

***Commercial/Industrial Lighting Programs***

*Exemplary Programs*

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*Commercial/Industrial Lighting Programs  
Exemplary Program*

***Bright Ideas Commercial Lighting  
Efficiency New Brunswick***

**PROGRAM OVERVIEW**

Bright Ideas Commercial Lighting offers incentives to help New Brunswick businesses reduce energy costs and improve lighting quality by introducing new, reliable, efficient lighting technologies into the Province at a reduced cost. Using an upstream approach, financial incentives are paid to participating distributors for each unit of qualifying efficient lighting equipment sold for installation in a commercial, institutional, industrial or other non-residential facility in the Province. The incentive amount is based on the average incremental cost of each technology, with the objective being to overcome the incremental cost barrier faced by the purchaser, as well as overcoming the cost of participation by the distributor. As a result the cost of the high efficiency technology is equal to or less than the standard, less efficient technology that they would otherwise purchase.

In the summer of 2006, Efficiency NB contracted Vermont Energy Investment Corporation (VEIC), with the assistance of Optimal Energy and North Atlantic Energy Advisors to help with the development of a commercial lighting program to be offered in the province of New Brunswick. At that time Efficiency NB had been in operation for a little over six months and only consisted of a staff of seven people, none of which had any experience in the commercial sector. Efficiency NB chose an upstream approach from among the program approaches suggested by VEIC.

Efficiency NB has adopted technical specifications for high efficiency products and equipment that are eligible for incentives. High performance T8 (HPT8) lighting products (both lamps and lamp/ballast combinations for existing fixtures and new fixtures) have been the focus of for the first year of the program. This was a strategic choice for several reasons, including:

- This was Efficiency NB's first experience with incentives for energy-efficient lighting products;
- These products were virtually unknown to lighting distributors in the province; and
- Starting with one technology with a proven performance record would provide a better learning environment in the market---allowing Efficiency NB to build relationships with key market players and gain experience for further energy efficiency initiatives in the commercial sector.

Efficiency NB has entered into a contractual relationship with each of the eight unique lighting distributors in the Province in the delivery of this program. Efficiency NB relies on having these distributors actively promote and up-sell HPT8 products to their customers. The initiative focuses on distributors for two main reasons:

- Most commercial lighting is purchased by electrical contractors through an electrical distributor, whether it be lamps, ballasts, or fixtures; and
- There are only a handful of distributors who control the majority of the market, allowing for maximum market influence through engagement with a limited number of actors.

While the initiative focuses on distributors, design professionals, contractors, and end users have been engaged through outreach and training so that they are educated about the technology and can start specifying it for retrofit and new construction projects as well as requesting it over the counter when they go to make a purchase.

Efficiency NB has also worked very closely with the lighting manufacturers' sales representatives who provided invaluable input on both program structure and incentive price points. Manufacturer representatives have a vested interest in the promotion of HPT8s as an opportunity to promote their other premium products which yield a higher profit margin; in turn, this is expected to lead to their promotion of the initiative.

Incentives are paid to participating distributors for each piece of qualifying equipment sold. The incentive amount offered by the program is based on the actual incremental cost for HPT8 lamps and ballasts, with the objective being to overcome the incremental cost barrier faced by the purchaser. A per-unit transaction fee is also paid to remove the "intangible" barriers to distributors (training, tracking and reporting sales, duplicate inventory T8 and HPT8 equipment for some period of time).

As part of their contract with Efficiency NB, the participating distributors have agreed to track specific information about their sales including total per unit sales and the end use of the products that they sell. During contract negotiations distributors were able to negotiate an agreed upon method of tracking and reporting based on their individual system's capabilities.

Participating distributors invoice Efficiency NB monthly based on the number of units of eligible product sold and the corresponding incentive and transaction fee. Efficiency NB reimburses distributors for each unit of eligible product that was sold at the discounted price based on the incentive schedule. Efficiency NB will use the information provided by the distributors to calculate energy savings and to conduct random site audits to ensure that the products are actually being installed in New Brunswick

## **PROGRAM PERFORMANCE**

Bright Ideas Commercial Lighting is a relatively new program; it was officially launched on April 24, 2007. In a short time, however, it has achieved a good deal of success. In approximately 6 months of operation, the program resulted in the following amounts of products sold: 3,000 HPT8 lamp units, 30,000 RWT8 lamp units, and 4,800 HPT8 premium ballast units. These quantities of premium T8 products represent a large portion of the existing T8 market in New Brunswick. At this rate of penetration, the estimated amount of energy displaced from consumption annually would be 3,500 MWh.

The Bright Ideas Commercial Lighting program anticipates its premium efficient lamps and ballasts will have significant uptake in New Brunswick's total commercial linear fluorescent lighting market at a penetration rate of nearly 7%. This penetration rate includes both turned over products under retrofits and also new construction. Efficiency NB estimates that the median 5 year total MWh savings from expected installation of premium efficient T-8 lamps and ballast will be 15,059 MWh. This technology will reduce the provincial electrical grid demand by an estimated 1.75 MW or approximately 0.06 % by 2011.

