

# Energy Efficiency

INVESTING IN CONNECTICUT'S FUTURE



REPORT OF THE  
ENERGY CONSERVATION MANAGEMENT BOARD  
YEAR 2004 PROGRAMS AND OPERATIONS

MARCH 1, 2005

## THE C&LM FUND ACHIEVES RESULTS

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PREPARED FOR THE CONNECTICUT LEGISLATURE  
ENERGY & TECHNOLOGY COMMITTEE  
ENVIRONMENT COMMITTEE

CONSERVATION AND LOAD MANAGEMENT FUND  
PROGRAMS ARE FUNDED BY THE CONSERVATION  
CHARGE ON CUSTOMER BILLS

# Connecticut's Conservation & Load Management Fund Activities Reduce Harmful Greenhouse Gases

2004 Annual Energy Saved is 291 Million kWh

This Savings is Equivalent to:



146,000 Tons of Coal Not Burned

or



19 Million Gallons of Oil Not Burned

or



41,000 Cars Off the Road

or



37,000 Homes with Electric Energy per Year

or



\$32 Million Saved in Electric Energy Costs

BASED ON 2004 DATA

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# SECTION I: Executive Summary

CONNECTICUT CONSERVATION AND LOAD MANAGEMENT (C&LM) FUND —  
2004 ACHIEVEMENTS

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*Conservation and Load Management Fund programs are funded by the conservation charge on customer bills.*

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*The ECMB was created by the Legislature to advise the Department of Public Utility Control (DPUC) and the state's electric distribution companies in formulating energy conservation and load management programs and to promote market transformation.*

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In 1998, the Connecticut State Legislature created the Energy Conservation Management Board (ECMB) to guide the state's electric distribution companies in the development and implementation of cost-effective energy conservation programs and market transformation initiatives. Conn. Gen. Stat. (CGS) § 16-245m. This legislation also created the Connecticut Conservation and Load Management Fund (C&LM Fund), customer provided funding for ECMB guided programs. The Department of Public Utility Control (DPUC) is responsible for final approval of all C&LM Fund programs. In 2004, customers of the state's electric distribution companies, The Connecticut Light and Power Company (CL&P) and The United Illuminating Company (UI), contributed \$72,892,662 to the C&LM Fund through a surcharge on their electric bills.

The C&LM Fund's efforts, as designed and implemented by the distribution companies, with guidance from the ECMB, focus on realizing the following primary objectives: (1) advance the efficient use of energy; (2) reduce air pollution and negative environmental impacts; and (3) promote economic development and energy security. While financial challenges persisted for the C&LM Fund in 2004, its programs continued to provide significant cost savings and reduce energy consumption for Connecticut residents and businesses. In 2004, C&LM Fund program achievements included:

## **Advance the Efficient Use of Energy**

C&LM Fund programs reduce overall energy consumption and reduce load during periods of critical peak demand. These programs alleviate potential electricity shortages and reduce stress on Connecticut's transmission lines, especially in southwestern Connecticut (SWCT).

In 2004, C&LM Fund programs provided annual energy savings of approximately 291 million kWh. Utilizing an average price of \$0.110 per kWh, this equates to annual savings of \$32 million. Over the lifetime of the installed energy efficiency measures, projected savings are \$440 million. Since 2000, C&LM Fund programs will result in lifetime electric savings for Connecticut businesses and residents of 18 billion kWh.

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*C&LM Fund programs reduced carbon dioxide emissions by 180,290 tons in 2004.*

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*In 2004, over 3,329 small and 1,115 medium and large businesses participated in Connecticut's conservation programs.*

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### **Reduce Air Pollution and Negative Environmental Impacts**

C&LM Fund programs have significantly reduced two air pollutants emitted in electrical generation: sulfur oxides and nitrogen oxides. Efficiency measures implemented in 2004 resulted in the reduction of pollutant emissions (SO<sub>x</sub> and NO<sub>x</sub>) by 415 tons per year. Carbon dioxide and other “greenhouse gases” are also emitted during the generation of electricity and have been linked as the sources for potential global warming and climate change. With decreased power production resulting from diminishing electrical demand, C&LM Fund programs reduced carbon dioxide emissions by 180,290 tons in 2004.

### **Promote Economic Development and Energy Security**

In 2004, there were more than 318,000 instances of participation in C&LM Fund programs. These programs are tailored to generate significant benefits for all customer classes. C&LM Fund programs assist low-income customers in reducing their energy bills, which typically comprise a significant and disproportionate percentage of their household income. In 2004, C&LM Fund programs reduced the energy costs of approximately 13,500 low-income customers.

C&LM Fund programs lower operating costs and improve productivity, which allows Connecticut businesses to remain globally competitive and avoid outsourcing jobs. The retention of jobs in Connecticut promotes the perception of Connecticut's economy as viable and productive by potential investors.

The implementation of the state's conservation programs created approximately 1,000 non-utility jobs in the energy efficiency industry. Conservation programs protect the livelihood of energy efficiency service companies, many of which are small businesses. In 2004, over 3,329 small and 1,115 medium and large businesses participated in Connecticut's conservation programs.

Energy efficiency also enhances energy security by reducing the amount of foreign oil used in generation. Energy efficiency that reduces loads in already transmission-constrained areas provides greater reliability which is essential in a digital economy where reliability of 99.99% is required.

### C&LM Fund Achieves Results

CL&P and UI are accountable each year for the attainment of established performance goals approved by the DPUC and ECMB. In 2004, C&LM Fund programs surpassed the performance expectations established by the DPUC and the ECMB. The Companies collectively reached 130% of their 2004 target performance with reported lifetime savings of 4,042,894 MWh. The Companies also achieved their targeted performance for demand savings, saving 85,130 kW and attaining 124% of their 2004 targeted performance. Continuing their 2004 success, the Companies strive to meet and exceed ECMB and DPUC approved targeted performance for 2005.

### Future Outlook

In 2004, GDS Associates performed a study titled *Independent Assessment of Conservation and Energy Efficiency Potential for Connecticut and Southwest Connecticut Region*. The study provides valuable information for Connecticut's decision makers regarding potential electric energy and peak demand savings from energy efficiency measures. According to the study, if all cost effective energy efficiency measures were implemented, they would account for 4,466 GWh and \$1.8 billion dollars in net savings for Connecticut citizens over the next ten years. In addition, energy efficiency measures would assist in stabilizing the critical southwestern Connecticut region until long-term remedies are implemented.

Information regarding Connecticut's energy conservation programs is available at:

#### The Energy Conservation Management Board

[www.dpuc.state.ct.us/Electric.nsf/ByECMB?OpenView](http://www.dpuc.state.ct.us/Electric.nsf/ByECMB?OpenView)

#### Connecticut Conservation and Load Management Hotline

1-877-WISE USE

#### The Connecticut Light and Power Company

[www.cl-p.com](http://www.cl-p.com)

#### The United Illuminating Company

[www.uinet.com](http://www.uinet.com)

## SECTION II: In A Time of Rising Energy Costs

HOW THE C&LM FUND CAN HELP CONSUMERS SAVE MONEY

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*“As your Governor and a fellow electric customer, I recognize the magnitude of this [rate] increase and the pressure that it will place on already strained household budgets, especially those of our most vulnerable population. Nor can I ignore the burden that this places on business customers, both small and large, who are vital to the economic health of our state... Each and every one of us can take simple steps to reduce the amount of electricity we use without sacrificing comfort or convenience. Connecticut electric customers have supported energy efficiency programs that are nationally recognized, available to everyone and can help you to save money now.”*

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### CONNECTICUT GOVERNOR

**M. JODI RELL**

OPEN LETTER TO CONNECTICUT  
ELECTRIC CUSTOMERS,  
DECEMBER 21, 2004

The Energy Conservation Management Board (ECMB) is concerned about rising energy costs in Connecticut. The ECMB anticipates increased participation of businesses and residents in Conservation and Load Management Fund (C&LM Fund) programs in 2005 due to rising energy costs. C&LM Fund programs have proven successful in helping Connecticut businesses and residents achieve energy savings. In 2004 alone, C&LM Fund programs helped Connecticut residents and businesses achieve energy savings of approximately 291 million kWh, resulting in projected long-term savings of approximately \$440 million over the lifetime of installed energy efficiency measures.

The Connecticut Light and Power Company (CL&P) and The United Illuminating Company (UI), with input from the ECMB, filed their joint Conservation and Load Management Plan for 2005 (Plan) with the Connecticut Department of Public Utility Control on November 22, 2004. The Plan calls for a reduction in energy demand by 68 MW and lifetime energy savings of 3.4 million MWh. These savings will result in a return on investment of 300% on the energy efficiency measures installed. The Plan's target performances should help mitigate the effects of rising energy costs for Connecticut's electricity customers, especially low-income households who are vulnerable to rising energy costs. In addition, C&LM Fund programs benefit small and large businesses, homeowners and renters, and state and local governments.

# SECTION III: Southwestern Connecticut Focus

## REASONS FOR C&LM FUND PROGRAM FOCUS IN SOUTHWESTERN CONNECTICUT (SWCT)

Since 2002, the DPUC has directed CL&P and UI, under the guidance of the ECMB, to develop and implement C&LM Fund programs specifically for SWCT. Due to bottlenecks in the transmission system, shortages may exist until long-term remedies are implemented. On summer afternoons when the use of air conditioning is high, peak demand for electricity rises and the ability of the electrical grid to deliver additional power is constrained by the transmission system. During these periods of peak demand, inefficient older generation may be used to address deficiencies in the transmission system. Since peak demand typically coincides with hot, smoggy weather, the use of less efficient generation further compromises state air quality and exacerbates public health impacts.

In the summer of 2004, Connecticut’s transmission system did not experience loads high enough to threaten its reliability, in part because outside air temperatures were not extreme for extended periods of time. Special efforts were made to increase efficiency and potentially avoid the use of electric equipment in SWCT to help reduce the demand for electricity during peak times.

