

Case 07-M-0548 – Energy Efficiency Portfolio Standard

**Energy Efficiency Program Best Practices
Case Studies**

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DRAFT

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1. Residential New Construction Programs

(i) California Energy Star Homes

Provider:

Pacific Gas and Electric, Southern California Edison, Southern California Gas Company, San Diego Gas & Electric Company

Geographic Scope: California

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Rewarding collaboration with developers, energy consultants, and Home Energy Rating Systems raters.	X	X	X
Night ventilation systems to use outside air for cooling.	X	X	
Education on the benefits and design specifications of tank-less gas water heaters , a new/emerging technology that has the potential to reduce water waste by 90%.		X	X
Quality HVAC equipment , including installation and tune-up services.	X	X	
Appliance packages that include high efficiency refrigerators, clothes washers, dishwashers, and gas clothes dryers.	X	X	X
High efficiency lighting in high utilization areas.	X		
High efficiency furnaces , which account for the highest usage of natural gas in the residential sector.		X	
Ceiling, wall, and floor insulation.	X	X	X

Decision maker:

Property owners and developers of residential single and multi family homes

Supply Chain:

Developers, builders, contractors, and trade associations

Participation Method:

Builders apply prior to start of construction. Projects must implement energy efficiency measures that are at least 15% more efficient than California’s Energy Efficiency Standards for New Construction (Title 24).

After approval, a project is passed along to the California Home Energy Efficiency Rating Service (CHEERS). CHEERS sets up an inspection schedule with a Home Energy Rating System (HERS) rater. The HERS rater checks in periodically through construction process and provides final approval before a request for payment can be submitted.

Financial Incentives:

- Prescriptive rebates
- Custom rebates
- Rebates for performance services (such a HERS rater)

Sample Incentives:

Measure	Rebate Amount
Performance:	
Developer (single-family)	\$400-\$500 per unit
Developer (multi-family)	\$150-\$200 per unit
Energy Consultant	\$50 per unit
HERS Rater	\$60 per unit
Appliance:	
Hardwired High Efficacy Interior Lighting Fixtures w/ Controls	\$10 per fixture
Energy Star Refrigerators	\$50 per unit
Natural Gas Dryers	\$50 per unit

Marketing and Business Development:

The program has an extensive partnership with the Heschong Mahone Group, Inc. (HMG), which helps to offer developer rebates, verification rebates, design team rebates, design assistance, sales staff training, as well as engineering analysis of design option paybacks and energy savings. Outreach to the California Association of Building Energy Consultants (CABEC) and the American Institute of Architects (AIA) also exist.

Other methods include intranet websites, public websites, direct mail, trade publications, and direct outreach to interested parties.

Information Management:

A sophisticated system that maintains information on:

- Basic project attributes (location, square footage, contact info etc.)
- Energy efficiency performance relative to Title 24
- Incentive payments
- Legal documents, like signed agreements and applications

The depth and breadth of information allows complex analysis of savings and project completion attributes. It also streamlines and automates a range of functions, such as audit trails providing status updates to builders and maintaining audit trails.

Technical Assistance:

The program offers an extensive range of free classes and seminars at several locations. The classes target various sectors of the construction process, including architects/designers, contractors, suppliers, consultants, inspectors, owners, and operators.

Extensive design assistance is offered through partnerships with organizations like HMG and CABEC.

Delivery:

Builders, with a target incentive level of 60% of incremental costs

Quality Assurance:

HERS raters inspect buildings on a regular basis during the construction process. One out of every seven homes must be inspected for subdivision development.

Sources:

HMG's main website:
www.h-m-g.com/multifamily/CMFNH/default.htm

PG&E's efficient new homes website:
www.pge.com/res/energy_tools_resources/efficient_new_homes/info_for_builders/

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, *California Energy Star New Homes Program, R87*. Prepared by Pacific Gas & Electric

(ii) Built Smart (Multi-Family)

Provider: Seattle City Lights (SCL), Washington

Description:

The Built Smart program has been running for over 7 years and consists of comprehensive specifications, a rigorous inspection process, and generous incentive packages meant to guide the construction of new energy efficient, multi-family homes. The program integrates best practices and rebates along with an extensive partnership with builders, architects, and developers. Build Smart offers a particularly wide range of rebates for insulating floors, ceilings, and walls, installing energy efficient windows, and even energy efficient elevators.