## **LESSONS LEARNED**

Bright Ideas Commercial Lighting offers a good example of a program that has achieved success relatively quickly because it applied lessons learned from other lighting programs and carefully examined its own market and related infrastructure to provide program services.

Market research played a critical role in the design and early success of Bright Ideas Commercial Lighting. Market research was conducted in the province to determine the distributor's level of knowledge of high efficiency lighting technologies and the availability of these products in New Brunswick. This research showed that the HPT8 technology was virtually unknown to distributors and was only available by special order. Due to the influence of other North American programs that began promoting and providing incentives for this product prior to Efficiency NB's existence, the product was readily available in neighboring jurisdictions in the U.S. and would be easily accessible by New Brunswick distributors if the demand for the product were there. Based on the results of the market research Efficiency NB engaged the eight electrical distribution companies in the province to recruit their participation in an incentive program for high efficiency lighting technologies.

Bright Ideas Commercial Lighting upstream market approach has proven to be an effective strategy for Efficiency New Brunswick, providing significant benefits to end-users, lighting distributors and Efficiency New Brunswick itself. Providing incentives at the distributor level offers numerous advantages, including:

- It makes it easy for trade allies to work with the program as its services are integral to existing relationships between trade allies and distributors;.
- It makes it easy for distributors to sell these high efficiency products as it allows them to take credit for providing a premium product at a reduced cost;
- Participating distributors receive free promotion on Efficiency NB's website and program collateral materials;
- It's easy for consumers; there are no rebate applications to comprehend and complete, but they still receive all of the benefits and energy savings of the high efficiency products;
- The program is relatively easy to administer because there are fewer players involved for communications and marketing. With fewer program partners it also provides greater opportunities for co-marketing with the participating distributors;
- It targets the decision makers and not the end-user;
- It addresses availability from the supply side rather than waiting for demand to generate it, thus moving new, efficient technologies into the province more quickly; and, finally,.

- Incremental costs for more efficient equipment are lower the farther upstream you go; thus the incentive amounts can be lower compared to offering them at the point-of-sale, which in turn means each program incentive dollar can affect a great number of applications.

## PROGRAM AT A GLANCE

**Program Name:** Bright Ideas Commercial Lighting

**Targeted Customer Segment:** Commercial/  
industrial lighting distributors

**Program Start Date:** April 27, 2007

**Program Participants:** 100% Partnering electrical  
distributors in province.

**Annual Energy Savings Achieved:** 3,500 MWh/  
year

**Peak Demand (Summer) Savings Achieved:** N/A

**Other Measures of Program Results to Date:** T8  
Lamp & Ballast Market Share: 40% of partnering  
electrical distributors have transformed skews  
completely now stocking only premium T8 lamp and  
ballast products over standard products.

**Budget:** \$400,000 for 2007-8

**Funding Sources:** Government of New Brunswick

**Best Person to Contact for Information about the  
Program**

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*Commercial/Industrial Lighting Programs  
Exemplary Program*

***Lighting Efficiency  
Xcel Energy***

**PROGRAM OVERVIEW**

Lighting Efficiency was launched in 1985 and has been one of the top DSM performers in Xcel Energy's portfolio of conservation programs in its Minnesota service territory. Xcel Energy provides rebates to customers who purchase and install qualifying lighting equipment for new construction applications as well as retrofit situations. Rebate dollars offset the incremental cost of the higher efficient equipment. Xcel Energy routinely updates the list of prescriptive equipment to add new products and technologies that enter the market as well as remove products and technologies that have become standard in the market.

If a project saves energy, but does not fit into the parameters of the prescriptive program, Xcel Energy will evaluate opportunities under the Custom Efficiency Lighting program. Provided the project passes certain cost/benefit tests, the customers can be eligible for a rebate of up to \$200/kW saved.

Additionally, Xcel Energy provides consulting services through a team of account managers who are assigned to specific customers as well as a Business Solutions Center with phone agents who can help answer conservation questions from customers.

In 2005 Xcel Energy added a Lighting Redesign Study component to the Lighting Efficiency program. Xcel Energy found that in many older buildings, the spaces were designed with lighting levels up to four times higher than needed. The spaces were originally designed for people writing on horizontal surfaces or using typewriters, as opposed to today's vertical, backlit computer screens. These studies, performed by a Lighting Certified (LC) professional or someone with demonstrable experience, provide complete lighting system analyses for customers with over-lit or otherwise inappropriately lit spaces and makes recommendations on the best approach to improving the design by reducing the existing light output while maintaining the proper lighting levels. Rebates are then offered to customers who implement the recommended changes.

**PROGRAM PERFORMANCE**

Lighting Efficiency has consistently been a top performing program throughout its long history--now over two decades. The table below summarizes results from 2002-2006.

