ENERGY EFFICIENCY AT WORK

Small Business Energy Advantage

This program provides cost-effective, turnkey, energy-saving products and services for small business customers. Benefits include financial incentives to offset the premium costs associated with energy-efficient technology.

This program is one of several innovative solutions offered by the Connecticut Energy Efficiency Fund and administered by Connecticut's utility companies. For a complete listing of energy-efficiency programs and services for electric and natural gas customers, visit www.CTEnergyInfo.com or your utility company's website.

DETERMINE YOUR OWN ENERGY FUTURE.

Case Study: Marandino Foods

The Connecticut Energy Efficiency Fund and CL&P helped Marandino Foods:

- Save approximately $32,000 and 289,655 kilowatt-hours annually
- Defray their investment with a $56,979 incentive
- Achieve a lifetime savings of over 3,721,000 kilowatt-hours

Efficient use of electricity slows down the need to build more power plants and results in fewer toxins emitted into our atmosphere.

The electricity saved on this project over the lifetime of the measures is the equivalent of approximately:

- 170,900 gallons of oil not burned or,
- 4,449,037 pounds of carbon dioxide (CO_2) emissions avoided or,
- 2,078,989 pounds of coal not burned or,
- 443 homes provided with electricity for one year or,
- 388 cars taken off the roads.

Connecticut Light & Power
The Northeast Utilities System

CONNECTICUT ENERGY EFFICIENCY FUND
www.CTEnergyInfo.com

The United Illuminating Company

Connecticut's Energy Efficiency Fund programs are funded by the Conservation Charge on customer electric bills. This information paid for by CL&P customers. | For more information: 1-877-WISE-USE • www.cl-p.com

Energy Efficiency Case Study: Marandino Foods

CL&P, through the Connecticut Energy Efficiency Fund (CEEF), can help you manage your energy costs, improve productivity, and protect the environment the way we did for Marandino Foods

Background

Marandino Foods opened its doors in Bloomfield, CT in 1947 and moved to its current New Hartford location in 1963. Family owned and operated by second-generation brothers Peter and John, Marandino Foods is known for its meats and fresh produce. Today, independent grocery stores are harder to find in Connecticut than in years past. Competition from large chains and traditionally high operating costs were challenges the Marandinos had to face. "I was concerned about our future," said Peter. "I looked at my energy costs and saw a trend — and it didn't look good."

The Challenge

As in most grocery stores, lighting and refrigeration costs posed the greatest challenge. The 27,000 square foot store already had a heat reclamation system in place, so HVAC upgrades were not needed.

Energy efficient LED cooler lights and door heaters were installed.

CL&P's Solution

Choosing an appropriate contractor is a key element to success. *The Small Business Energy Advantage* program team worked withthe contractor and came up with a list of energy-efficient measures that met the program guidelines for results within a specified payback period. CL&P monitored the project through its completion and performed a final assessment to verify all of the installed measures.

> **The decision to make these changes was a no-brainer. It made sense from start to finish.**
> Peter Marandino

Lighting

The store's interior overhead lighting fixtures underwent a retrofit process, changing from two and four-lamp fixtures to one and two-lamp fixtures. All existing magnetic ballasts were replaced with electronic ballasts and new specular (mirror-like) reflectors were added to maximize the illumination. In the produce area, the incandescent lighting was changed to compact fluorescent. Occupancy sensors were installed to minimize use in less frequented areas and during slow periods.

Total lifetime savings from energy-efficient overhead lighting measures: 1,163,400 kilowatt-hours

In the store's many coolers and freezers, the existing lighting fixtures, T12 lamps and magnetic ballasts were replaced with low wattage light-emitting diode (LED) light strips. These lights produce almost no heat inside the coolers (the power source is on the outside of the case), so they do not compete with the refrigeration system. The energy savings are impressive.

For example, replacing (4) T12 lamps (178 Watts each) with 4 LED light strips (51 Watts each) will save 3,140 kilowatt-hours annually (about a $408 savings). Peter Marandino reports, "The lighting is actually much, much better. We're selling more items because the case is much brighter."

Total lifetime savings from energy-efficient LED lighting measures: 509,900 kilowatt-hours

Refrigeration

How do you manage the energy use of walk-in coolers and freezers? You find an automatic way to turn off the fans when the interiors reach a pre-set temperature. Evaporator fans force air circulation across refrigeration coils. In traditional, inefficient systems, the motors run the fan continuously. Marandino Foods added thermostat controls that shut off the evaporator fans when the compressor cycles off.

Total lifetime savings from energy-efficient evaporator fan controls: 551,000 kilowatt-hours

Right: Existing overhead lighting was retrofit for maximum energy efficiency.

Door heaters (or "anti-sweat" heaters) are used to prevent condensation on cooler doors and frames. Like the evaporator fans, they too run continuously in traditional equipment. Sixty control units were added to the door heaters that use humidity sensors. Now, instead of running all the time, the heaters operate only when they are needed.

Total lifetime savings from energy-efficient door heater controls: 845,600 kilowatt-hours

The grocery store also has many open refrigerated cases (without doors). The easy access to the food is convenient for customers, but hard on the budget. The cool air in and around the coolers competes with the ambient air in the aisles. Forty-eight energy-efficient night covers were installed over the open cases. These lightweight, easy-to-operate pull-down metal shades are an elegant solution. Now, when the store is closed, the cool air is contained. In the winter, when the building is being heated, this is especially helpful.

Total lifetime savings from energy-efficient cooler night covers: 651,400 kilowatt-hours

ECONOFROST NIGHT COVERS
5000 SERIES RETROFIT INSTALLATION

Cooler night covers reduce refrigeration and heating costs.

Benefits

- ★ Using CEEF funding, CL&P offers a variety of incentive structures to offset the cost of energy-efficient equipment.
- ★ To cover the customer's share of the costs, the SBEA program offers a zero-percent financing option to qualifying customers with a maximum loan term of 36 months.
- ★ Energy upgrades translate into customer savings on monthly electric bills for the life of the equipment.
- ★ CL&P also provides oversight and inspection.

(Small business customers with an average 12-month peak demand between 10 kilowatts (kW) and up to 200 kW are eligible.)

> **Sometimes you're promised a lot and it doesn't happen. The contractor and CL&P did everything they said they would.**
>
> Peter Marandino

The Bottom Line

Total cost for all project measures:	$127,116.
CEEF incentive paid to Marandino Foods:	-56,979.
	$70,137.
Annual estimated electric savings based on rates at time of project:	$32,187.
Average payback time for Marandino Foods' investment:	**2.18 years**

Program measures subject to change without notice.

Connecticut Light & Power
The Northeast Utilities System

CONNECTICUT ENERGY EFFICIENCY FUND
www.CTEnergyInfo.com

The United Illuminating Company

Connecticut's Energy Efficiency Fund programs are funded by the Conservation Charge on customer electric bills.
This information paid for by CL&P customers. | For more information: 1-877-WISE-USE • www.cl-p.com