Marketing materials emphasize cost savings to the developers and residents of Built Smart homes. Support is available at every level from planning to execution.

Targets:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Energy and water efficient clothes washers .	X		X
Healthy ventilation and high-efficiency thermostats .	X	X	
Long lasting, energy efficient lighting .	X		
Energy-saving windows .	X	X	
Extra insulation in floors, walls, and ceilings.	X	X	

Sample Incentives:

Measure	Rebate Amount
Hardwired exterior fixture connected to house meter and controlled by a photocell	\$30 per fixture
Energy efficient washing machine	\$50-\$100 per unit
U-30 grade windows	\$0.57-\$0.70 per square foot
R-21 int insulated walls	\$0.04-\$0.10 per square foot
Built Smart inspection	\$.08 per square foot

Sources:

Seattle Built Right Website:
www.seattle.gov/light/conserves/resident/cv5_bs.htm

2. Residential HVAC Programs

(i) WARMAdvantage and COOLAdvantage Programs

Providers:

New Jersey Utilities, New Jersey’s Clean Energy Program, State of New Jersey Board of Public Utilities, State of New Jersey

Geographic Scope: New Jersey

End Use Technologies:

Technology	Targeted Resource Savings			Rebate
	Electricity	Gas	Water	
WARMAdvantage				
ENERGY STAR® Furnace		X		\$300
ENERGY STAR® Furnace w/ Electronic Commutated Motor or equivalent		X		\$400
ENERGY STAR® Boiler		X	X	\$300
COOLAdvantage				
Central Air Conditioner	X			\$300-\$400
Heat Pump	X	X		\$350-\$450

Decision maker: Residential customers of NJ utilities

Supply Chain: Contractors

Participation Method:

Rebates are provided submission of a small application and proof of purchase. The homeowner or contractor can claim the rebate.

Financial Incentives: Prescriptive rebates

Marketing and Business Development:

Newsletters, brochures, catalogs, distribution of rebate forms on site visits, and direct coordination with manufacturers and contractors

Information Management:

Third party tracking system to facilitate cooperation of various providers

Technical Assistance: Provided through contractors and brochures

Delivery: Existing supply chain

Quality Assurance:

- 10% of electrical systems have a field inspection
- 100% of geothermal devices have a field inspection

Sources:

COOLAdvantage website:
www.njcleanenergy.com/residential/programs/cooladvantage/cooladvantage-program

WARMAvantage website:
www.njcleanenergy.com/residential/programs/warmadvantage/warmadvantage

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, *Residential HVAC, R22*. Prepared by Pacific Gas & Electric

(ii) Residential Rebates

Provider: Pacific Gas and Electric Company (PG&E)

Geographic Scope: PG&E service area

End Use Technologies:

Technology	Targeted Resource Savings			Rebate
	Electricity	Gas	Water	
ENERGY STAR® Qualified Room Air Conditioners	X			\$50
Air-conditioning Duct Sealing	X	X		up to \$600
ENERGY STAR® Qualified Central Natural Gas Furnaces		X		\$200-\$300
Variable Speed Motor Air Handler Systems	X	X		\$50
Whole House Fans	X	X		\$100

Decision maker: Residential customers of PG&E

Supply Chain: Contractors and retailers

Participation Method:

Rebates are provided submission of a small application and proof of purchase. The homeowner or contractor can claim the rebate

Financial Incentives: Prescriptive rebates

Marketing and Business Development:

The program successfully cooperates with big box retailers through advertising and in-store savings notifications. PG&E maintains a central website with rebate information and application forms.

Information Management:

- Submitted application data is stored and converted into weekly reports
- Application distribution, from mailings and internet downloads, are tracked and used as a leading indicator
- Anecdotal and statistical information is provided to retailers

Technical Assistance: Information is provided on PG&E's website

Delivery: existing supply chain

Quality Assurance:

- 100% of customer installed insulation have a field inspection
- 5% of contractor installed insulation have a field inspection
- Potential random inspection for other applications

Sources:

PG&E's residential rebates website:
www.pge.com/res/rebates/

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, *CA Single Family EE Rebates HVAC, R22*. Prepared by Pacific Gas & Electric

3. Retail Products and Appliances Program

(i) Residential Efficiency Products Program

Provider: Efficiency Vermont

Geographic Scope: Vermont

End Use Technologies:

Mostly ENERGY STAR® certified products:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Energy efficient bulbs, fixtures, touchiers, and lamps	X		
Room air conditioners	X		
Central air conditioners	X		
Dehumidifiers	X		X
Refrigerators and freezers	X		
Clothes washers	X	X	X
Forced hot air furnace with ECM fan motor	X	X	
Programmable thermostats	X	X	

Decision maker: Property owners and managers

Supply Chain: Developers, builders, contractors, and retailers

Participation Method:

Customers benefit from point of sale rebates through participating retailers, downloading coupons for participating retailers, mail-order catalogs, and ordering over the internet.