<b>Historical Achievement</b>			
	<b>kW</b>	<b>kWh</b>	<b>Participant</b>
<b>2006</b>	5,807	31,995,966	510
<b>2005</b>	6,602	34,363,649	628
<b>2004</b>	18,448	96,413,955	1,431
<b>2003</b>	10,477	54,257,517	878
<b>2002</b>	11,112	55,988,398	899
	<b>52,446</b>	<b>273,019,485</b>	<b>4,346</b>

Xcel Energy's Lighting Efficiency program has been successful on several levels. Over its 20+ - year history, the program has contributed approximately 13% of Xcel Energy's electric business and consumer DSM achievement. It also has had significant impacts on the commercial lighting market in Minnesota. Customers also have consistently given the program high marks for its services.

In the fall of 2005 Xcel Energy performed a process and impact evaluation for the program in order to gather information on customer satisfaction; characterize participants and non-participants; determine factors affecting lighting equipment decisions; estimate the rate of free riders and free drivers; determine equipment usage patterns affecting energy savings; and gather associated data for cost-benefit analysis. The information was gathered using participant and non-participant interviews as well as vendor and manufacturer surveys.

Key findings of the evaluation include:

- 98% of participants are satisfied with the program,
- 97% of participants rated overall electricity cost savings as the most important factor when deciding to replace lighting equipment,
- 40% of non-participants indicated that they were aware of the program, and
- More than 82% of the vendors surveyed indicated that the program has a significant impact on the products they market, sell, and install.

## **LESSONS LEARNED**

Successes of the program can be credited to Xcel Energy's experienced and knowledgeable account team that works with large C&I customers. The account managers have established strong relationships with their customers and have developed extremely effective sales techniques.

Xcel Energy also maintains strong relationship with lighting vendors to leverage that group to promote the program. Xcel Energy provides regular updates to the trade via direct mail, email, newsletters, seminars, trade shows and face-to-face meetings. A trade relations manager has also been assigned to focus on the lighting trade. That individual is responsible for ensuring the

lighting vendors are aware of the program, have accurate tools and information, and receive prompt updates whenever program changes are planned and implemented.

On-going marketing efforts and promotions have also contributed significantly to the awareness of and participation in the program. Promotions focus on the benefits of energy-efficient lighting and highlight new technologies available in the market. Additional rebate incentives have also been offered at times to increase overall participation or increase awareness and participation from a specific market segment or lighting application.

Over the life of the program, Xcel Energy has continually focused on innovation as a way to identify new opportunities, expand program offerings and meet the needs of the market. Xcel Energy keeps abreast of new and emerging technologies that complement the program, such as the addition of high-bay fluorescent fixtures and integrated ceramic metal halide lamps. Additionally, Xcel Energy monitors market conditions that warrant updates to the program, such as the launch of the Lighting Redesign component of the program.

The 2005 Process and Impact Evaluation confirmed that the program is making a significant impact. The program's awareness is high and participants are very satisfied with the offering. The program has made a significant impact on vendor activities as well.

Overall, the Lighting Efficiency program has had a rich history of offering cost-effective energy savings measures that have contributed significantly within the market and the infrastructure is in place to ensure continued success.

## PROGRAM AT A GLANCE

**Program Name:** Lighting Efficiency

**Targeted Customer Segment:** Commercial and industrial customers, including small business customers

**Program Start Date:** 1985

**Program Participants:** 510 in 2006; 4,346 for 2002-2006

**Annual Energy Savings Achieved:** 32.0 GWh in 2006; 273 GWh for 2002-2006

**Peak Demand (Summer) Savings Achieved:** 5.8 MW in 2006; 52.45 MW for 2002-2006

**Budget:** \$2.9 million for 2006

**Funding Sources:** Xcel Energy Conservation Improvement Program (CIP) funds

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*Commercial/Industrial Lighting Programs  
Exemplary Program*

***New York Energy \$mart<sup>SM</sup> Small Commercial Lighting Program  
New York State Energy Research and Development Authority***

**PROGRAM OVERVIEW**

The Small Commercial Lighting Program (SCLP) is a market transformation program that provides training, resources, guidance and incentives to mid-market actors, identified as “Allies,” for designing and installing effective, energy-efficient lighting in spaces less than 25,000 square feet. SCLP demonstrates how effective, energy-efficient lighting can enhance business opportunities and improve business practices for lighting practitioners. SCLP uses the service mark “The Right Light<sup>SM</sup>” to designate effective, energy-efficient lighting: lighting that meets the lighting quality needs of its users and is also energy-efficient.