Successful conservation program activities targeted in SWCT during 2004 included:

- ▶ The highly successful “Wait ‘til 8” campaign. The program was marketed in 2004 to increase general awareness of the importance of shifting energy demand and loads away from daytime peak hours.
- ▶ The Community Based Program was successful in continuing to focus its efforts on partnering with towns in the Norwalk-Stamford sub-area. The objective of the program is to increase energy efficiency awareness throughout SWCT communities, thereby increasing participation by residents and businesses in these communities in energy conservation programs.
- ▶ The Commercial & Industrial Request for Proposal program continued to target special bid rounds in SWCT.
- ▶ The Small Business Energy Advantage program continued to have a strong focus on SWCT and implemented targeted marketing campaigns in the Norwalk-Stamford sub-area.
- ▶ The Appliance Retirement program was successful in removing unnecessary second and third appliances (refrigerators, freezers and room air conditioners) in homes. The program focused on marketing conservation benefits to SWCT residents through turn-in events, direct mailings and SWCT-targeted advertisements.
- ▶ The Retrocommissioning (RCx) Pilot program began a systematic process for improving and optimizing a building’s operations and supported those improvements (excluding capital improvements) with enhanced documentation and training.





### C&LM Budget For SWCT Area

In 2004, CL&P and UI, continued to target conservation activities to SWCT businesses and residents. CL&P reports that while approximately 17% of its revenues came from the priority towns of the Norwalk-Stamford sub-area, 25% of the total conservation program budget was allocated to this critical sub-area in 2004. In 2004, CL&P also reports that nearly 25% of the total conservation program budget was allocated to the remainder of the SWCT region, a region that represented approximately 21% of CL&P's revenues. UI's entire service territory is within the SWCT region. UI reports that approximately 50% of its total program budget was allocated to the Norwalk-Stamford sub-area in 2004.

## SECTION IV: 2004 National and Regional Awards

### AWARDS



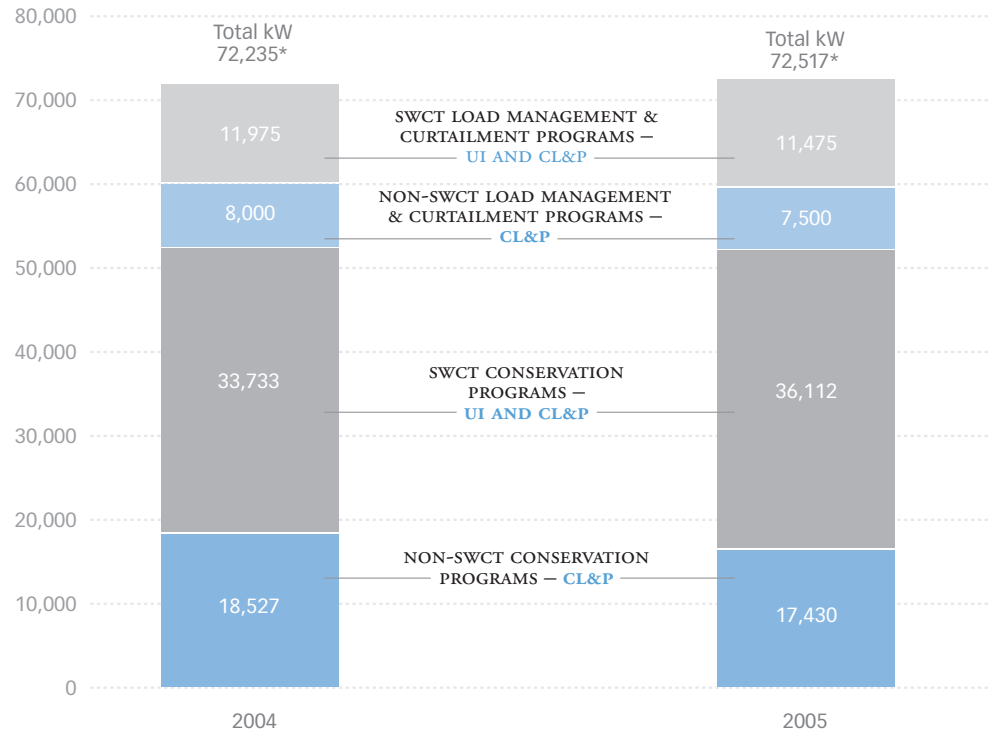
In 2004, the Connecticut Quality Improvement Awards Partnership, Inc. (CQIA) awarded Silver Connecticut Innovations Prizes to four C&LM Fund programs administered by CL&P. The Connecticut Innovations Prize is awarded to Connecticut organizations that excel in managing quality improvement for business success and growth. The four programs recognized were Small Business Energy Advantage (SBEA), Small Commercial and Industrial (C&I) Loan, Research Development and Demonstration (RD&D) and Weatherization Residential Assistance Partnership (WRAP)/Low-Income. UI's Small Business Energy Advantage program was the recipient of the EPA ENERGY STAR® for Energy Efficiency in Small Business.

CL&P and UI are Initiative Sponsors of the Northeast Energy Efficiency Partnerships, Inc. (NEEP), a regional non-profit organization whose mission is to promote energy efficiency in buildings, homes and industry in the Northeast region. The EPA and the Department of Energy (DOE) have recognized NEEP and their Initiative Sponsors with an "exemplary practices" award for their 2004 ENERGY STAR Appliance and Lighting Initiative. The Northeast ENERGY STAR Initiative Sponsors participating in joint program marketing and implementation activities were also recognized for Excellence in Energy Efficiency by the EPA/DOE ENERGY STAR Program.

Governor M. Jodi Rell acknowledged the C&LM Fund, along with the electric distribution companies, in recognition of the Grand Opening Celebration of the new Appliance Recycling Center of America's Connecticut Facility.

Individual C&LM Fund projects were also recognized for their successes in 2004. The Barden Corporation, a CL&P customer, was the recipient of the Demand Response Program Achievement Award for its contributions to the success of the Independent System Operators of New England's (ISO-NE) Demand Response Program.

**Chart A: Peak Demand Savings Available from Conservation and Load Management Funds (In kW)**



\* TOTALS INCLUDE ISO LOAD RESPONSE PROGRAMS

### Peak Demand Savings Impacts

- ▶ **ENHANCE ELECTRIC SYSTEM RELIABILITY:** The overall reliability of Connecticut’s energy system is reduced by transmission constraints and peak energy demand. Conservation programs contribute to enhanced electric system reliability during peak periods, like hot summer days, when energy supplies are at or near capacity.
- ▶ **IMPROVED AIR QUALITY:** Conservation and load management programs minimize adverse environmental effects by reducing energy demand. As a result, power plants operate for fewer hours and thereby emit less air pollutants, such as carbon dioxide, nitrogen oxides and sulfur oxides.
- ▶ **LOWER COSTS:** Conservation activities contribute to the reduction of power needed during peak demand periods and alleviate stress placed on transmission lines. Due to these conservation activities, Connecticut energy customers benefit through a reduction in federally mandated congestion charges on their electric bills.

## REDUCE AIR POLLUTION AND NEGATIVE ENVIRONMENTAL IMPACTS

Environmental stewardship is a primary concern of the ECMB. Conservation programs significantly minimize adverse environmental effects by reducing energy demand which decreases the amount of pollutants emitted in electrical generation. Energy conservation activities in 2004, over their lifetime, will produce the following environmental benefits:

Chart B: Reflecting Reduction in Criteria Pollutants (In Tons)

	2004 ANNUAL ACTUAL	2004 LIFETIME ACTUAL	2005 ANNUAL PROJECTED	2005 LIFETIME PROJECTED
SO <sub>x</sub>	303	4,201	269	3,529
NO <sub>x</sub>	112	1,548	99	1,301
CO <sub>2</sub>	180,290	2,501,311	160,576	2,101,078

C&LM Fund programs have significantly reduced two air pollutants that are emitted in electrical generation: nitrogen oxides and sulfur oxides. These air pollutants have been linked to acid rain and acid deposits in Connecticut bodies of water, such as Long Island Sound. In addition, nitrogen oxides are primary components of summer smog. In particulate form, these air pollutants also impair visibility and have been linked with health problems, specifically asthma.

Reduced electricity demand results in fewer pollutants and an environment that is safer for children and seniors, the people most susceptible to environmentally induced health problems. The Environmental Protection Agency (EPA) reports that 20% of the U.S. population, approximately 55 million people, spends a significant portion of their day in elementary and secondary schools. According to the EPA, over one-half of our nation's schools have problems associated with indoor air quality. The Connecticut Legislature recently passed An Act Concerning Indoor Air Quality in Schools, Public Act No. 03-220, addressing their concerns regarding the health and environment of Connecticut's schools. C&LM Fund programs can mitigate the problems associated with indoor air quality in schools through proper energy-efficient measures in the construction and maintenance of the buildings.

Carbon dioxide and other "greenhouse gases" are also emitted during electrical generation and fossil fuel combustion. These greenhouse gases have been linked as a source for potential changes in climate and global warming. As far back as 1990, Public Act 90-219, An Act Concerning Global Warming made Connecticut the first state to address climate change and global warming in a comprehensive manner. In 2004, the Governor's Steering Committee on Climate Change drafted the Connecticut Climate Change Action Plan 2005. This action plan hopes to reduce greenhouse gas emissions and achieve regional goals established by the New England Governors/Eastern Canadian Premiers (NEG/ECP). In 2004, C&LM Fund programs significantly reduced carbon dioxide emissions by 180,290 tons and should play a vital role in the future success of the action plan.