Financial Incentives: Prescriptive and point-of-sale rebates

Sample Incentives:

Measure	Rebate Amount
ENERGY STAR® room air conditioners	\$25
ENERGY STAR® refrigerators and freezers	\$25-\$40
ENERGY STAR® bulb packs	\$1.50
ENERGY STAR® clothes washers	\$50.00

Efficient lighting fixtures	\$10.00
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Marketing and Business Development:

Regional outreach to retailers, who than stock products and provide point of purchase displays. Through a partnership with Northeast Energy Efficiency Partnership (NEEP), the program markets using TV, radio, newspaper, and press releases. A web presence offering rebates is offered through Efficiency Vermont.

Information Management:

The Conservation Services Group designed a system that tracks rebate information and various performance metric, such as MWH of savings. The access to real time information and market share data is important for the flexibility of the program.

Technical Assistance:

Information is available on Efficiency Vermont’s website and through participating retailers.

Delivery: Customers perform installation and delivery themselves

Quality Assurance:

No on-site inspection process. The bulk of quality assurance comes from the ENERGY STAR® product certification, which occurs upstream.

Sources:

Efficiency Vermont’s rebate website:
www.encyvermont.com/pages/Residential/RebateCenter/

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, *Residential Efficiency Products Program, R13*. Prepared by Pacific Gas & Electric

(ii) Trade Professionals and Residential Lighting Programs

Providers:

Pacific Gas & Energy, Southern California Edison, and San Diego Gas and Electric

Geographic Scope: California

End Use Technologies:

See section 6(i) for a list of the products offered through the utilities retail alliance.

Decision maker: Property owners and operators

Supply Chain: Manufactures, retailers, and wholesalers

Participation Method:

For Lighting products, the savings are passed directly through to the customers via manufacturer buy downs.

For other products vendors may either offer goods or services without taking any rebates, or may directly claim the rebates themselves. All vendors must submit participation agreements and abide by detailed PG&E guidelines before being listed as participating vendors. Those who receive rebates must ensure that the equipment is installed before submitting rebate applications.

Financial Incentives: Prescriptive rebates and manufacturer buy downs

Marketing and Business Development:

Working with upstream manufactures and downstream vendors to pass savings directly to the customer

Information Management:

Each utility tracks the progress and characteristics of prescriptive rebates, and manufactures track the number of bulbs shipped.

Technical Assistance: Outreach through vendors and the websites of utilities

Delivery: The customer purchases and installs the appliances

Quality Assurance:

All vendors must submit participation agreements and abide by detailed guidelines before being listed as participating vendors. Manufactures are required to provide proof that discounted bulbs were shipped. Vendors must prove that discounts were applied to bulbs.

Sources:

PG&E's trade professionals' website:

www.pge.com/biz/rebates/trade_professionals/professionals_resources/index.html

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, CA
Statewide Residential Lighting Program, R14. Prepared by Pacific Gas & Electric

4. Residential Retrofit Program

(i) California Single Family EE Rebates

Provider:

Pacific Gas and Electric, Southern California Edison, Southern California Gas Company, San Diego Gas & Electric Company

Geographic Scope: California

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
HVAC: rebates for heat pumps, central and room air conditioners, thermostats, and furnaces	X	X	
Home Improvement: insulation for walls and attics	X	X	
Appliances: rebates for dish washers, clothes dryers, and water heaters	X	X	X
Pool Pumps	X		X

Decision maker:

Property owners and developers of residential single and multi family homes

Supply Chain: Contractors and retailers

Participation Method:

Customers get approval for projects from their respective utility. After the project is complete, they submit the application with receipts and receive a payment from the utility.

Rebates are offered at the point of sale for thermostats.