As a market transformation initiative, the program includes a strong education component, which seeks to train lighting practitioners on how to design lighting that meets the program’s specific lighting design criteria and how to up-sell those designs to their clients and customers. Aside from training, extensive program technical resources are provided to Allies. Allies also have access to account managers who work with them throughout New York State to provide design assistance and help qualify lighting design projects. Market transformation is supported through a portfolio of incentives and awards paid to lighting practitioners for qualifying designs and completed projects. While end-users are not specifically addressed by the program, during 2006–2007 a media campaign (print, radio spots) was conducted to make end-users in selected New York markets aware of the benefits that The Right Light<sup>SM</sup> can bring to them and create “market pull” for the program’s lighting practitioner allies.

SCLP was established in 2000 by NYSERDA to overcome the limitations of poor lighting design by encouraging the application of effective, energy-efficient lighting – The Right Light<sup>SM</sup>. The program was designed with the assistance of ICF International, the program implementer, and the Lighting Research Center. A major component of SCLP in its first years was recruiting and educating the lighting practitioners who would participate in the program – and overcoming their preconceived notions that this would be yet another prescriptive rebate program. Because this program breaks the mold, a wide range of training, outreach, direct contact, and marketing and technical tools and resources are offered to program participants to recruit and retain them.

The SCLP design model results in lighting systems designed to meet specific end-user application and energy efficiency needs. The systems are easy to use, aesthetically pleasing, and enhance the visual capability of people using the space. This requires both the proper selection of technologies and the proper system design and layout. The result is lighting that allows people to do the work they need to do in a pleasing, comfortable environment. Utility bills are lower and people are happier and more productive. SCLP has captured this concept in SCLP’s tagline—The

Right Light<sup>SM</sup>– which has become the brand associated with the program, along with the catchline: “Better Lighting, Better Business.”

As a market transformation initiative, SCLP partners with the lighting industry in New York State to change how lighting projects are designed, specified and implemented. Program participants are drawn from the mid-market of lighting practitioners: manufacturers and their representatives; designers, architects and engineers; distributors; and contractors. Program interactions with end users has been limited to marketing efforts to increase their awareness of the benefits of good lighting design, although an integrated approach informs end users of their eligibility for incentives under other NYSERDA programs.

SCLP focuses on the hard-to-reach small commercial sector where end-users tend to be less sophisticated. The definition of “small commercial” is rather broad: it is based on the size of the project, up to 25,000 square feet, not on the size of the building or the size of the end-user’s space within the building. It can also include almost any type of commercial space.

## **PROGRAM PERFORMANCE**

SCLP has partnered with over 700 trade ally companies on over 750 quality lighting design projects covering nearly 6 million square feet. These projects have resulted in a reduction in summer peak demand of over 9.6 MW and in energy consumption of nearly 38 GWh. All SCLP projects must use 10% less energy than the allowances established by the Energy Conservation Construction Code of New York State. Numerous projects submitted by Allies have been far below this, sometimes at half of the stipulated levels.

A recent evaluation of Non-Energy Impacts demonstrates that SCLP’s high-quality lighting design also has other benefits. When asked to indicate their experiences with different non-energy benefits associated with their lighting installation, customers assigned the greatest dollar value to savings on operating and maintenance costs, occupant comfort, lighting quality, and productivity.

SCLP has produced desired market changes, overcoming initial resistance from lighting practitioners to a new design model for lighting projects, and teaching them how to convince their customers and clients of the advantages of effective, energy-efficient lighting design. In turn, the SCLP design model has been embraced by end-users, who have come to realize that energy-efficient lighting and quality lighting are not mutually exclusive, and that the design criteria promoted by SCLP result in cost-effective lighting projects. This is manifested in the approximately one-dozen SCLP case studies prepared and distributed to date, featuring SCLP success stories that can be emulated by other program Allies and used to demonstrate to end-users that the design principles are also applicable to their business.

Even with the high startup costs associated with educating and establishing the network of qualified lighting installers, the benefits of SCLP have substantially exceeded costs. A total resource cost test of the program was conducted in 2006 for the period 2000-2005. The

benefit/cost ratio was 2.5 without including non-energy impacts and 3.8 with non-energy impacts included.

## **LESSONS LEARNED**

One of the cornerstones of SCLP's continuing implementation is its flexibility. SCLP has undergone many changes over the years to reflect the needs of the market and the market players who participate in the program. These changes, more evolutionary than revolutionary, have been implemented as a result of both formal and informal market research and Program assessment activities. Changes in incentive offerings and amounts; training media employed; participant classification and focus; and most recently, a marketing campaign to increase end-user awareness of high-quality lighting, have all been made over the last five years.

Originally, SCLP classified Allies into three categories: distributor, contractor, and other (which included manufacturers and their representatives). As experience was gained in the marketplace, NYSERDA realized that in some parts of New York, designers, including architects and engineers, were key influencers in many lighting projects. Recognizing their importance, NYSERDA created the Ally Designer classification and developed tools, resources, and incentives specifically for this group.