## PROMOTE ECONOMIC DEVELOPMENT AND ENERGY SECURITY IN CONNECTICUT

*“Since industry energy consumption accounts for about 35 percent of all U.S. energy use, improved industrial energy efficiency reduces energy demand per unit of industrial output (energy intensity), reduces the need for new power plants, reduces the need to import petroleum from foreign sources and lowers environmental emissions including greenhouse gases. ...The National Energy Plan (NEP) recognizes that reduced energy intensity in American industry can improve industrial productivity, product quality, safety, and pollution prevention.”*

**SOURCE:**  
U.S. DEPARTMENT OF  
ENERGY—OFFICE OF ENERGY  
EFFICIENCY AND RENEWABLE  
ENERGY  
FY 2004 BUDGET-IN-BRIEF

### 2004 Connecticut Conservation and Load Management Fund programs:

- ▶ Generated three dollars in future lifetime savings for each dollar spent.
- ▶ Created approximately 1,000 non-utility jobs in the energy efficiency industry.
- ▶ Engaged dozens of Connecticut companies for energy services, such as architects, contractors, electrical and mechanical contractors and engineers.
- ▶ Paid or committed over \$30 million in incentive payments to approximately 2,100 Connecticut commercial and industrial customers.
- ▶ Reduced operating costs and improved productivity in Connecticut’s commercial and manufacturing industries, helping to make them competitive in the global marketplace.
- ▶ Leveraged millions of dollars for projects in additional Federal and State grants and private sector contributions.
- ▶ Assisted the U.S. Department of Energy (DOE) and the Environmental Protection Agency (EPA) in promoting ENERGY STAR® products to hundreds of Connecticut retailers.
- ▶ Serviced 3,329 Connecticut small businesses and helped them improve their operating costs.

### Chart C: Conservation Activities Save Energy and Money for Customers

In 2004, the measures installed by C&LM Fund programs saved enough energy annually to serve approximately 37,000 homes in Connecticut for an entire year. Over the life of the conservation measures installed through these programs, they will save approximately \$440 million or enough energy to serve approximately a half million homes for an entire year.

#### Energy Savings from Energy Efficiency Programs

(In Millions of kWh)

Type of Savings	2004 ACTUAL	2005 PROJECTED
Annual kWh	291	261
Lifetime kWh	4,043	3,430

## BENEFITS OF CONSERVATION ACTIVITIES DISTRIBUTED OVER ALL CUSTOMER CLASSES

A primary concern of the ECMB is that all classes of customers benefit from the Conservation and Load Management Fund. Due to this concern, the ECMB apportions the budget across all customer classes. There were more than 318,000 instances of participation in the Conservation and Load Management Fund's energy efficiency programs in 2004. Groups that benefited from 2004 energy conservation programs include: education institutions, state government and municipalities, manufacturers, non-profit organizations, residential customers and small businesses.

Chart D: Contributions and Dollars Saved (In Millions of Dollars)

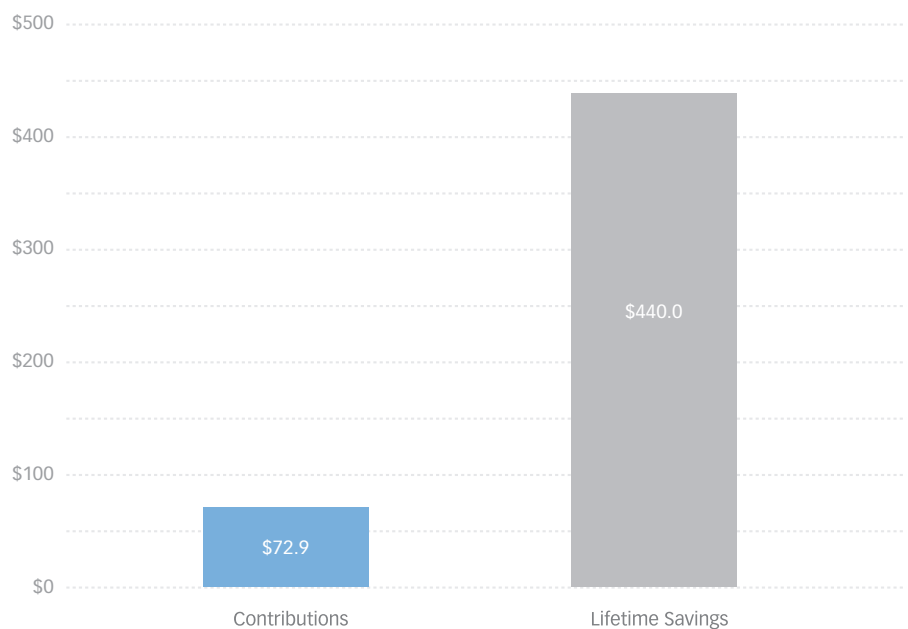


Chart E: Residential Customer Savings

ENERGY IMPROVEMENT SOLUTION	ANNUAL KWH SAVINGS	ESTIMATED RETAIL COST	CONSERVATION FUND INCENTIVE	YOUR COST	UTILITY BILL PERCENT SAVINGS
10 Compact Fluorescent Lights	500-600	\$40	\$20	\$20	5-10%
4 ENERGY STAR® Light Fixtures	400-500	\$100	\$40	\$60	5-10%
Remove Old Refrigerator	800-1,000	\$0	\$50	\$0	5-10%
Purchase ENERGY STAR® Clothes Washer	200-300	\$475	\$50	\$425	3-5%
Tune-Up Central Air Conditioning	150-200	\$150	N/A	N/A	2-3%

PRICES AND SAVINGS ARE APPROXIMATE AND MAY VARY DEPENDING ON ACTUAL ELECTRIC CONSUMPTION AND ELECTRIC RATES.

Chart F: Summary of Energy Savings by Customer Class (In millions of kWh)

CUSTOMER SECTOR	ANNUAL SAVINGS		LIFETIME SAVINGS	
	2004 SAVINGS	2005 PROJECTED	2004 SAVINGS	2005 PROJECTED
Low-Income	13	13	153	112
Residential (Non Low-Income)	92	76	860	560
Commercial & Industrial	186	173	3,030	2,758
Totals	291	261	4,043	3,430

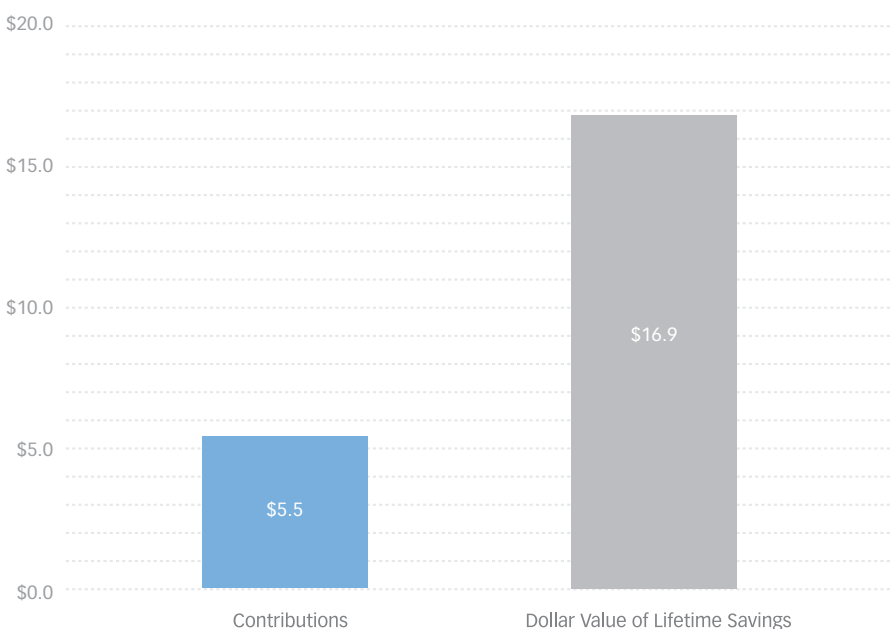
*“The Connecticut Conservation and Load Management Fund’s programs are sorely needed and especially welcome in this time of sharply rising energy costs. In 2004, the Fund contributed to the awarding of over \$230,000 in additional federal energy assistance dollars for low-income customers, enabling the Department of Social Services and our community partners to help more households with their heating bills. As part of this initiative, the Weatherization Residential Assistance Partnership (WRAP), administered by the Fund through the state’s Community Action Agencies, has achieved noteworthy success in lowering eligible customers’ energy bills.”*

**PATRICIA A. WILSON-COKER**  
 COMMISSIONER  
 DEPARTMENT OF SOCIAL SERVICES

The ECMB continued to emphasize the need to assist low-income customers in 2004. Low-income customers were served with the assistance of local Community Action Agencies, third-party vendors and other Connecticut social service providers. This assistance is necessary for low-income customers because their energy costs typically comprise a significant and disproportionate percentage of household income. Low-income customers have a much higher energy burden than higher income customers — 12%-26% for low-income families compared to 4% for middle income families.

Conservation and Load Management Fund programs provide comprehensive weatherization, energy conservation and education services to low-income customers in order to reduce their energy burden. In 2004, C&LM Fund efforts assisted approximately 13,500 low-income customers. These low-income customers will save 153 million lifetime kWh which equates to approximately \$16 million in energy savings over the life of the measures.

