



PROFESSIONAL  
**RETAIL STORE**  
 MAINTENANCE™

# LIGHTING THE WAY TOWARD ENERGY SAVINGS

Regionalize lighting and energy management programs for the best return.

**Jack Green**

**L**ighting is a major component of energy consumption for most retailers, yet design — not energy management — has typically been the primary consideration when developing retail lighting treatments. Lighting design is generally either an in-house corporate merchandising function or provided by a lighting consultant. Either way, most lighting decisions are made at the corporate level and distributed to the store network.

Centralized control is the most efficient way to manage a lighting program in merchandising terms. However, from an energy management perspective, it makes sense to overlay a regional perspective. That is not to say that merchandise displays should be regionalized, but, especially when building or retrofitting stores, lighting designers should look into regional energy management incentive programs offered by government agencies and utilities.

There may be several utility companies in a given state or province that offer slight variations of similar programs. Rhode Island, for instance, the smallest state in the U.S., has five utility companies. There are also multi-state compacts; Cool Choice, for example, brings together New England and New Jersey utilities to offer regional management programs.

In order to develop a corporate-wide energy management program that takes advantage of regional incentives, retailers should follow a few critical steps:



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#### DEVELOP A BASELINE

Most incentive programs are based on hard dollar or percentage savings. Retailers should start with a survey of the light quality that is necessary for each department/display. This information is usually available from existing lighting designs. Next, examine the energy consumption. Collect energy usage data for each store and then roll it up in groupings that correspond to the utility and government jurisdiction areas.

The research should also capture information on the installed equipment brands and equipment class, such as T-8 or T-5 lighting. This information can be useful in responding to incentive programs that address replacing specific classes of older equipment.

#### RESEARCH EXTERNAL RESOURCES AND INCENTIVES

The next step is to consult external partners to see what resources and incentives are available. Start with the major electrical equipment vendors. These companies often have equipment update programs that encourage the use of more efficient fixtures. In addition, these companies are often valuable resources for helping you find other rebate programs.

Government agencies and utilities are the next step. In Canada, we have a national program called Natural Resources Canada (see yellow sidebar). It is designed to help reduce the ROI period. There are different programs for new construction and renovations. Some of the States sponsor similar programs. There are also government information resources, such as the California Energy Commission and the New York State Energy Research & Development Authority. Retailers that cross state lines must research each program and conform to the application requirements for each jurisdiction.

A retailer may have more than one utility supplier in a given state, so it may have to establish programs that

#### ENERGY EFFICIENCY PROGRAMS FROM NSTAR

**N**STAR, which serves over 100 eastern Massachusetts communities, offers a range of energy efficiency programs for businesses that includes financial incentives engineering services, and training and educational initiatives. Support ranges from programs for time dependent projects under the Construction Solutions Program, to retrofits under the Business Solutions Program. NSTAR also has a Small Business Solutions Program that addresses energy efficiency needs for small businesses that use 100 kilowatts or less.

The application process is initiated by customers or their agents by contacting an NSTAR account executive or program manager. Applications require information on existing systems or baseline designs, specifics on energy efficient systems, and projected costs and savings. This information, along with a project schedule, enables NSTAR to evaluate cost/energy savings and determine if the project is viable under the program's guidelines.

If the project passes NSTAR's benefit and cost models, a pre-approval letter is sent to the customer stipulating the level of financial incentive for the project. If warranted, NSTAR conducts an inspection before issuing the pre-approval letter. NSTAR emphasizes that customers should not begin any project work until they receive the pre-approval letter.

On average, NSTAR pays up to 50% of the total cost of an energy efficiency retrofit project. Custom projects, or those that require an advanced analysis, can be compensated up to 75% of the total cost of an NSTAR pre-approved project. For new construction projects, NSTAR considers the incremental costs of selecting more efficient equipment and compensates up to 75% of that incremental cost.

NSTAR also provides support for technical assistance by paying up to 50% to co-fund energy efficiency studies and engineering analysis for energy efficiency measures. Upon completing the installation and adhering to NSTAR program and project guidelines, customers have the option of receiving payment by check, as an account credit, or as a direct payment to their installation contractor or agent.

#### HELPING CANADA LOWER ENERGY COSTS

**N**atural Resources Canada's Office of Energy Efficiency (OEE) wants to help retailers across Canada lower energy costs and reduce greenhouse gas emissions that contribute to climate change.

The Energy Innovators Initiative (EII) encourages commercial businesses and public institutions to invest in existing buildings by offering publications, tools and opportunities for national recognition. After joining the EII, members can also apply for Energy Retrofit Assistance (ERA) funding. The EII offers up to 50% of costs for energy audits, feasibility studies and other retrofit planning activities up to C\$25,000. If implementing retrofit projects with the assistance of a professional engineer, the EII offers C\$7.50 per gigajoule saved (approximately C\$0.03 per equivalent kilowatt hour) up to C\$250,000.

The Commercial Building Incentive Program (CBIP) offers funding for the energy efficient design of new commercial and institutional buildings. If your new store or mall uses at least 25% less energy than a similar facility compared to the Model National Energy Code for Buildings, your business could receive an incentive up to C\$60,000. CBIP has been extended until March 31, 2007.

The OEE also offers a number of publications to help increase energy efficiency in businesses, such as *Saving Energy Dollars in Stores, Supermarkets and Malls* and case studies about participating organizations such as Hbc/Zellers, Calgary Co-op and West Edmonton Mall.

correspond to each utility's service area in order to take advantage of each company's program. The Web is a good place to start your research. Then, contact the utility's energy conservation manager. For instance, NSTAR, with a service area that includes eastern Massachusetts, offers both information and incentive programs (*see blue sidebar*), so it is worth checking out.

If this seems complicated, it is. That's why many retailers turn to service providers who have experience working with the utilities and government agencies to work through the processes. Keep in mind that most incentive programs require pre-registration and pre-approval.

#### IMPLEMENT THE PROGRAMS

Most retailers establish task teams that include a corporate-level manager, regional energy managers or consultants, the service company that will be managing the project and, perhaps even representatives from equipment and lighting manufacturers (depending on the scope of the project). The utilities and government agencies, although not directly involved on the team, set the guidelines needed to move forward. The retrofit projects are then rolled out across the company. Generally, there is a wrap-up report or audit that is submitted to the utilities/government agencies to certify the energy savings before the grants are authorized.

Make no mistake — this is an involved process. However, the days when a retailer can go it alone to save on lighting and energy costs are long gone. The fact is, these days, it takes a lot of energy — management, manpower and design — to save energy. **PRSM**

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