Over the course of the program, small changes have been made to the lighting design criteria. While the types of criteria have not been altered, the metrics employed have. For instance, NYSERDA increased the ceiling on project size from 10,000 to 25,000 square feet. This was done in response to both formal market research on the types of lighting projects being implemented, and in response to feedback from SCLP Allies. Also, some of the fixture luminous intensity and lamp color rendering index requirements have been modified over time to reflect the availability of equipment (primarily HID lighting) in the marketplace and whether high color rendering is actually necessary in certain applications. Finally, for most classes of Allies, the luminous intensity criterion, which many Allies found difficult to apply, was made optional. While SCLP sets a fairly high bar for lighting quality, it is important that the design criteria themselves are not so hard to understand and implement that they present a barrier to Ally participation.

As with design criteria, NYSERDA found a need to be flexible in the incentive offerings, both in terms of the types of incentives and the amount. It is equally important to constantly monitor how incentives are received by program stakeholders and make any mid-course adjustments as expeditiously as possible. For instance, the SCLP Project Incentive was originally a flat \$500, regardless of project size. NYSERDA found that many Allies did not think this amount was worthwhile to justify the additional design work or incentive paperwork. In response to this feedback, NYSERDA recast it as a three-tiered incentive, with a maximum of \$1,000 for the larger projects. NYSERDA has also withdrawn incentives and introduced new incentives based on feedback from program Allies.

SCLP's success is predicated on a combination of training, technical and marketing resources, and access to dedicated account managers and a technical specialist. Account managers and the

technical specialist are themselves lighting professionals with extensive experience designing and selling lighting projects in New York State. They speak the same language and share the same experiences as the trade allies with whom they work, providing design, marketing, and programmatic assistance.

To this end, feedback from SCLP Allies has indicated an extremely high level of satisfaction with the program and with the resources and service they provide. Allies have indicated that their sales of lighting projects has increased since becoming involved with SCLP, that they have a better understanding of how to design and market lighting projects. A number of Allies have singled out their dedicated account managers for their accessibility and valuable assistance as they participate in SCLP.

The SCLP approach provides Allies the necessary training and follow-up support and resources to keep them engaged and assists them in making the leap from conventional lighting design to effective, energy-efficient lighting design. The level of engagement of Allies and the results to date in terms of energy and non-energy benefits, demonstrates the effectiveness of this approach.

## PROGRAM AT A GLANCE

**Program Name:** New York Energy Smart<sup>SM</sup> Small Commercial Lighting Program

**Targeted Customer Segment:** Mid-market actors (including lighting practitioners such as lighting designers and specifiers, engineers and architects, electrical contractors, electrical distributors, lighting manufacturers and their representatives) who design/install lighting in small commercial (including office, retail, warehouse, institutional, health care, etc.) spaces less than 25,000 square feet.

**Program Start Date:** 2000

**Program Participants:** SCLP has partnered with over 700 trade ally companies on over 750 quality lighting design projects covering nearly 6 million square feet.

**Annual Energy Savings Achieved:** 38 GWh program to date.

**Peak Demand (Summer) Savings Achieved:** 9.6 MW program to date.

**Budget:** \$1.2 million for implementation; \$240,000 for incentives for program year 7/2006-6/2007.

**Funding Sources:** New York State system benefits charges

**Best Person to Contact for Information about the Program**

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*Commercial/Industrial Lighting Program  
Exemplary Program*

***One-Stop Efficiency Shop Lighting Rebate Program  
Center for Energy and Environment  
Xcel Energy***

**PROGRAM OVERVIEW**

On February 7, 2000 the Minnesota Department of Commerce approved the implementation of the One-Stop Efficiency Shop (One-Stop) lighting program as part of Northern State Power (NSP) Electric's 2000-2001 Conservation Improvement Program (CIP). The program is available to small businesses in Xcel Energy's (formerly NSP) Minnesota service territory with an electric demand of 400 kW or less. One-Stop is designed to save energy through the installation of energy-efficient lighting retrofits. The program specifically targets barriers that often prevent small businesses from investing in energy efficiency products: limited financial resources and time, limited knowledge of lighting products and access to quality contractors. To address these issues One-Stop offers:

- Substantial incentives combined with convenient and attractive financing (below market rates available);
- Intensive marketing to bring the service to the customer, rather than relying on the customer to seek it out;
- Objective recommendations backed by the credibility of Xcel Energy service,
- A simple, one-stop service that holds customer time requirements to a minimum; and
- A computerized audit/data communication and reporting system that generates all site-specific paperwork.

The program also evaluates and surveys other building equipment and systems, including motors, HVAC and compressed air, to assess customer eligibility for other Xcel Energy CIP programs.

Center for Energy and Environment (CEE) designed and administers One-Stop. As the program administrator CEE:

- Markets the program;
- Provides audits to interested customers;
- Provides customers with detailed analyses of recommended retrofits;
- Assigns contractors to complete retrofits if customers do not already have contractors;
- Serves as a liaison between customers and contractors throughout the retrofit process;
- Generates and forwards all necessary rebate paperwork to Xcel Energy; and
- Ensures customer satisfaction.