**Chart G: 2004 Low-Income Customer Contributions vs. Lifetime Dollars Saved** (In Millions of Dollars)



# Assistance to Customers in Connecticut Towns\*

ANDOVER	\$20,475	EAST HAMPTON	\$294,534
ANSONIA	\$94,335	EAST HARTFORD	\$510,595
ASHFORD	\$15,035	EAST HAVEN	\$118,540
AVON	\$454,982	EAST LYME	\$41,368
BARKHAMSTED	\$53,591	EAST WINDSOR	\$74,525
BEACON FALLS	\$34,808	EASTFORD	\$1,535
BERLIN	\$250,928	EASTON	\$18,534
BETHANY	\$18,563	ELLINGTON	\$319,719
BETHEL	\$215,046	ENFIELD	\$769,373
BETHLEHEM	\$14,328	ESSEX	\$23,383
BLOOMFIELD	\$704,112	FAIRFIELD	\$280,584
BOLTON	\$105,326	FARMINGTON	\$704,576
BOZRAH	\$156	FRANKLIN	\$22,534
BRANFORD	\$368,013	GLASTONBURY	\$475,670
BRIDGEPORT	\$912,405	GOSHEN	\$11,945
BRIDGEWATER	\$2,840	GRANBY	\$21,616
BRISTOL	\$464,530	GREENWICH	\$311,607
BROOKFIELD	\$254,415	GRISWOLD	\$28,100
BROOKLYN	\$19,104	GROTON	\$28,457
BURLINGTON	\$17,412	GUILFORD	\$191,111
CANAAN	\$29,281	HADDAM	\$156,339
CANTERBURY	\$7,646	HAMDEN	\$540,674
CANTON	\$138,153	HAMPTON	\$2,739
CHAPLIN	\$5,645	HARTFORD	\$3,380,801
CHESHIRE	\$739,950	HARTLAND	\$3,726
CHESTER	\$25,283	HARWINTON	\$43,038
CLINTON	\$71,748	HEBRON	\$21,740
COLCHESTER	\$56,255	KENT	\$86,345
COLEBROOK	\$2,246	KILLINGLY	\$695,113
COLUMBIA	\$31,454	KILLINGWORTH	\$9,771
CORNWALL	\$2,056	LEBANON	\$12,653
COVENTRY	\$37,480	LEDYARD	\$293,463
CROMWELL	\$51,820	LISBON	\$97,144
DANBURY	\$1,182,313	LITCHFIELD	\$58,532
DARIEN	\$77,601	LYME	\$2,368
DEEP RIVER	\$264,245	MADISON	\$48,614
DERBY	\$140,158	MANCHESTER	\$1,390,018
DURHAM	\$16,680	MANSFIELD	\$269,232
EAST GRANBY	\$177,810	MARLBOROUGH	\$46,767
EAST HADDAM	\$8,252	MERIDEN	\$850,905



MIDDLEBURY	\$125,588	SHELTON	\$548,553
MIDDLEFIELD	\$190,107	SHERMAN	\$41,316
MIDDLETOWN	\$283,154	SIMSBURY	\$113,977
MILFORD	\$882,323	SOMERS	\$23,195
MONROE	\$327,581	SOUTH WINDSOR	\$172,080
MONTVILLE	\$36,630	SOUTHBURY	\$190,550
MORRIS	\$6,522	SOUTHINGTON	\$440,257
NAUGATUCK	\$475,555	SPRAGUE	\$23,549
NEW BRITAIN	\$764,446	STAFFORD	\$84,538
NEW CANAAN	\$544,078	STAMFORD	\$999,299
NEW FAIRFIELD	\$326,157	STERLING	\$2,916
NEW HARTFORD	\$105,152	STONINGTON	\$231,069
NEW HAVEN	\$1,293,440	STRATFORD	\$721,234
NEW LONDON	\$432,436	SUFFIELD	\$78,774
NEW MILFORD	\$298,883	THOMASTON	\$265,045
NEWINGTON	\$875,493	THOMPSON	\$132,252
NEWTOWN	\$74,138	TOLLAND	\$316,837
NORFOLK	\$16,193	TORRINGTON	\$227,541
NORTH BRANFORD	\$39,677	TRUMBULL	\$357,864
NORTH CANAAN	\$18,134	UNION	\$301
NORTH HAVEN	\$589,487	VERNON	\$285,599
NORTH STONINGTON	\$4,110	VOLUNTOWN	\$8,844
NORWALK	\$1,119,718	WALLINGFORD	\$16,011
NORWICH	\$10,158	WARREN	\$1,714
OLD LYME	\$14,692	WASHINGTON	\$6,694
OLD SAYBROOK	\$365,401	WATERBURY	\$943,441
ORANGE	\$190,209	WATERFORD	\$171,595
OXFORD	\$110,586	WATERTOWN	\$294,884
PLAINFIELD	\$1,061,496	WEST HARTFORD	\$581,011
PLAINVILLE	\$167,774	WEST HAVEN	\$274,041
PLYMOUTH	\$52,350	WESTBROOK	\$10,663
POMFRET	\$15,147	WESTON	\$547,224
PORTLAND	\$194,881	WESTPORT	\$365,559
PRESTON	\$6,816	WETHERSFIELD	\$172,212
PROSPECT	\$50,910	WILLINGTON	\$17,603
PUTNAM	\$175,701	WILTON	\$56,025
REDDING	\$37,279	WINCHESTER	\$124,981
RIDGEFIELD	\$320,451	WINDHAM	\$847,674
ROCKY HILL	\$374,727	WINDSOR	\$589,992
ROXBURY	\$5,706	WINDSOR LOCKS	\$314,302
SALEM	\$4,788	WOLCOTT	\$500,697
SALISBURY	\$16,931	WOODBIDGE	\$28,136
SCOTLAND	\$1,910	WOODBURY	\$109,472
SEYMOUR	\$202,583	WOODSTOCK	\$26,051
SHARON	\$7,171		

\*BASED ON 2004 DATA. ALL FIGURES ARE APPROXIMATE AND MAY VARY DUE TO ROUNDING

# Sample List of Customers Served

2,100 COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL CUSTOMERS PARTICIPATED IN 2004

## CL&P CASE STUDY

### SMALL BUSINESS ENERGY ADVANTAGE

**FOOTPRINTS FASHION FOOTWEAR INC.** is a family-owned business in Newington. Founded in 1979 by David and Jerilyn Cohen, the store originally specialized in hard-to-find women's shoe sizes. After several successful years, the original 420 square-foot store was deemed too small and the business relocated to a 30,000 square-foot space. In addition to space expansion, the shoe selection grew to include children's, men's and orthopedic shoes.

FootPrints has maintained its mom-and-pop vibe over the years despite its success and growth and the Cohen family, led by David and Jerilyn's son Scott, still runs the business. The Cohens wanted to renovate the store's lighting design to improve the store's ambience and reduce energy costs. Darin Hanna of Conservation Services, LLC, a CL&P approved contractor performed an on-site energy assessment to determine the best energy-efficient measures to be implemented in the renovation process. Through the C&LM Fund's Small Business Energy Advantage Program, old magnetic ballasts and lamps were replaced by new, efficient electronic ballasts and energy-saving lamps with occupancy sensors.

According to Hanna, Conservation Services, LLC, installed 329 energy-efficient lighting units throughout the store, including the office space and warehouse. The retail space was dramatically transformed to provide well-lit aisles, displays and checkouts for FootPrint's customers and employees. After the project was completed, Scott Cohen, Vice President of FootPrints said, "We at FootPrints are very pleased with the lighting project that the CL&P approved contractor installed at our facility."

CL&P's Small Business Energy Advantage program helped FootPrints:

- ▶ Save \$6,449 annually on utility costs
- ▶ Save 64,486 kWh annually
- ▶ Receive a \$10,792 incentive payment to assist in the cost of the energy-efficient upgrades
- ▶ Save 1,285,600 kWh energy savings and \$128,560 energy dollar savings over the projected life of the equipment
- ▶ Cover their share of the costs by offering a zero-percent financing option. This option allows FootPrints to be billed a separate monthly invoice for repayment of their portion of the project costs. After the loan repayment period, FootPrints will reap the benefits of the energy savings through lower electric bills.

A SPACE CENTER	BOEHRINGER INGELHEIM
A. N. DESIGN, INC.	BOLLORE
ACCEL INTERNATIONAL	BOLTON HIGH SCHOOL
ADCHEM INC.	BOZZUTO'S
ADRIAEN'S LANDING	BRANFORD BOARD OF EDUCATION
ADVO	BRIDGEPORT ACADEMY
AETNA	BRIDGEPORT INNOVATION
AFM ENGINEERING CORPORATION	BRISTOL HOSPITAL
AHLSTROM FIBER COMPOSITES	BRUSH FOIL, LLC
ALDRICH MUSEUM OF CONTEMPORARY ART	BUNNELL HIGH SCHOOL
ALINABAL INC.	BURLINGTON COAT FACTORY
ALLEGHENY LUDLUM	CABLEVISION OF SOUTHERN CT
ALLIED PRINTING SERVICE	CANTON RACING PRODUCTS
ALSTOM POWER	CARPENTERS LOCAL 210
AMENDOLA MARBLE AND STONE	CHARTER OAK MARKETPLACE
AMERICAN DISTILLING	CHEMMECH SYSTEM CO.
ANTHEM BLUE CROSS & BLUE SHIELD	CHESEBROUGH-POND'S USA
AUTOMATIC ROLLS OF AMERICA	CHESHIRE ACADEMY
AVON BOARD OF EDUCATION	CHESHIRE TOWN HALL
BABIES "R" US	CHRISTMAS TREE SHOPS
BACKUS HEALTH CENTER	CIANCOLA MOTORS
BAR PLATE MANUFACTURING CO.	CIGNA
BATTISTONS OF EAST HARTFORD	CM CORPORATION
BAYER CORP.	COLT GATEWAY, LLC
BEAVER BROOK MILL, LLC	CONNECTICUT CHILDRENS MEDICAL CENTER
BEIERSDROF, INC.	CONNECTICUT NEWSPAPER INC.
BERLIN BANDAG INC.	CONNECTICUT TRANSIT
BERNIE'S TV AND APPLIANCE	COOL BEAN
BIC CORPORATION	COSTCO WHOLESALE
BIRCH GROVE PRIMARY SCHOOL	COUNTRY CLUB OF NEW CANAAN
BISHOP RINKS	COUNTRY CURTAINS
BJ'S WHOLESALE CLUB	COUNTRY SQUIRE
BLASÉ MANUFACTURING CO.	CROMPTON CORPORATION
BOB SHARP NISSAN	CTI INDUSTRIES
	CUNO INC.

