

Plan for a Greener Future

Checklist for improving energy efficiency and sustainability

By Marianne Wilson

From turning down the heat by just a few degrees to installing integrated skylighting systems, there are many different opportunities available for making stores more energy efficient and sustainable. While some of these options involve major capital outlays, many others can be done for a modest cost. Some don't involve any added expense at all.

Here are some green tips, from WD Partners, Columbus, Ohio, that cover the spectrum, both in terms of sustainability and cost:

NO COST

- Plant deciduous trees on the south and west side of the facility to shield building from sunlight;
- Reduce heating temperature and increase cooling temperature by one or two degrees;
- Keep entrance doors closed to retain conditioned air;
- Maintain space under slightly positive pressure, which reduces infiltration of outside unconditioned air;
- Turn water-heater temperature down to code minimum for washroom lavatories;
- Reduce general light levels and illuminate merchandise only at higher levels. Using high- and low-lighting also helps sales; and
- Use hand dryers in lieu of paper towels in restrooms, which cuts down on waste and reduces storage needs.

LOW COST

- Require all motors to be high efficiency;
- Replace back-of-house incandescents with compact fluorescents;
- Better insulate hot-water heaters;
- Inspect the economizer to make sure it is functioning

properly.

“A malfunctioning economizer can add as much as 40% to a building’s annual energy costs,” said Ken Golovko, client operations director, WD Partners.

- Inspect HVAC filters monthly and replace as needed, especially if they are located near a dirty or dusty environment; and
- Inspect and clean condenser coils regularly.

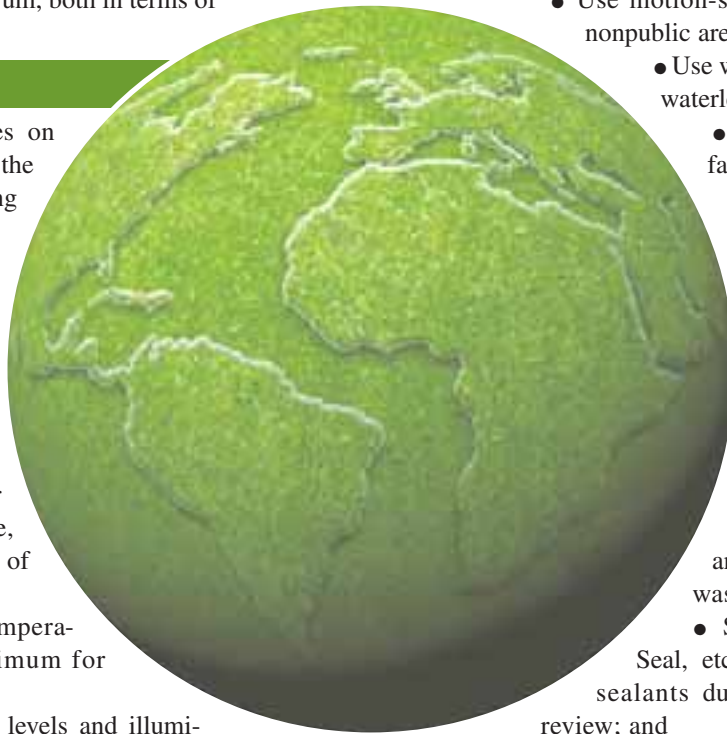
MEDIUM COST

- Use motion-sensor lighting controls in nonpublic areas;
- Use water-conserving toilets and waterless urinals;
- Use “auto-sensing” lavatory faucets;
- Institute recycling programs for customers and employees;
- Eliminate cleaning products that use toxic chemicals or produce toxic gases;
- For new construction/TI projects, write contracts requiring general contractor to separate and/or recycle construction waste;
- Suggest approved (Green Seal, etc.) finishes, adhesives and sealants during the Finish Schedule review; and
- Use awnings and window/storefront treatment for shading.

HIGH COST

FOR THE BUILDING:

- Install skylights and interlocks with lighting for automated dimming;
- “These systems can be modified to ensure the right amount of light is reaching product,” Golovko added. “There is even a product that tracks the sunlight and has mirrors to provide more uniform light distribution.



SPECS/ENERGY MANAGEMENT

- Change all signage from fluorescent/neon to LED, which will result in reduced energy and maintenance costs, plus reduced waste generated by relamping;

- Use ENERGY STAR, high albedo, or vegetated roofs to reduce HVAC costs and heat-island effect;

- Establish specifications for fixtures, finishes and furniture that have a high recycled content, use rapidly renewable materials and/or have Green Seal certification;

- Establish a corporate building policy that uses the United States Green Building Council's LEED (Leadership in Energy and Environmental Design) program as a base guideline for all work.

"This should be done whether or not LEED certification is a goal," Golovko advised.

- Replace T12 fluorescents with T8s and electronic ballasts. Add reflectors and new lenses to reduce the number of lamps required;

- Add occupancy sensors or timers in addition to relamping;

- In stores with high ceilings, use T5 lamps and indirect fixtures to improve both efficiency and light quality; and

- Use reflective roof coating to reduce peak cooling demand by up to 15%.

FOR THE SITE:

- Use LED lighting for the parking lot; and
- Light parking lots only to 1 FC. Consider using metal halide.

"Although less efficient, it has a blue spectrum that makes it easier for eyes to see under low-light conditions," Golovko said.

FOR MECHANICAL SYSTEMS:

- Use outside air monitoring and CO₂ sensors to ensure optimal mix to maintain air quality;

- Use tankless water heaters, which can have a long-term payback;

- Maintain "floating head" pressure on the compressor to reduce refrigerant temperatures;

- Use evaporative condensers in drier climates;

- Use display-case shields in grocery stores, which can reduce refrigeration load;

- Remove air moisture through desiccant dehumidification systems; and

- Relamp grocery display cases with T8 lamps and electronic ballasts.

"Relamping and moving display-case lighting to outside the cases can reduce energy consumption by up to 15%," Golovko noted. ■

—mwilson@chainstoreage.com