Xcel Energy sponsors and funds One-Stop, which lends the program a great deal of credibility. Xcel Energy represents a known quantity to its customers and has a history of promoting successful rebate programs for energy-efficient products that make sense to install. Although difficult to quantify, this combination significantly reduces the initial concerns customers might have about One-Stop and what, for them, is a new and unproven technology. Administratively, Xcel Energy provides CEE with a qualified, customer database for the program and works with CEE staff on a daily basis to provide customer rate data and answer questions regarding customer qualifications. Xcel Energy also processes the final rebate paperwork and issues rebate checks to customers and vendors.

One-Stop is structured specifically to address the needs and concerns of small business customers by offering qualified businesses a free, no obligation audit, significant lighting rebates, and below-market rate financing. The loan payments are structured to match the owner’s monthly savings so that a neutral cash flow is maintained. Because One-Stop does not sell lighting products, auditors offer customers unbiased recommendations. Yet, due to collaboration with local electrical contractors, One-Stop is also able to offer standard program pricing quotes and a pool of qualified contractors to eliminate the hassle of collecting bids. This combination of services brings education, financial resources, and minimal time commitment directly to the customer.

## **PROGRAM PERFORMANCE**

One-Stop is achieving superior energy and environmental outcomes by successfully reducing energy use in a market sector that is historically difficult to serve. Within this sector, One-Stop specifically addresses inefficient lighting technology, which accounts for a significant portion of energy use and demand in small businesses. The program converts inefficient technology such as T12 fluorescent lamps with magnetic ballasts and incandescent lamps into more efficient technology such as T8 fluorescent lamps with electronic ballasts and compact fluorescent lamps. These proven, energy-saving change outs are embedded within a package of attractive incentives, unbiased recommendations, and the necessary resources to implement the retrofit. Since the beginning of the program, One-Stop has retrofitted 2553 businesses saving 30,670 kW and 114,100,000 kWh.

Program impacts are measured against an annual goal for demand reduction in participating businesses. Although the program struggled a bit initially, One-Stop has exceeded goals in each of the last six years. The table below summarizes program results from its beginning:

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Program Goal (kW)</b>	2100	2100	1600	1775	1625	5200	5200	5546
<b>Actual Savings (kW)</b>	55	1272	2412	2998	3718	5972	6438	7812
<b>Percentage of Goal</b>	3%	61%	151%	169%	229%	115%	124%	141%

## LESSONS LEARNED

One-Stop is more than just a rebate program. It is a full-service opportunity offering small business owners start-to-finish oversight of their lighting retrofit projects. Instead of relying on the customer to take advantage of utility rebates, One-Stop brings the program and the tools necessary to implement the measures effectively directly to customers. The One-Stop process begins with a database of qualified customers, provided by Xcel Energy, to help market the program. One-Stop's telemarketer contacts these customers to explain the benefits of the program and to offer a free, no obligation lighting audit. One-Stop staff also schedule audits from referrals made by Xcel Energy, vendors and past program participants. During the audit, One-Stop auditors, using software specifically developed for the program, are able to design retrofits that are specifically tailored to meet the lighting and financial needs of each individual customer.

CEE believes that it has found the right combination of incentives, technology and marketing to deliver an effective lighting retrofit program to the small business sector. At \$475 per kW saved, up to 60% of the installation cost, the One-Stop program offers one of the highest rebates available to Xcel Energy's small commercial customers, but this alone is not always enough to convince business owners to participate. Although accurate audits and incentives are fundamental to the success of the program, educating the customer and marketing the program to address their specific needs is just as, if not more, important. Auditors do not assume that rebates and energy savings will be enough to convince customers to participate. Instead, they work closely with the customer to find out exactly what their lighting needs are and to explain how One-Stop can meet these needs. Since the beginning of the program, rebates have averaged almost 45% of the project cost with an average payback of less than three years. Financing is structured so that monthly loan payments are equivalent to what the customer is saving per month in energy use.

CEE regularly surveys businesses that have participated in One-Stop. Since the beginning of the program, 94% of participants have responded that they are either "very satisfied" or "satisfied" with the program. Additionally, 92% have been "very satisfied" or "satisfied" with their auditor's customer service.

The success of One-Stop has led to the development of similar programs in California and Minnesota. The city of Santa Cruz in California adopted One-Stop's program design for its own program and utilized CEE's software to collect audit information and generate reports. One-Stop has also had a significant impact on turnkey lighting retrofit programs in San Francisco and Berkeley. CEE currently administers two pilot lighting rebate programs in Minnesota for Otter-Tail Power and Alliant Energy. Both of these programs are modeled after One-Stop. In short, One-Stop is a replicable program that has the flexibility to adjust to local needs, budgets and timelines to ensure successful implementation.