CURTIS PACKAGING  
 CV TOOL COMPANY  
 CYTEC INDUSTRIES  
 DARIEN ICE RINK  
 DELTA INDUSTRIES  
 DERBY AUTOBODY  
 DERBY, CITY OF  
 DEVON PRECISION INDUSTRIES INC.  
 DODD MIDDLE SCHOOL  
 DOURO GRANITE AND MARBLE  
 DRESSER INDUSTRIES  
 DURAOL COMPANY  
 DURHAM MANUFACTURING CO  
 EAST HAMPTON HIGHWAY GARAGE  
 EAST WINDSOR TOWN GARAGE  
 ELECTRIC SERVICES INC.  
 EMHART TEKNOLOGIES  
 ENFIELD, TOWN OF  
 FAIRFIELD, TOWN OF  
 FAITH BIBLE CHURCH  
 FAWN HALLOW ELEMENTARY  
 SCHOOL  
 FILM X, INC.  
 FIRST CONGREGATIONAL CHURCH  
 FIRST UNITED METHODIST  
 CHURCH  
 FLAGSHIP CONVERTERS, INC.  
 FOSTER CORPORATION  
 FRANKLIN TOWN HALL  
 FRITO-LAY INC.  
 GALASSO MATERIALS  
 GENERAL ELECTRIC CORPORATION  
 GENGRAS MOTOR CARS  
 GEORGE WESTON BAKERY  
 GIRARDIN MOULDING, INC.  
 GOODWIN ELEMENTARY SCHOOL  
 GOODY'S HARDWARE  
 GREATER WATERBURY YMCA  
 HAMILTON SUNDSTRAND  
 HANGAR PROSTHETICS AND  
 ORTHODONTICS  
 HARBORSIDE HEALTHCARE  
 HAROLD LEEVER REGIONAL  
 CANCER CENTER  
 HARTFORD STEAM  
 HEIDI'S UNIFORM  
 HERLIN PRESS, INC.  
 HIGH GRADE FINISHING CO.  
 HOFFMAN AUDI OF NEW LONDON  
 HOME DEPOT

## UI CASE STUDY ENERGY BLUEPRINT

**INTERLUDE HOMES**, a national wholesaler of home accessories, such as mirrors and wall décor, tabletop and floor accessories, accent furniture and garden decorations, moved last year from Long Island City, NY to a new 87,000 square foot warehouse in Trumbull. The new building was constructed by Borghesi Building & Engineering of Torrington.

Veeco, Inc., design/build electrical contractors out of Waterbury, initially proposed a lighting system using 156 400W metal halide (MH) high intensity discharge (HID) lamps. But that initial proposal was discarded for a more energy-efficient system after a series of discussions between Charlie Veronneau, Veeco's President, and UI Sales Engineer Mike Guarino and a further presentation to David Brault, Interlude Homes' Chief Financial Officer.

"Our alternate proposal recommended using 156 high bay T5 fluorescent fixtures," Veronneau said. "This is a leading-edge, very energy-efficient lighting technology that has only been on the market for commercial use for about two years."

"After Charlie and I concluded that a T5 system was best for Interlude Homes, we teamed up to explain T5's advantages to David Brault," Guarino said. "Charlie addressed the system's initial cost versus its life cycle costs. I talked about reducing his company's operating costs by cutting energy consumption, as well as the incentives payable under our Energy Blueprint Plan for building in energy-saving measures."

Brault gave Veeco the green light for installing the system, noting that Guarino and Veronneau had brought important considerations to the table. "Even though the T5 system cost \$18,100 more than the \$23,900 MH/HID system," he said, "the total \$42,000 price tag was worth it in terms of overall energy cost savings and the reasonable 1.3-year payback."

"Basically, we replaced 156 HID fixtures with T5 fixtures—108 six-lamp fixtures and 48 four-lamp fixtures—all equipped with specular silver reflectors, electronic ballasts and occupancy sensors," Veronneau said.

"The HID fixtures used 400W lamps, which would consume 173,420 kWh at an annual energy expense of \$20,810, while the T5 fixtures used 235W lamps, which would use only 118,820 kWh, costing \$14,258 a year," Guarino said. So the 54,600 kWh savings represents an annual \$6,500 reduction in Interlude Home's annual energy bill."

According to Veronneau, energy efficiency is also improved by using electronic ballasts, which convert AC current into a different operating voltage that allows the fluorescent lights to work. Using electronic instead of magnetic ballasts reduces energy loss in the conversion process and improves operating efficiencies by around 30 percent.

The occupancy sensors also play an important role in reducing energy consumption. They are set to turn the lights on automatically when, for example, a forklift truck enters one of the aisles between the high merchandise storage racks. Unless there is activity in the area, the lights will turn off automatically after 15 minutes. This arrangement means the warehouse lighting is not on all the time, unnecessarily burning up energy.

"T5 fluorescents' instant-on technology means we can take full advantage of the energy-saving opportunities sensors offer," Veronneau explained. "We can't use them with HID's which need warm-up time."

These features all add up to conserving very significant amounts of energy. "We project yearly savings of 153,552 kWh, as well as a 41 kW peak use reduction," Guarino said. "Since these measures were built into a new construction, Interlude Homes received an upfront cash incentive of \$19,215 under UI's Energy Blueprint program."

**CL&P CASE STUDY**  
**ENERGY CONSCIOUS CONSTRUCTION**

**THE PALACE THEATER** in Waterbury is nationally recognized as the flagship theater of the Lowe’s Poli chain. The Palace officially opened its doors in 1922 as a movie/vaudeville house. A Renaissance Revival style theater, its architectural features include crystal chandeliers, elegant lobbies, gold detailing and an ornate dome ceiling. For seventy years it was the premier performance venue in the Northeast, featuring everything from silent films to Bob Dylan concerts. In 1987, the Palace dimmed its lights for eighteen years.

In November 2004, the Palace reopened after undergoing a massive restoration and renovation project. Theater renovations served as a catalyst for the cultural, economic and historical restoration of downtown Waterbury. The addition of the Performing Arts Magnet School to the Palace complex further benefits the community.

Early on in the renovation process of the Magnet School and Palace Theater, CL&P’s Conservation & Load Management Administrators worked with the design architects, engineers and Naugatuck Valley Development Corporation to analyze and recommend more energy-efficient measures to use in the buildings. These recommendations led to the installation of ENERGY STAR® dry-type low voltage transformers, premium efficiency chillers, premium efficiency motors, demand controlled ventilation, variable frequency drives and an energy-efficient lighting design in the Palace complex. The financial incentive provided by CL&P covered the extra costs to upgrade to the more expensive energy-efficient equipment.

CL&P’s Energy Conscious Construction Team helped the Waterbury Performing Arts Magnet School and Palace Theater:

- ▶ Receive a \$280,764 incentive payment to cover the cost of the upgrades
- ▶ Save 1,490,778 kWh annually
- ▶ Save 26,796,769 kWh energy savings over the projected life of the equipment
- ▶ Save \$104,354 annually on utility costs

HOUSATONIC COMMUNITY COLLEGE	NATIONAL EASTERN CORP.
HOWMET CASTINGS	NATIONAL GRAPHICS
HP HOOD AIR COMPRESSOR	NAUGATUCK FIRE DEPARTMENT
HUBBARD-HALL, INC.	NAUGATUCK SAVING BANK
HUDSON UNITED BANK	NEW BRITAIN GENERAL HOSPITAL
IMPERIAL ELECTRONIC	NEW BRITAIN WATER DEPARTMENT
INLINE PLASTICS CORPORATION	NEW FAIRFIELD HIGH SCHOOL
ITALIAN PAVALION	NEW HAVEN WATER POLLUTION CONTROL AUTHORITY
ITW HIGHLAND	NEWTOWN HIGH SCHOOL
J C PENNEY INC.	NORWALK, CITY OF
J K B TOOL COMPANY, INC.	NYALA FARMS
JACKIE ROBINSON SCHOOL	OLD SAYBROOK TOWN HALL
JOHNSON CORRUGATED	OVATION INSTRUMENTS
KEEPER CORPORATION	PARKER HANNIFIN CORPORATION
KILLINGLY TOWN HALL	PARTY DEPOT
KIMBERLY CLARK	PDC INTERNATIONAL
KING INDUSTRIES, INC.	PETCO
KNIGHTS OF COLUMBUS	PEZ MANUFACTURING
KOHLER MIX	PFIZER
LASER PRINT & IMAGE	PITNEY BOWES
LATEX FOAM PRODUCTS	PLAINVILLE HIGH SCHOOL
LEBANON LIBRARY	PLYMOUTH BOARD OF EDUCATION
LEDYARD TOWN HALL	POMPERAUG HIGH SCHOOL
LEE’S AUTO CENTER INC.	PORTLAND FIRE DEPARTMENT
LIGHT SOURCES, INC.	PORTUGESE SPORTS CLUB
LISBON CENTRAL SCHOOL	POWDER RIDGE SKI AREA
LITCHFIELD PUBLIC WORKS	PRATT & WHITNEY
LOCK TIGHT STORAGE	PRAXAIR SURFACE TECHNOLOGY
LOUIS DREYFUS	PRECISON METAL PRODUCTS
LOWES	PRICE CHOPPER
MAGNA KLEEN	PRICE RITE, INC.
MAHLE CYLINDER, INC.	PTA CORPORATION
MANSFIELD PUBLIC LIBRARY	PURDY CORP.
MARCUS DAIRY INC.	PUTNAM, TOWN OF
MARK TWAIN HOUSE	QUINNIPIAC UNIVERSITY
MASON ASSOCIATES	R & R MANUFACTURING
MASUK HIGH SCHOOL	R D SCINTO INC.
MATLAWS FOOD PRODUCTS	RAYMOND ENGINEERING
MCKESSON PHARMACEUTICALS	REFLEXITE CORPORATION
METAL MANAGEMENT	REGIONAL WATER AUTHORITY
METRO CENTER	RELIANCE AUTOMOTIVE
MICRO-TECH, INC.	RENCHER TOOL, INC.
MIDDLEBURY, TOWN OF	REXAM DISPENSING SYSTEMS
MIDFIELD CORPORATION	RIDGEFIELD POLICE DEPARTMENT
MILFORD HOSPITAL	RIFF COMPANY, INC.
MRC BEARINGS, INC.	ROGERS MANUFACTURING
NAPOLI FOODS, INC.	ROGO DISTRIBUTORS
NATCHAUG HOSPITAL	ROSTRA VERNATHERM
NATIONAL DIE	ROTO FRANK