Financial Incentives: Prescriptive rebates and point of sale rebates

Sample Incentives:

Measure	Rebate Amount
Gas Furnace	\$200
Wall Insulation	\$0.15 per square foot

Marketing and Business Development:

The program advertises in cooperation with big box retailers and through bill inserts, radio, and newspaper. To spread information about the pool pump rebates, a demonstration trailer was developed that visits trade group shows and organizations. A significant web presence is also maintained.

Information Management:

Application data and leading indicators (website hits, application mailings, application downloads etc.) are tracked.

Technical Assistance:

Provided by retailers, contractors, and through the websites of utilities

Delivery: Contractors and customers purchase and install the products

Quality Assurance:**Quality Assurance:**

- 100% of customer installed insulation have a field inspection
- 5% of contractor installed insulation have a field inspection
- Independent evaluator performs random inspections of the tracking system

Sources:

Best Practices Benchmarking for Energy Efficiency Summary Profile Report *CA Single Family EE Rebates, R24E* Prepared by Pacific Gas & Electric

(ii) Ontario Home Energy Retrofit Program (Single/Multi-Family)

Provider: Ontario Ministry of Energy, Natural Resources Canada

Description:

This five-year program was launched in June 2007 with a budget of CAD \$88 million and a two-pronged goal: to reduce energy consumption and to decrease the production of greenhouse gases. Owners of residential property who want to increase the energy efficiency of their property can qualify for up to CAD \$5,000 in reimbursements.

A licensed energy advisor completes an initial inspection and provides the homeowner with a specialized report outlining ways to save energy, as well as information on the grant amounts available for various measures. The report is submitted to Natural Resources Canada and, after approval, the homeowner is

reimbursed for up to CAD \$150 for the cost of the initial audit. The homeowner then has 18 months to complete the approved recommendations. A final verification audit is required, after which the auditor submits the paperwork for the grants on the homeowner's behalf.

The program provides homeowners with clear cost/benefit analysis and a direct plan of action with minimum paperwork. Audits are provided on the local level through Natural Resources Canada's network of energy advisors.

Targets:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Heating Systems: covers installation of electronic thermostats and ENERGY STAR® air-source heat pumps as well replacement with energy efficient oil/gas furnaces, oil/gas boilers, and wood-burning appliances.	X	X	X
Ventilation System: covers installation of a qualified heat recovery ventilator.		X	
Cooling System: covers replacement with ENERGY STAR® central and single unit air conditioners.	X		
Domestic Hot Water System: covers installation of solar domestic hot water systems and drain-water heat recovery systems as well as replacement of domestic hot water heaters with instantaneous gas water heaters or condensing water heaters.		X	X
Insulation: improving insulation in attics, exterior walls, basements, basement headers, and crawl spaces, along with air sealing homes.	X	X	
Doors/Windows/Skylights: covers replacement with ENERGY STAR® models.	X	X	
Toilets: covers replacement with low-flush or dual-flush toilets.			X

Sample Incentives:

Measure	Rebate for Single Family Home		Rebate for Five Unit Residential
	1st System	2nd System	
Replace heating equipment with an ENERGY STAR® qualified gas furnace	CAD \$500	CAD \$250	Same as single family per building
Installing a heat recovery ventilator	CAD \$300	n/a	CAD \$300 per equipment installed
Replace central air conditioner with an ENERGY STAR® qualified central air conditioner	CAD \$200	n/a	CAD \$200

Install a solar powered domestic hot water system	CAD \$500	n/a	CAD \$500
Insulate 100% of the roof area to a minimum insulation value of RSI 7 up to R-12	CAD \$400	n/a	CAD \$600
Replace toilet with a low-flush or dual-flush model	CAD \$50 / unit	CAD \$50 / unit	CAD \$50 / unit

Sources:

NRCAN's website:
oee.nrcan.gc.ca/english/index.cfm?attr=4

Residential retrofit information from the Canadian Ministry of Energy:
www.energy.gov.on.ca/index.cfm?fuseaction=conservation.homeretrofit

5. Commercial/Industrial Construction Program

(i) New Construction Program

Provider: NSTAR Gas & Electric

Geographic Scope: Massachusetts

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
HVAC	x	x	
Lighting	x		
Water Heating		x	
High Efficiency Motors	x	x	
Building Envelope	x	x	
Refrigeration	x		

Decision maker: Non-residential developers and owners

Supply Chain:

Manufactures, developers, wholesalers, distributors, retailers, architecture firms, and engineering firms

Participation Method:

The first method that developers can utilize is a prescriptive method, where developers choose from a menu of predetermined incentives and receive rebates upon verification of implementation.

