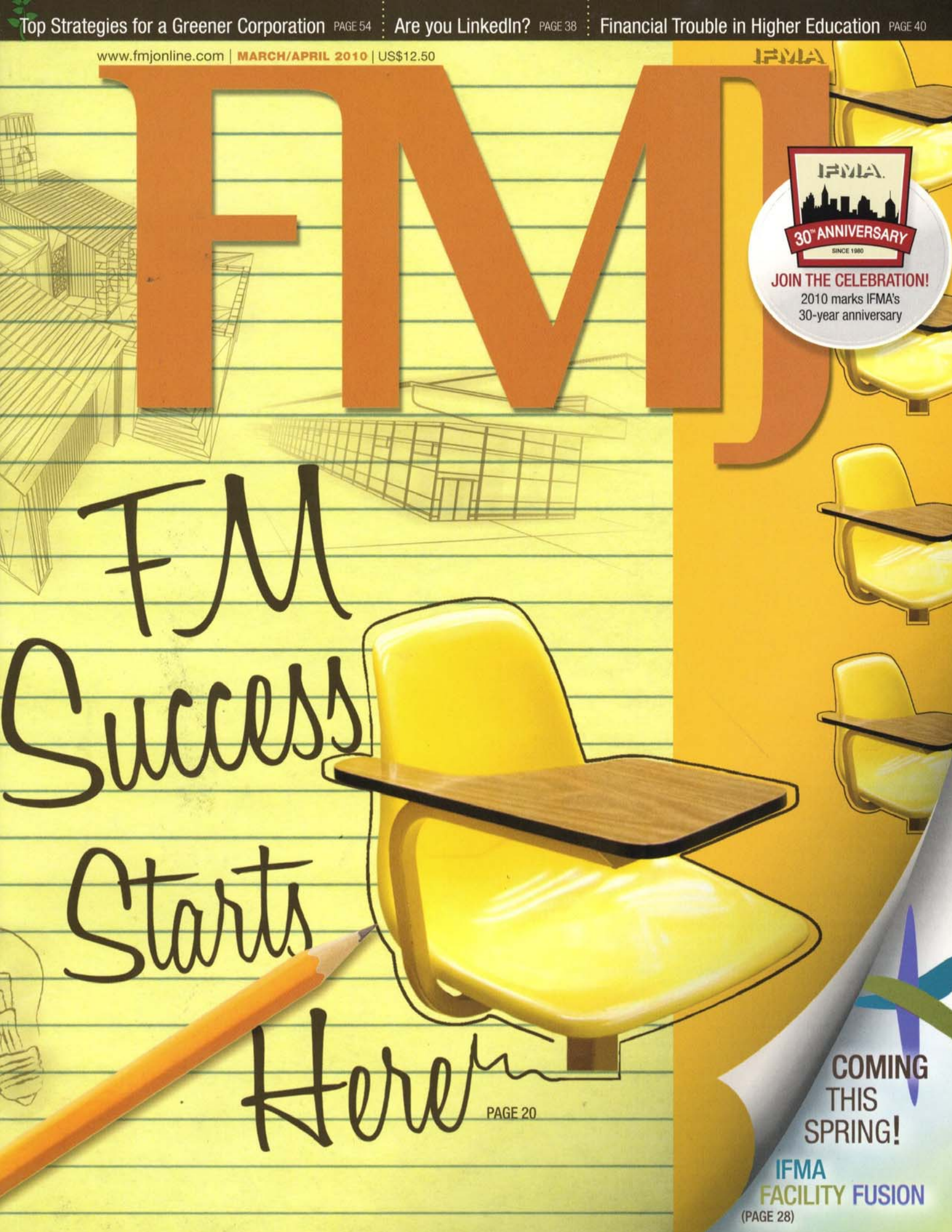

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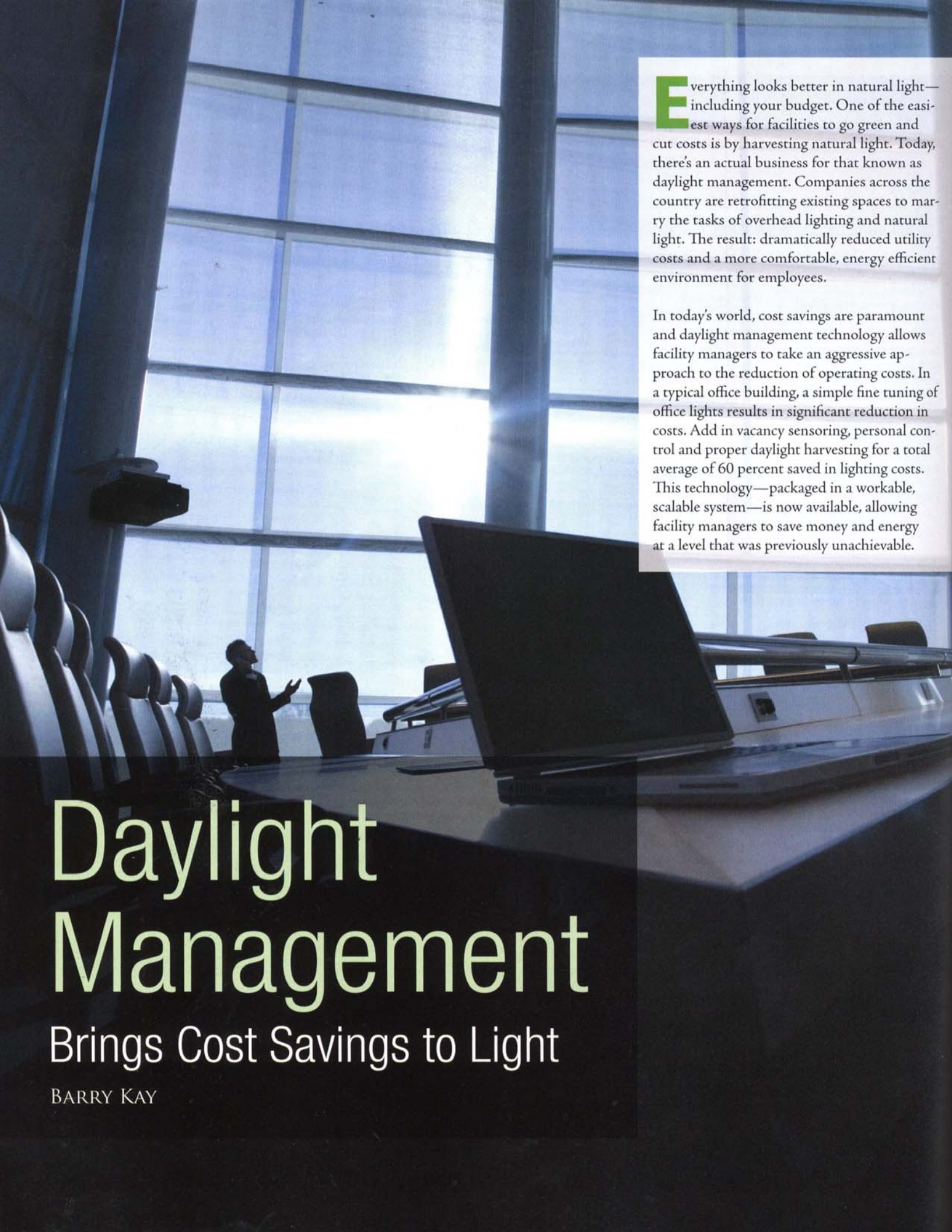

Daylight Management

Brings Cost Savings to Light

BARRY KAY

Everything looks better in natural light—including your budget. One of the easiest ways for facilities to go green and cut costs is by harvesting natural light. Today, there's an actual business for that known as daylight management. Companies across the country are retrofitting existing spaces to marry the tasks of overhead lighting and natural light. The result: dramatically reduced utility costs and a more comfortable, energy efficient environment for employees.

In today's world, cost savings are paramount and daylight management technology allows facility managers to take an aggressive approach to the reduction of operating costs. In a typical office building, a simple fine tuning of office lights results in significant reduction in costs. Add in vacancy sensoring, personal control and proper daylight harvesting for a total average of 60 percent saved in lighting costs. This technology—packaged in a workable, scalable system—is now available, allowing facility managers to save money and energy at a level that was previously unachievable.