ROUTE 7 CARWASH  
 SACRED HEART ACADEMY  
 SACRED HEART UNIVERSITY  
 SAINT MARY CHURCH  
 SALVATION ARMY  
 SARDILLI FRUIT & PRODUCE, INC.  
 SAVE THE CHILDREN  
 SCHAGHTICOKE MIDDLE SCHOOL  
 SCHICK  
 SCOTT TECHNOLOGY  
 SEALED AIR CORP.  
 SHAW MUDGE & COMPANY  
 SHELL OIL  
 SHELTON, CITY OF  
 SIKORSKY AIRCRAFT  
 SILGAN PLASTICS  
 SOLLA EYELET PRODUCTS, INC  
 SOUTH WINDSOR TOWN OFFICES  
 SOUTHERN CONNECTICUT STATE UNIVERSITY  
 SPECIALTY MINERALS  
 SPORTS AUTHORITY  
 SPRING MEADOWS  
 ST. JOSEPH'S COLLEGE  
 STAMFORD, TOWN OF  
 STAPLES HIGH SCHOOL  
 STEAK-UMM  
 STERLING MACHINE  
 STEVE AND BARRY'S UNIVERSITY SPORTSWEAR  
 STOP & SHOP  
 STRATFORD HIGH SCHOOL  
 SUN FARM  
 TACONIC WIRE  
 TAFT SCHOOL  
 TRINITY COLLEGE  
 TRUMBULL, TOWN OF  
 UCONN  
 UNILEVER HOME PERSONAL CARE  
 UNIVERISTY OF NEW HAVEN  
 UNIVERSITY OF BRIDGEPORT  
 VALLEY TRANSIT  
 VOLUNTOWN TOWN HALL  
 WALGREENS  
 WALLACH SURGICAL DEVICES  
 WEST HAVEN, CITY OF  
 WILLINGTON DOG POUND  
 YALE UNIVERSITY  
 YANKEE DOODLE GARAGE  
 TURBINE ENGINE COMPONENTS  
 VALLEY FINE WINE & SPIRITS

## UI CASE STUDY

### SMALL BUSINESS ENERGY ADVANTAGE

**PATRICK BAKER & SONS**, a family-owned liturgical merchandiser founded in 1965, has its headquarters in Southington, with a branch store in Fairfield. What began as a Hartford-based supply company for churches in the Northeast has, in the last 30 years, expanded to include retail sales outlets and a wholesale catalog division.

The retail store in Fairfield recently completed a lighting upgrade to cut energy costs. "This is an extremely effective way to reduce overhead costs and improve bottom line performance," said Dennis O'Connor, Administrator of UI's Small Business Energy Advantage Program. "Lighting alone can account for 20-35% of a business's total energy use."

The genesis of the project was a cold sales call by Bob Auer of Energy Solutions, a UI-approved vendor. Bob did a free walk-through of the store to identify areas where new technology could improve lighting efficiency, in terms of both energy use and lighting distribution, and then prepared and presented a project proposal to Sean Baker, General Manager of the store.

That proposal not only outlined the work to be done and estimated labor and material expenses, but also introduced Sean to UI's small business program, which would dispense a cash incentive to offset some of the project costs. "From my point of view, the incentive was a very important factor in making the go-ahead decision a 'no brainer,'" Sean said. "At first I thought it was too good—there had to be a catch.

The biggest part of the project, according to Bob Auer, was modifying 89 fluorescent fixtures placed throughout the first- and second-floor retail, storage and common areas. Existing 2x4 recessed fixtures with four T12 fluorescent bulbs and magnetic ballasts were exchanged for two-lamp fixtures with two T8 fluorescents lamps with electronic ballasts and reflectors.

"To do this, we gutted the fixtures, leaving only the housing and lens, rebuilt each fixture by installing new sockets, socket bars, and reduced the wattage of the fluorescent fixtures from 144W to 54W," he said. "We also changed-over the retail display case lighting from typical F34 lamps with magnetic ballasts to F32 lamps and electronic ballasts." Energy Solutions also cut stairway energy use by swapping out the existing two-lamp 60W incandescent fixtures with single lamp 30W decorative circline fluorescent fixtures. The overall 120W to 30W reduction per fixture amounted to lowering energy consumption in this area by 75%. It also equipped the track lighting that highlighted the gift shelves and greeting card racks along the first floor walls.

Another energy-saving initiative was installing occupancy sensors that automatically turned off the lights in the storeroom and employee break room after 10 minutes of non-occupancy. "That alone probably cut energy use in those areas by 90-to-95%," Bob Auer said.

SECTION VI:  
2004-2005  
C&LM  
Fund Budget  
Summary

Conservation and Load Management Fund Programs	2004 Actuals	2005 Projected
<b>RESIDENTIAL</b>		
Residential Retail Lighting	\$ 5,262,528	\$ 4,428,428
ENERGY STAR Appliances (Including Room AC)	1,848,945	1,255,480
Appliance Retirement (Refrigerators & Room AC)	2,314,401	3,681,250
Customer Initiated Projects	294,933	550,000
<b>Total — Consumer Products</b>	<b>9,720,807</b>	<b>9,915,158</b>
Residential New Construction	1,373,965	1,841,432
Residential Heating & Cooling	1,571,496	3,872,000
Low-Income (Energy Care & WRAP) / UI Helps	5,394,223	6,073,149
<b>Subtotal RESIDENTIAL</b>	<b>18,060,490</b>	<b>21,701,739</b>
<b>COMMERCIAL &amp; INDUSTRIAL</b>		
<b>C&amp;I LOST OPPORTUNITY</b>		
Energy Conscious Construction / Energy Blueprint	\$ 9,176,922	\$ 11,168,673
Custom Services	7,192,208	8,056,096
Express Services (Cool Choice & Motors Only)	344,522	312,688
<b>Total — Lost Opportunity</b>	<b>16,713,652</b>	<b>19,537,457</b>
<b>C&amp;I LARGE RETROFIT</b>		
C&I RFP	\$ 4,160,033	\$ 3,332,128
Energy Opportunities	2,258,605	2,800,000
O&M (RCx, BOC, RFP)	1,118,149	3,574,802
Express (Lighting Rebate)	564,056	827,312
Municipal Energy & Schools	7,343,737	2,411,000
<b>Total — C&amp;I Large Retrofit</b>	<b>15,444,580</b>	<b>12,945,242</b>
Small Business	4,107,976	4,603,000
Alternative Standard Offer (ATSO)	—	250,000
<b>Subtotal C&amp;I</b>	<b>36,266,972</b>	<b>37,335,699</b>
<b>OTHER — EDUCATION*</b>		
SmartLiving Catalog	\$ 152,463	\$ —
SmartLiving Center and Displays	431,499	678,085
eEsmarts (K - 12 Education)	284,837	570,466
Residential Audits—Non WRAP	14,316	30,000
Community Based Program (SWCT)	140,873	345,641
<b>Subtotal Education</b>	<b>1,023,988</b>	<b>1,624,192</b>
<b>OTHER — PROGRAMS/REQUIREMENTS</b>		
Institute for Sustainable Energy (ECSU)	\$ 839,035	\$ 766,000
Energy Conservation Loan Fund	185,296	209,250
Heat Pump Water Heaters (Hot Shot/WSaver)	148,854	200,000
C&LM Loan Defaults	139,710	75,000
<b>Subtotal Programs/Requirements</b>	<b>1,312,895</b>	<b>1,250,250</b>
<b>OTHER — LOAD MANAGEMENT</b>		
ISO Load Response Supplemental Payments	\$ —	\$ 125,000
ISO Load Response Program Support	173,454	513,119
Demand Reduction	118,454	400,000
Power Factor	43,000	854,000
"Wait 'til 8"	383,190	200,000
<b>Subtotal Load Management</b>	<b>718,098</b>	<b>2,092,119</b>
<b>OTHER — RENEWABLES &amp; RD&amp;D</b>		
Renewables Incentives	\$ 9,668	\$ 550,000
Research, Development & Demonstration	1,123,525	1,265,860
<b>Subtotal Renewables &amp; RD&amp;D</b>	<b>1,133,193</b>	<b>1,815,860</b>
<b>OTHER — ADMINISTRATIVE &amp; PLANNING</b>		
Administration	\$ 1,212,273	999,759
Planning and Evaluation	1,285,425	3,019,511
Information Technology	955,382	2,323,036
ECMB	161,662	510,000
Audit	—	150,000
Performance Management Fee	5,268,035	3,569,471
<b>Admin/Planning Expenditures</b>	<b>8,882,777</b>	<b>10,571,777</b>
<b>PROGRAM SUB-TOTALS</b>		
<b>Residential</b>	<b>\$ 19,687,344</b>	<b>\$ 23,730,436</b>
<b>C&amp;I</b>	<b>36,855,300</b>	<b>39,507,563</b>
<b>Other</b>	<b>10,855,005</b>	<b>13,153,637</b>
<b>TOTAL C&amp;LM BUDGET</b>	<b>67,397,649</b>	<b>75,560,386</b>
Transfer to State Fund	\$ 12,000,000	\$ 6,800,000
Estimated Funds Carried Forward	—	(20,455,302)
<b>TOTAL</b>	<b>\$ 79,397,649</b>	<b>\$ 61,905,084</b>