The other method is a broader custom incentive package. Developers work closely with the utility and third parties to design and execute a substantial and complex package of energy efficiency measures. The rebates are based on the level above energy efficiency codes that the project achieves. Special incentives are in place for projects utilizing a comprehensive chiller system.

Financial Incentives:

Prescriptive and custom rebates designed to cover 75% of the incremental cost between standard and high efficiency equipment.

Marketing and Business Development:

Since most projects are large, one-on-one communication is the primary method of bringing developers into the process.

Aggressive outreach to the engineering and design community, through meetings, trade publications, and direct mail, ensure their engagement in the process.

Information Management:

There is a tracking system in place for required annual reports. A sophisticated system also tracks the rebate application process for prediction of future demand.

Technical Assistance:

Close interaction with engineering and architecture firms enables customers to incorporate design features from the very start of a project. Contractors are retained by NSTAR to facilitate with some technical assistance and analysis.

Delivery: Existing supply chain

Quality Assurance:

- All projects over \$1,500 receive post-project inspections
- Formal commissioning for more complex custom measures including all controls projects over \$40,000 and all projects over \$100,000

Sources:

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, *New Construction Program, NR86*. Prepared by Pacific Gas & Electric

(ii) Building Efficiency for Commercial Construction

Provider: Idaho Power

Description:

This year, Idaho Power has undertaken an expansion of their Building Efficiency program. The expanded program encourages integrated, responsive energy efficiency design for commercial construction projects. Buildings of any size can qualify for up to \$100,000 in rebates.

Prior to construction, the developer submits a pre-application. Idaho Power provides the qualification details and the final design is left to the developer (with the only exception being the daylight photo control incentive, which needs to be reviewed by the Integrated Design Lab (IDL)). At the end of the construction project, the developer is responsible for submitting applications for rebates along with supporting evidence.

This program provides no direct rebates for design work, but instead promotes, through generous incentives, the construction of buildings with energy management systems that respond to varying levels of demand throughout the structure. Long-term cost benefits to the bottom-line of the finished building serve as the project's main selling point.

Targets:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Lighting: primarily focused on reduced power density lighting, daylight photo controls, occupancy sensors, and high efficiency Exit signs.	X		
HVAC: ranging from basic high efficiency HVAC systems and units that utilize air side economizers to individually designed complex cooling systems.	X	x	x
Building Shell: utilization of reflective roof treatments and varying levels of performance windows.	X	x	
Control: implementation of energy management control systems for lighting, heating, and cooling as well as occupancy demand ventilation control systems and variable speed drives for fans, pumps, and other motors.	x	x	x

Sample Incentives:

Measure	Rebate Amount
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Wall-mounted occupancy sensors, installed where not required by building code	\$25 per sensor
Custom Complex Cooling Systems	\$250 per ton of air conditioning for each point equipment coefficient of performance exceeds code requirements
Windows with a Visible Light Transmittance of 0.50 or greater	\$1 per square foot
Energy management system for light, heating, and cooling	\$0.30 per square foot of controlled floor space

Resources:

www.idahopower.com/buildingefficiency

<http://www.uidaho.edu/idl/index.htm>

6. Commercial/Industrial Equipment Program

(i) CA Statewide Express Efficiency

Providers:

Pacific Gas and Electric, Southern California Edison, Southern California Gas Company, San Diego Gas & Electric Company

Geographic Scope: California

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Agriculture: rebates for greenhouse heat curtains, infrared film for greenhouses, low pressure sprinkler nozzles, conversion from sprinkler to drip irrigation, and wine tank insulation.	X	X	X
Appliances and General Improvement: rebates for improved attic and wall insulation, electric storage water heaters, high efficiency clothes washers, dishwashers, room air conditions, and installation of reflective film.	X	X	X
Business Computing: rebates for network PC power management software and plug load occupancy sensors.	X		
Boilers and Water Heating: rebates for commercial boilers, commercial pool heaters, direct contact water heaters, instantaneous water heaters, installation of pipe insulation, process boilers, space heating boilers, steam trap replacements, storage water heaters, and installation of tank insulation.		X	X
Food Service: rebates for various commercial ovens, fryers, refrigerators, freezers, ice machines, steam cookers, griddles, and insulated holding cabinets.	X	X	X
HVAC: rebates for advanced evaporative coolers, AFUE central natural gas furnaces, package terminal air conditioners and heat pumps, variable frequency drives for fans, and variable speed motor air handler systems.	X	X	X
Lighting: rebates for a wide range of energy efficient fixtures, lamps, accents/directional lighting, signage, and controls.	X		