Retrofitting an office to optimize daylight doesn't mean scrapping the building's existing light system. Light is the number one source of energy consumption in office buildings, and most of that is wasted on fixtures that are too bright, inflexible, competing with sunlight or illuminating empty spaces.

Daylight management systems ultimately take responsibility for the light and energy being used in a space. For facility managers this is key. Having a system that takes the guesswork out of energy savings, lowers maintenance and operation costs and automatically adjusts light levels depending upon the work going on in the space makes the job easier.

How the technology works

Daylight management technology captures sunlight that comes through an office's windows and uses it to replace the light that companies are purchasing from the electric company. The process maintains desired light levels by adjusting shading systems and window treatments based on the position of the sun. This provides the optimal facility for capturing natural light and providing maximum comfort—as well as translating to significant savings in lighting and heating, ventilating and air-conditioning (HVAC) costs.

Solar shading systems also curtail electric and building maintenance costs by integrating with existing building management systems, HVAC and lighting systems. Using the power of the sun to control office temperature decreases HVAC costs. Reducing light levels reduces heat in the space, thus decreasing the power use of the air-conditioning system and shaving an additional 20 percent off energy costs.

Harvesting light might seem like a complicated process but the right solar shading control system makes daylight optimization a relatively simple concept. Shading systems designed specifically for daylight management control are software-based. They automatically adjust the position of the shades incrementally on the window to maximize view and daylight, while protecting people and work surfaces from direct sun, excessive brightness and glare.

In addition to solar shading systems, companies can integrate intelligent fluorescent dimming ballasts into their office space that allow employees to adjust light levels, customizing to their comfort zone. Intelligent fluorescent ballasts use environmental sensors and personal control components to provide adaptive, efficient lighting control. This works in three ways. It turns lights off when a space is empty, turns lights down when daylight is available and gives users complete control of the lighting around them.

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Brighter benefits

You can transform your office into a more pleasant, efficient and cost effective work environment with daylight management, but how do you sell a project of this scale to upper management? Arm yourself with the facts of how light management solutions enhance your company's triple bottom line: people, profits and planet.

The ability to adjust lighting saves energy, increases productivity and reduces building maintenance. As employees come and go throughout the building, the lighting system turns the lights on and off to conserve energy. This way, employees will never struggle to find a light switch in a darkened space and valuable lighting is never wasted on a vacant room.

Perhaps the most important aspect of an intelligent lighting system is giving employees the ability to choose their own light levels. This not only saves energy but it's also been shown to considerably increase productivity and workplace comfort.

For example, your eyes need different levels of light to focus on a computer screen than they do to read through a printed catalogue. With a remote control, employees can easily adjust light levels from their desk when switching tasks, then switch back with the touch of a button. This not only decreases energy use but also increases comfort and lessens eye strain and fatigue that afflicts most office workers.

Proper daylight management also provides a safer work environment. While sensors ensure lighting is never used when it doesn't have to be, it also assures that no employee is ever feeling around for a light switch in the dark. This is especially important in places such as stairwells and bathrooms after hours.

Clearly, the physical and mental health of employees is directly impacted by the type and amount of light they're exposed to in their offices. It's been proven that office occupants are more productive with proper artificial light levels, in addition to exposure to natural light and a view of the outdoors. The sun's vitamin D boosts wellness and productivity, and reduces employee absenteeism.

Daylight management also reduces your company's overall carbon footprint and lessens the dependence on fossil fuels. Maximizing the effective use of natural light and reducing the use of artificial light lowers greenhouse gas emissions. Of course, energy efficient light bulbs also mean less waste cast into landfills.

The advantages couldn't be brighter. Improved employee health and comfort; increased productivity; a safer work environment; a significant reduction in lighting and energy costs, lower labor, maintenance and operations costs; and a reduced carbon footprint are all reasons enough to consider implementing a daylight management system. **FMJ**

Barry Kay is president of Kay + Sons, a national leader in solar shading solutions and daylight management systems. Kay + Sons has developed a total daylight management system that uses sunlight and artificial sources to adequately light a building without expending excess energy. The company works alongside businesses to design and install daylight management systems that increase energy efficiency and employee productivity, while decreasing operating and construction costs.