## PROGRAM AT A GLANCE

**Program Name:** One-Stop Efficiency Shop Lighting Rebate Program

**Targeted Customer Segment:** Commercial customers with a demand of 400 kW or less

**Program Start Date:** 2000

**Program Participants:** 2553 businesses have participated to date (2000-2007)

**Annual Energy Savings Achieved:** 114.1 GWh cumulative to date (2000-2007)

**Peak Demand (Summer) Savings Achieved:** 30.6 MW cumulative to date (2000-2007)

**Budget:** \$6,668,646 for 2007

**Funding Sources:** Xcel Energy Conservation Improvement Program (CIP) funds

### **Best Person to Contact for Information about the Program**

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*Commercial/Industrial Lighting Programs  
Exemplary Program*

***New York Energy \$mart<sup>SM</sup> Small Commercial Lighting Program  
New York State Energy Research and Development Authority***

## **PROGRAM OVERVIEW**

The Small Commercial Lighting Program (SCLP) is a market transformation program that provides training, resources, guidance and incentives to mid-market actors, identified as “Allies,” for designing and installing effective, energy-efficient lighting in spaces less than 25,000 square feet. SCLP demonstrates how effective, energy-efficient lighting can enhance business opportunities and improve business practices for lighting practitioners. SCLP uses the service mark “The Right Light<sup>SM</sup>” to designate effective, energy-efficient lighting: lighting that meets the lighting quality needs of its users and is also energy-efficient.

As a market transformation initiative, the program includes a strong education component, which seeks to train lighting practitioners on how to design lighting that meets the program’s specific lighting design criteria and how to up-sell those designs to their clients and customers. Aside from training, extensive program technical resources are provided to Allies. Allies also have access to account managers who work with them throughout New York State to provide design assistance and help qualify lighting design projects. Market transformation is supported through a portfolio of incentives and awards paid to lighting practitioners for qualifying designs and completed projects. While end-users are not specifically addressed by the program, during 2006–2007 a media campaign (print, radio spots) was conducted to make end-users in selected New York markets aware of the benefits that The Right Light<sup>SM</sup> can bring to them and create “market pull” for the program’s lighting practitioner allies.

SCLP was established in 2000 by NYSERDA to overcome the limitations of poor lighting design by encouraging the application of effective, energy-efficient lighting – The Right Light<sup>SM</sup>. The program was designed with the assistance of ICF International, the program implementer, and the Lighting Research Center. A major component of SCLP in its first years was recruiting and educating the lighting practitioners who would participate in the program – and overcoming their preconceived notions that this would be yet another prescriptive rebate program. Because this program breaks the mold, a wide range of training, outreach, direct contact, and marketing and technical tools and resources are offered to program participants to recruit and retain them.

The SCLP design model results in lighting systems designed to meet specific end-user application and energy efficiency needs. The systems are easy to use, aesthetically pleasing, and enhance the visual capability of people using the space. This requires both the proper selection of technologies and the proper system design and layout. The result is lighting that allows people to do the work they need to do in a pleasing, comfortable environment. Utility bills are lower and people are happier and more productive. SCLP has captured this concept in SCLP’s tagline—The Right Light<sup>SM</sup>— which has become the brand associated with the program, along with the catchline: “Better Lighting, Better Business.”

As a market transformation initiative, SCLP partners with the lighting industry in New York State to change how lighting projects are designed, specified and implemented. Program participants are drawn from the mid-market of lighting practitioners: manufacturers and their representatives; designers, architects and engineers; distributors; and contractors. Program interactions with end users has been limited to marketing efforts to increase their awareness of the benefits of good lighting design, although an integrated approach informs end users of their eligibility for incentives under other NYSERDA programs.

SCLP focuses on the hard-to-reach small commercial sector where end-users tend to be less sophisticated. The definition of “small commercial” is rather broad: it is based on the size of the project, up to 25,000 square feet, not on the size of the building or the size of the end-user’s space within the building. It can also include almost any type of commercial space.

## **PROGRAM PERFORMANCE**

SCLP has partnered with over 700 trade ally companies on over 750 quality lighting design projects covering nearly 6 million square feet. These projects have resulted in a reduction in summer peak demand of over 9.6 MW and in energy consumption of nearly 38 GWh. All SCLP projects must use 10% less energy than the allowances established by the Energy Conservation Construction Code of New York State. Numerous projects submitted by Allies have been far below this, sometimes at half of the stipulated levels.

A recent evaluation of Non-Energy Impacts demonstrates that SCLP’s high-quality lighting design also has other benefits. When asked to indicate their experiences with different non-energy benefits associated with their lighting installation, customers assigned the greatest dollar value to savings on operating and maintenance costs, occupant comfort, lighting quality, and productivity.