Refrigeration: rebates for a range of insulation methods, energy efficient models, and controls including (but not limited to) auto-closers for reach-in cooler or freezer doors, door gaskets on glass doors, strip curtains for walk-in boxes, and new high efficiency refrigeration display cases with doors.	x		
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Decision Maker: Property owners and managers

Supply Chain: Contractors, wholesalers, and distributors

Participation Method:

Customers redeem rebates by filling out a short application form and providing proof of purchase.

Financial Incentives: Prescriptive rebates

Sample Incentives:

Measure	Rebate Amount
Conversion from a high-pressure, impact-type, sprinkle system to a micro-irrigation system	\$44 per acre
Electric storage water heater	\$30 per unit
Network PC power management software	\$15 per PC
2" insulation on hot water pipes	\$3 per linear foot
Gas commercial single rack oven	\$1,000 per oven
94 AFUE central natural gas furnace	\$300 per unit
Interior 100-399 watt compact fluorescent light fixture	\$20 per fixture
Efficient evaporator fan motor	\$20 per motor

Marketing and Business Development:

The program employs four channels for marketing:

- One-on-one contact, such as customer service representatives and account executives responsible for relationship management with vendors
- Promotional materials, like brochures and bill inserts
- Delivery methods, such as direct mail, targeted emails, and conferences
- Web tools and partnerships with other organizations

Information Management:

- Real time data base to track application information managed through a central group
- Tracking system to determine the speed of fund commitments

Technical Assistance:

Utilities help smaller businesses to develop energy efficiency plans. Most of technical assistance disseminated through the web and through partnerships with vendors.

Delivery: Existing supply chain

Quality Assurance:

- 20% of applications for over \$2,500 receive a visual inspection
- All applications require telephone confirmation

Sources:

PG&E's rebate assistance website:

www.pge.com/biz/rebates/rebates_assistance/index.html

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, CA
Statewide Express Energy Efficiency, NR86 Prepared by Pacific Gas & Electric

7. Large/Medium Commercial/Industrial Retrofit Program

(i) Energy Initiative

Provider: National Grid: Massachusetts

Geographic Scope: Massachusetts

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Lighting: a wide range of systems and controls	X		
HVAC: energy management systems, differential enthalpy economizer controls, hotel occupancy sensors, and vending misers	X	X	
Compressed Air: efficient storage and compression systems	X		
Variable Frequency Drives (VFD): for air handler fans and various pumps	X		
Custom Packages	X	X	X

Decision maker:

Facilitators of medium to large commercial, industrial, or government buildings

Supply Chain:

Wholesalers, distributors, retailers, architectural firms, and engineering firms

Participation Method:

Customers can perform upgrades from a menu of prescriptive rebates, and after completing an inspection and filing invoices, receive a rebate payment.

Customers can also opt for a custom approach, which utilizes customized analysis and rebate programs. Design documents require approval before any work can begin. National Grid provides help with technical assistance, commissioning, ballast recycling, and financing.

An accelerated program, which streamlines applications and modifies rebates, is also available.

Financial Incentives:

Prescriptive and custom rebates for up to 45% of project costs

Sample Incentives:

Measure	Rebate Amount
High Intensity Fluorescent Fixtures	\$70-\$120
Hotel Occupancy Sensor	\$75 per sensor
15 - 15 Hp Variable Speed Air Compressor	\$275 per Hp
30 Hp Motor Controlled by a VFD	max \$3,300

Marketing and Business Development:

Directly marketed through seminars, training sessions, and other approaches by National Grid’s account managers

Information Management:

- The central system, tied to accounts payable, tracks projects from pre-approval to approval to completion.
- Various performance metrics as well as annual goals are evaluated from this data

Technical Assistance:

National Grid provides training and technical assistance as well as cash incentives to design teams for successful implementation of energy efficient design

Delivery:

Contractors engaged by customers

Quality Assurance:

- Prescriptive measures require post-installation inspection
- Mini-commissioning for custom projects
- Custom projects over \$100k have third-party commissioning

Sources:

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, CA *Statewide Express Efficiency, NR12* Prepared by Pacific Gas & Electric