\* OTHER - EDUCATION IS PRIMARILY ALLOCATED TO RESIDENTIAL PROGRAMS.  
TOTALS VARY DUE TO ROUNDING

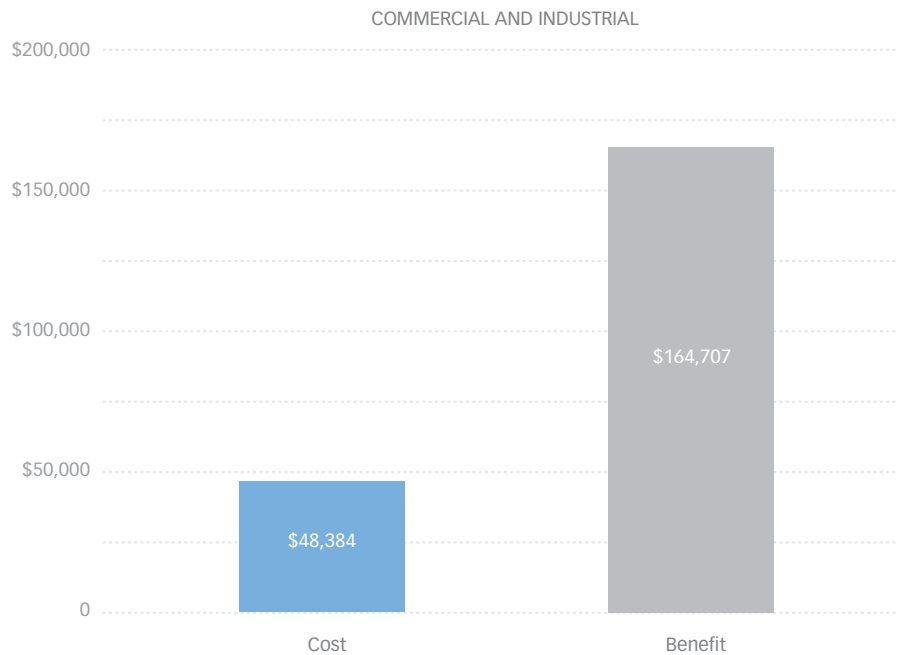
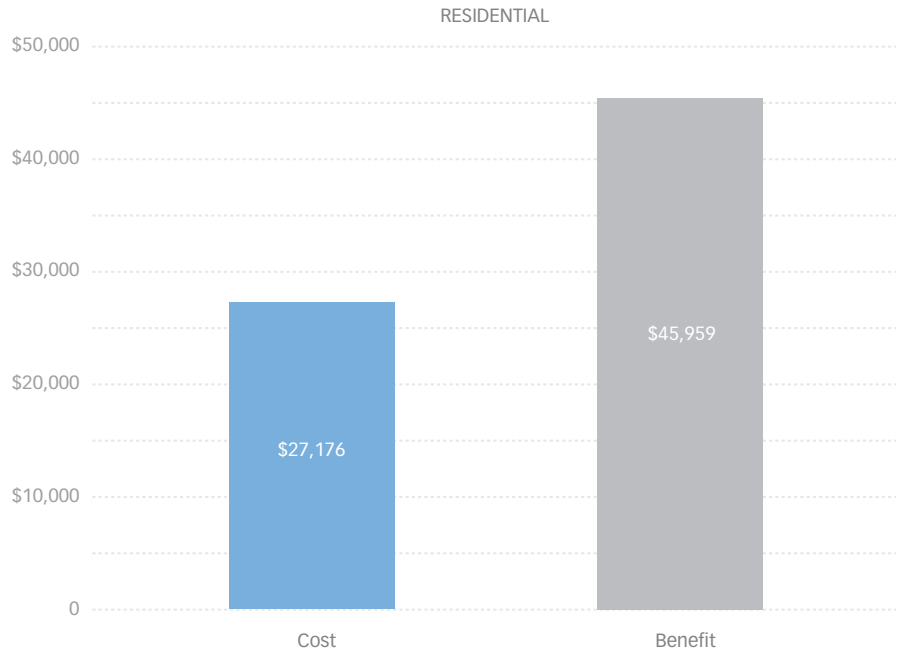
# Benefits of Connecticut's Conservation Programs Far Exceed Costs

Chart H: 2005 Program  
Benefit/Cost Ratios

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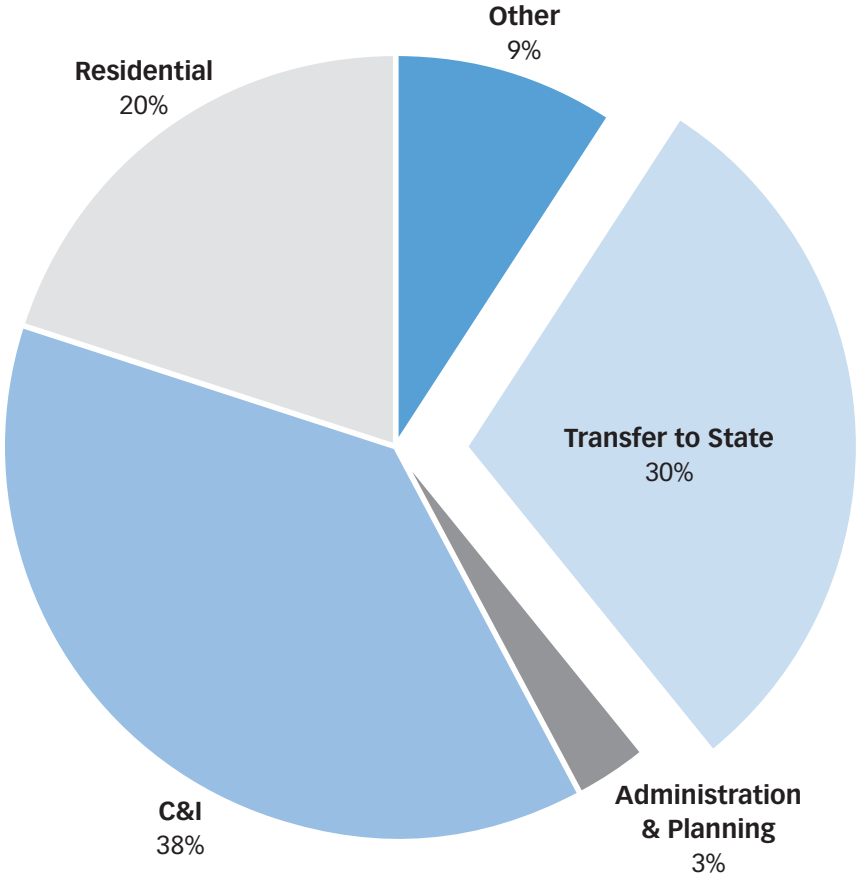
*Conservation and Load Management Fund programs provide approximately \$3 in benefits for every dollar invested at a cost of approximately \$.02 to \$.05 per lifetime kWh delivered.*

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# Connecticut C&LM Fund Budget Allocations

Chart I:  
2004 Actuals



2004 "TRANSFER TO STATE" INCLUDES FUNDS DIVERTED TO THE STATE'S GENERAL FUND UNDER PA 03-02, 03-06.



## SECTION VII: C&LM Fund Program Summary for 2005

RESIDENTIAL PROGRAMS			
PROGRAM	TARGET MARKET	INCENTIVE	PROGRAM FEATURES
<b>ENERGY STAR® Retail Products</b>	All residential customers.	Point-of-sale retail promotions, special events and a mail order lighting component. Designed to influence customer buying decisions for energy-efficient bulbs, fixtures and appliances.	Promotion and education of ENERGY STAR lighting and appliance products to residential customers and retailers.
<b>Appliance Retirement</b>	Residential customers in southwestern Connecticut.	Free pick-up of working but inefficient secondary refrigerators and freezers. Retail component for room air conditioners will have rebates to replace existing/working units with an ENERGY STAR model.	Promotion and education of ENERGY STAR appliances to residential customers in southwestern Connecticut. Provide environmentally appropriate demanufacture and recycle of inefficient appliances.
<b>Residential Customer Initiated Projects</b>	Any customer, organization, group or individual who contracts with the Companies to provide energy savings for an approved residential project with a minimum \$25,000 project incentive request.	Incentives are intended to be market-driven in that bidders (or potential participants) request the incentive level that is needed to implement a retrofit or replacement energy-efficient project.	Competitive procurement of bids from residential customers, ESCos, and trade allies for implementation.
<b>Residential New Construction</b>	Residential customers with newly constructed homes statewide.	Incentives for high-efficiency HVAC equipment, home performance and energy-efficient lighting products.	Builder training, home inspections and rebates for electric energy-saving equipment and measures.
<b>Residential Heating &amp; Cooling</b>	Residential customers installing central air conditioning.	Prescriptive incentives for installing energy-efficient central air conditioners and heat pumps. Additional incentives for these systems if they are performance tested (tune-up/commissioning).	Seminars for installation contractors and equipment incentives for installation or servicing of energy-efficient central air conditioning or heat pumps.

CALL 1-877-WISE-USE FOR ADDITIONAL INFORMATION.