SCLP has produced desired market changes, overcoming initial resistance from lighting practitioners to a new design model for lighting projects, and teaching them how to convince their customers and clients of the advantages of effective, energy-efficient lighting design. In turn, the SCLP design model has been embraced by end-users, who have come to realize that energy-efficient lighting and quality lighting are not mutually exclusive, and that the design criteria promoted by SCLP result in cost-effective lighting projects. This is manifested in the approximately one-dozen SCLP case studies prepared and distributed to date, featuring SCLP success stories that can be emulated by other program Allies and used to demonstrate to end-users that the design principles are also applicable to their business.

Even with the high startup costs associated with educating and establishing the network of qualified lighting installers, the benefits of SCLP have substantially exceeded costs. A total resource cost test of the program was conducted in 2006 for the period 2000-2005. The benefit/cost ratio was 2.5 without including non-energy impacts and 3.8 with non-energy impacts included.

## LESSONS LEARNED

One of the cornerstones of SCLP's continuing implementation is its flexibility. SCLP has undergone many changes over the years to reflect the needs of the market and the market players who participate in the program. These changes, more evolutionary than revolutionary, have been implemented as a result of both formal and informal market research and Program assessment activities. Changes in incentive offerings and amounts; training media employed; participant classification and focus; and most recently, a marketing campaign to increase end-user awareness of high-quality lighting, have all been made over the last five years.

Originally, SCLP classified Allies into three categories: distributor, contractor, and other (which included manufacturers and their representatives). As experience was gained in the marketplace, NYSERDA realized that in some parts of New York, designers, including architects and engineers, were key influencers in many lighting projects. Recognizing their importance, NYSERDA created the Ally Designer classification and developed tools, resources, and incentives specifically for this group.

Over the course of the program, small changes have been made to the lighting design criteria. While the types of criteria have not been altered, the metrics employed have. For instance, NYSERDA increased the ceiling on project size from 10,000 to 25,000 square feet. This was done in response to both formal market research on the types of lighting projects being implemented, and in response to feedback from SCLP Allies. Also, some of the fixture luminous intensity and lamp color rendering index requirements have been modified over time to reflect the availability of equipment (primarily HID lighting) in the marketplace and whether high color rendering is actually necessary in certain applications. Finally, for most classes of Allies, the luminous intensity criterion, which many Allies found difficult to apply, was made optional. While SCLP sets a fairly high bar for lighting quality, it is important that the design criteria themselves are not so hard to understand and implement that they present a barrier to Ally participation.

As with design criteria, NYSERDA found a need to be flexible in the incentive offerings, both in terms of the types of incentives and the amount. It is equally important to constantly monitor how incentives are received by program stakeholders and make any mid-course adjustments as expeditiously as possible. For instance, the SCLP Project Incentive was originally a flat \$500, regardless of project size. NYSERDA found that many Allies did not think this amount was worthwhile to justify the additional design work or incentive paperwork. In response to this feedback, NYSERDA recast it as a three-tiered incentive, with a maximum of \$1,000 for the larger projects. NYSERDA has also withdrawn incentives and introduced new incentives based on feedback from program Allies.

SCLP's success is predicated on a combination of training, technical and marketing resources, and access to dedicated account managers and a technical specialist. Account managers and the technical specialist are themselves lighting professionals with extensive experience designing and selling lighting projects in New York State. They speak the same language and share the same experiences as the trade allies with whom they work, providing design, marketing, and programmatic assistance.

To this end, feedback from SCLP Allies has indicated an extremely high level of satisfaction with the program and with the resources and service they provide. Allies have indicated that their sales of lighting projects has increased since becoming involved with SCLP, that they have a better understanding of how to design and market lighting projects. A number of Allies have singled out their dedicated account managers for their accessibility and valuable assistance as they participate in SCLP.

The SCLP approach provides Allies the necessary training and follow-up support and resources to keep them engaged and assists them in making the leap from conventional lighting design to effective, energy-efficient lighting design. The level of engagement of Allies and the results to date in terms of energy and non-energy benefits, demonstrates the effectiveness of this approach.

## PROGRAM AT A GLANCE

**Program Name:** New York Energy Smart<sup>SM</sup> Small Commercial Lighting Program

**Targeted Customer Segment:** Mid-market actors (including lighting practitioners such as lighting designers and specifiers, engineers and architects, electrical contractors, electrical distributors, lighting manufacturers and their representatives) who design/install lighting in small commercial (including office, retail, warehouse, institutional, health care, etc.) spaces less than 25,000 square feet.

**Program Start Date:** 2000

**Program Participants:** SCLP has partnered with over 700 trade ally companies on over 750 quality lighting design projects covering nearly 6 million square feet.

**Annual Energy Savings Achieved:** 38 GWh program to date.

**Peak Demand (Summer) Savings Achieved:** 9.6 MW program to date.

**Budget:** \$1.2 million for implementation; \$240,000 for incentives for program year 7/2006-6/2007.

**Funding Sources:** New York State system benefits charges

### Best Person to Contact for Information about the Program

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