National Grid Energy Initiative website:
www.nationalgridus.com/masselectric/business/energyeff/4_existing.asp

8. Small Commercial/Industrial Retrofit Program

(i) CA Statewide Express Efficiency

Provider:

Pacific Gas and Electric, Southern California Edison, Southern California Gas Company, San Diego Gas & Electric Company

Geographic Scope: California

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
HVAC	X	X	
Lighting and LEDs	X		
Motors	X	X	
Refrigeration	X		
Agriculture	X	X	X

Decision maker:

Non-residential customers with an average electricity usage of less than 500 kW per month

Supply Chain:

Wholesalers, suppliers, and contractors for energy efficient products

Financial Incentives:

Prescriptive rebates for up to \$25,000 per customer

Marketing and Business Development:

Vendor driven through one-on-one contacts, promotional information distribution (through journals, brochures, emails, direct mail etc.), conferences, and third party tools (websites, local government, professional contacts etc.)

Information Management:

- Real time database of application information maintained by the central processing group
- Reservation system to track utilization of funds

Technical Assistance:

Vendors provide assistance in design and installation of upgrades

Delivery:

Vendor based, and enhanced with quick turnaround for rebate applications

Quality Assurance:

- Invoicing required
- Telephone verification
- Applications for over \$2,500 require an on-site visual inspection
- A random on-site visual inspection is performed on 20% of the applications for less than \$2,500 in rebates

Sources:

Best Practices Benchmarking for Energy Efficiency Summary Profile Report, CA *Statewide Express Efficiency, NR12* Prepared by Pacific Gas & Electric.

(ii) Small Business Solutions, Energy Advisor

Provider: National Grid Massachusetts

Geographic Scope: National Grid Massachusetts' service area

End Use Technologies:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Lighting upgrades	X		
Energy efficient time clocks	X		
Photo cells for outdoor lighting	X		
Occupancy sensor	X		

Walk-in cooler measures	X		
Programmable thermostats	X	X	

Decision maker:

Non-residential customers of National Grid Massachusetts with an average demand use of 200 kW per month

Supply Chain: Contractors

Participation Method:

A free audit is performed by National Grid, after which National Grid performs the installation of any measures deemed necessary

Financial Incentives:

The client finances 20%-25% of the cost, interest free for up to 24 months, through monthly payments on his or her electric bill.

Marketing and Business Development:

The program is marketed through a direct mailings and telemarketing. A web presence is maintained on National Grid’s website.

Information Management:

A database is maintained to store project metrics from total installations to kWh savings.

Technical Assistance:

Analysis and installation is all performed by National Grid and certified third parties

Delivery:

Products are purchased in bulk and third parties, who submit to a competitive bid process, provide installation.

Quality Assurance:

A percentage of installation is verified.

Sources:

National Grid’s Small business program website:
www.nationalgridus.com/masselectric/business/energyeff/3_small.asp

(iii) Small Business Solutions, Energy Advisor

Provider: NSTAR Massachusetts

Description:

NSTAR runs a program targeted directly at helping small businesses with an average monthly demand of 200 kW or less cut their energy costs. NSTAR performs a free energy audit to identify areas where energy efficiency improvement is possible. Retrofitting costs for lighting and mechanical systems are eligible for up to a 70% reimbursement, and conversions to high efficiency gas systems are eligible for up to a 50% reimbursement. NSTAR works directly with each customer to come up with a plan suitable for his or her needs.

NSTAR’s Energy Advisor website maintains a broad knowledge base of efficiency information for commercial customers. The three main topics covered include specific commercial industry advice (i.e. hotels, schools, supermarkets etc.), operations and maintenance advice, and energy-related purchasing advice.

Targets:

Program	Targeted Resource Savings		
	Electricity	Gas	Water
Upgrades to efficient lighting fixtures	X		
Electronic control systems	X	X	X
HVAC systems	X	X	
Refrigeration	X		
Efficiency upgrades to mechanical systems	X	X	X
Heating equipment , from furnaces to hot water heaters	X	X	

Sources:

NSTAR’s small business solutions website:
www.nstar.com/business/energy_efficiency/electric_programs/small_business_solutions.asp

NSTAR’s gas program website:
www.nstar.com/business/energy_efficiency/gas_programs/custom.asp

NSTAR’s energy advisors website:
http://www.nstar.com/business/energy_advisor/CC_home.asp