# C&LM Fund Program Summary for 2005

COMMERCIAL & INDUSTRIAL (C&I) PROGRAMS			
PROGRAM	TARGET MARKET	INCENTIVE	PROGRAM FEATURES
<b>Energy Conscious Construction/ Energy Blueprint</b>	New C&I buildings, planned remodeling, large renovation projects.	Between 50% - 100% of incremental cost.	Equipment, system and design incentives for installation of energy efficient electric measures.
<b>Express Services (CL&amp;P)</b>	All C&I customers: Lighting: all customers; Motors: up to 200 HP; HVAC: up to 30 tons.	Incentives are prescriptive and typically pay 100% of incremental cost.	Simple, expeditious application process.
<b>C&amp;I RFP</b>	C&I customers with an average demand greater than 200 kW & residential customers.	Bidder requests incentive as part of competitive process.	Competitive procurement of bids from C&I customers, ESCos, and trade allies for studies and implementation.
<b>Custom Services (CL&amp;P)</b>	All C&I customers.	Typically 100% of incremental cost (prescriptive or "Upgrade" incentives) or 50% of installed cost ("Add-On" incentives).	Focused studies for customers who have a specific project in mind. Incentives are paid for those measures that are cost-effective. Implementation of these measures is by the customer.
<b>PRIME (CL&amp;P)</b>	Industrial manufacturers with average demand of 350 kW to 1500 kW.	100% of event contracted cost.	Focused study of manufacturing processes for increased manufacturing efficiency and reduced energy consumption.
<b>O&amp;M Services (CL&amp;P)</b>	All C&I customers.	Up to 50% of installed cost, 100% in southwestern Connecticut.	Focused studies of Operation and Maintenance processes for increased efficiency and reduced energy consumption. Incentives are paid for those measures that are cost-effective.
<b>O&amp;M RFP</b>	All C&I customers.	Program provides information and training. Direct incentives will result from the energy efficiency projects that are developed.	Implementation of two, third-party programs which will lead to sustained energy savings in facility O&M.
<b>Retro-commissioning Pilot</b>	Select group of five customers.	Incentives will be provided to cover 100% of approved investigation and implementation costs.	Determining the dynamics (energy-savings potential, costs and programmatic development issues) of Retrocommissioning energy efficiency services.

CALL **1-877-WISE-USE** FOR ADDITIONAL INFORMATION.

# C&LM Fund Program Summary for 2005

COMMERCIAL & INDUSTRIAL (C&I) PROGRAMS (Continued)			
PROGRAM	TARGET MARKET	INCENTIVE	PROGRAM FEATURES
<b>Small Business Energy Advantage</b>	All C&I customers, excluding municipal and government accounts – up to 200 kW (CL&P) and up to 150 kW (UI) of average peak demand.	Prescriptive incentives - Lighting: Capped at 50% of installed cost; HVAC: Prescriptive O&M incentives; Refrigeration: Capped at 50% of installed cost.	On-site assessment and installation of cost-effective electric energy measures. Zero percent loan available to qualified customers for customer costs.
<b>Energy Opportunities (UI)</b>	All C&I customers, excluding municipal accounts – greater than 150 kW of average peak demand.	Variable cash incentives capping at 50% of the installed costs.	Program encourages customers to retrofit their facilities with cost effective energy-efficient equipment and technologies. Services are designed to meet the needs of the individual customer.
OTHER PROGRAMS			
<b>SmartLiving™ Center and Museum Partnership</b>	Residential customers and their families, educators/students, homeowners, home buyers, architects, builders, designers, trade allies and businesses.		CL&P's "museum partnership" will incorporate C&LM Fund program materials and messages into activities, interactive displays and permanent exhibits at existing facilities, such as museums, science centers and other high traffic public venues. UI's existing facility in Orange will continue to be fully utilized for schools, groups and the general public.
<b>eEsmarts™</b>	Boards of Education, school principals, teachers, and parents as a way of reaching and educating Connecticut schoolchildren.		Develop an energy-efficiency ethic among youngsters encouraging both students and their parents to incorporate energy conservation practices into their schools and homes. Provide follow-up support to participating schools/teachers.

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# C&LM Fund Program Summary for 2005

OTHER PROGRAMS (Continued)			
PROGRAM	TARGET MARKET	INCENTIVE	PROGRAM FEATURES
<b>Residential Audits</b>	Non low-income residential customers using electric or oil heat.		On-site home energy audits, including low-cost, unbiased, fuel neutral, information on ways to lower energy consumption. Cost-effective lighting and electric water heating measures (low-flow shower heads, pipe wrap, etc.) are also offered.
<b>Community Based</b>	Government officials, educational groups, economic development organizations, business groups, retailers, trade allies and civic organizations with the town(s).	Financial incentives are provided via the array of other C&LM Fund programs.	To increase energy efficiency awareness throughout the communities, increasing participation in all of the Companies' conservation programs and to transform the communities from passive consumers of energy to informed consumers of a finite resource.
<b>Low Income (WRAP &amp; UI Helps)</b>	Low-income residents with incomes at or below 200% of the Federal Poverty Guideline.	Full incremental cost of conservation measures.	Provides thermal weatherization, efficient lighting, domestic hot water measures, heating system replacements and repairs (via Community Action Agencies and/or WRAP) and the replacement of qualifying high-energy-use refrigerators and/or room air conditioners.
<b>Municipal (CL&amp;P)</b>	All municipal buildings.	Up to 50% of installed cost. Incentives may include zero percent financing options as well.	Installation of all cost-effective electric energy conservation measures. Zero percent financing is available for qualifying projects. Services are specifically designed for municipal needs.
<b>Municipal Energy (UI)</b>	All municipal buildings.	EO incentive structure is used. Incentives may include zero percent financing options as well.	Installation of cost-effective electric energy conservation measures. Zero percent financing is available for qualifying projects. Services are specifically designed for municipal needs.
<b>Energy Conservation Loan</b>	Owners of single and multi-family buildings, having an average annual income below 150% of the median income in Connecticut.	Low-interest loans for residential energy conservation work.	State-administered loans granted to finance installations of energy conservation measures.

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# C&LM Fund Program Summary for 2005

OTHER PROGRAMS (Continued)			
PROGRAM	TARGET MARKET	INCENTIVE	PROGRAM FEATURES
<b>Conservation &amp; Load Management Fund Financing</b>	C&I customers, small business customers, municipalities and the residential sector through the Customer Initiated Projects Program.	Offer zero-percent financing and allow the customer's share of project cost can be paid in tandem with his or her utility bill.	To provide zero-percent or interest-free financing to the Companies' small business and municipal customers and participants of CL&P's Residential Customer Initiated Projects program enabling these customers, in conjunction with the existing incentive offerings, to implement cost-effective energy-efficiency projects.
<b>Small Industrial &amp; Commercial Conservation Loan (CL&amp;P)</b>	Smaller industrial customers, defined as less than 100 employees. Small commercial customers, defined as having an average kW demand of 350 or less over the past 12 months.	Zero-percent financing.	Interest-free loan at \$5,000 minimum up to a maximum of \$100,000 per customer for energy-efficient equipment replacements only.
LOAD MANAGEMENT PROGRAMS			
<b>ISO-NE Load Response Program Support</b>	All C&I customers with at least 100 kW of curtailable load.	The incentive budget for 2005 will be used for recorder installation payments made to new program participants.	Maintain the ability of participants to reduce load during periods of system capacity deficiency or high wholesale electric energy pricing.
<b>Power Factor Improvement (CL&amp;P)</b>	CL&P customers who are provided electricity through Rate 57 and Rate 58 tariffs that have 12-month average power factors below the approved qualification thresholds.	Incentives for qualifying projects will be 50% of the cost for improving 12-month average power factor values from their existing level to the revenue neutral value.	Technical and financial incentive support for improvement of power factor at qualifying facilities.
<b>Demand Reduction (CL&amp;P)</b>	C&I customers who are capable and willing to control kW demand during peak times through real-time monitoring and control.	Incentives for qualifying projects will be the lesser of \$500/kW or 50% of installed cost in southwestern Connecticut and \$300/kW or 50% of installed cost outside of southwestern Connecticut.	Incentives for cost-effective projects which provide peak load kW (or kW and kWh) reductions in commercial, industrial and large residential complex applications.
<b>Renewable Incentives</b>	All customers.	Incentives provided on a case-by-case basis including photovoltaic, wind, and fuel cell applications, which involve an overall electric energy efficiency improvement for the site.	Promotion of renewable energy.

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## SECTION VIII: Issues for 2005

### GOVERNOR'S WORKING GROUP ON ENERGY CONSERVATION IN GOVERNMENT BUILDINGS

The state government is Connecticut's single largest energy consumer. In 2004, Governor M. Jodi Rell formed a Working Group on energy conservation to create a future energy conservation plan for all state government buildings. A state energy conservation program would increase the energy security and reduce the energy costs and environmental impact of Connecticut government operations by promoting energy efficiency, water conservation, use of distributed and renewable energy, and sound utility management decisions in all state government buildings. In 2004, the Energy Conservation Management Board collaborated with the Governor's Working Group to assist in drafting an energy conservation plan for state government buildings. The ECMB foresees its continued involvement with the Governor's Working Group in 2005.

### RISING ENERGY COSTS

The ECMB will work in 2005 to reduce the negative impacts on Connecticut's electricity customers due to rising energy costs. Connecticut's Conservation and Load Management Fund programs can serve to mitigate rising energy costs for all customers: small businesses, residents, manufacturing and large commercial operations. However, continued and full funding of Connecticut's Conservation and Load Management Fund programs is necessary for energy conservation programs to work properly in benefiting all Connecticut electricity customers.

### LOW-INCOME CUSTOMERS

The ECMB plans to continue its efforts in ensuring that low-income customers receive a fair benefit from the Connecticut Conservation and Load Management Fund. With energy costs rising, the ECMB is concerned that low-income households will suffer financial hardships due to high energy bills. The ECMB plans to continue partnering with state agencies, particularly the Department of Social Services, to protect these vulnerable households through energy assistance and weatherization programs.

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CONSERVATION AND LOAD MANAGEMENT FUND  
PROGRAMS ARE FUNDED BY THE CONSERVATION CHARGE  
ON CUSTOMER BILLS

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