



Efficiency Vermont

**ANNUAL PLAN
2009-2011**

**Prepared for the Vermont Public Service Board
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1. Executive Summary

1.1 Introduction

This Annual Plan is submitted by the Vermont Energy Investment Corporation (VEIC) to the Vermont Public Service Board (PSB, or Board), pursuant to VEIC's contract with the Board for delivery of Energy Efficiency Utility services under the name "Efficiency Vermont." The Plan covers activity from 2009 through 2011 and describes:

- Strategies for achieving a high level of electric energy and demand savings throughout Vermont, as well as strategies for targeting geographic areas designated by the Board for concentrated acquisition of electrical demand savings;
- Initiatives directed at achieving energy savings and greenhouse gas reductions through greater efficiency of buildings and systems that use unregulated fuels;
- Other significant initiatives anticipated by Efficiency Vermont in 2009;
- An estimate of the Efficiency Vermont budget for 2009-2011 and;
- An estimate of the societal benefits and costs associated with successful implementation of the Plan.

1.2 Context of the Plan

This Plan responds to the objectives of PSB orders issued in 2008 that direct activity for 2009-2011, including:

- August 29, 2008 – Energy Efficiency Utility Budget for Calendar Years 2009, 2010, and 2011
- November 4, 2008 – Geographic Targeting of Energy Efficiency Utility Funds in 2009 – 2011
- November 10, 2008 - Order Regarding Heating System Replacement Initiative and Energy Auditor and Installer Training
- November 12, 2008 - Order Regarding Comprehensive Home Energy Efficiency Loan Program and Grassroots Community Energy Mobilization Program

Taken together, these orders and the Efficiency Vermont contract allocate funding totaling **\$97.7 million** from revenues derived from the Energy Efficiency Charge and from the ISO-New England Forward Capacity Market for 2009 through 2011. This funding is net of evaluation, contract administration, performance fees, and Burlington Electric Department efficiency activities.

The orders have created two major energy efficiency objectives for 2009-2011. Electrical energy and demand savings will account for \$93.3 million (95.5%), and \$4.4 million (4.5%) shall be used to acquire energy savings of unregulated fossil fuels, in accordance with Act 92. The Board has further directed how the funding is to be allocated within the objectives.

For electrical energy and demand savings, the funding is to be allocated as follows:

- **A base budget of \$48.6 million** in 2009 through 2011 to fund statewide energy efficiency implementation. Efficiency Vermont strategies are designed to meet reasonable levels of statewide equity in the distribution of efficiency benefits among customer groups and across geographic regions.
- **An incremental budget of \$36.6 million** in 2009 - 2011, to fund geographically targeted peak capacity savings (known as “GeoTargeting,” or “GT”).
- **An incremental budget of \$8.1 million above base budget and GeoTargeting** in 2010 to 2011, to be directed toward the most cost-effective energy or capacity savings, regardless of where those opportunities occur in the state.

For unregulated fuel energy efficiency, available funding will be allocated as follows:

- **An incremental budget of \$4.4 million in 2009 - 2011**, to be used in accordance with the directives of Act 92 to save energy and greenhouse gases associated with unregulated fuels.

This plan for Efficiency Vermont, while called an “Annual Plan,” addresses activity throughout the new 3-year contract period from 2009 - 2011. This Plan incorporates feedback and recommendations from several sources, including:

- The Vermont Department of Public Service (DPS, or Department), which conducted market assessments and evaluations;
- Efficiency Vermont’s quality assurance management systems, particularly participant satisfaction and feedback reports; and
- Feedback from business, professional, and trade associations; trade allies; and other groups with which Efficiency Vermont interacts.

This Plan is provided for public review and comment and serves as a draft plan while the PSB holds workshops on it in early 2009. The Plan will be updated in November 2009 for calendar year 2010 and in November 2010 for calendar year 2011.

The strategies and plans for energy efficiency described in this document provide a starting point for the next three years, but will continue to evolve in response to changing market conditions. Some evolving conditions whose outcomes could affect this plan and have not been incorporated into it are:

- Potential new state and / or federal energy efficiency standards that are not in place as of November 30, 2008;
- Specific coordination of efficiency services for unregulated fuels with DPS programs funded by the Regional Greenhouse Gas Initiative (RGGI; e.g., the All Fuels Efficiency Services contract);
- Various evaluations that are being conducted by both the Board or the Department; and
- Dramatic national economic instability and its possible affects on Vermont residents and businesses in 2009-2011.

1.3 Summary of the Plan

1.3.1 **Performance objectives.** The overarching objective of the 2009-2011 Plan is to achieve 100% of the Efficiency Vermont performance goals. Objectives and minimum performance requirements for these goals are presented in **Table 1** and **Table 2**.

Table 1. Efficiency Vermont Performance Objectives 2009-2011

Objective	2009-2011 Performance Goal
Total annual MWh savings	360,000
Total resource benefits ¹ (TRB) (2006 \$)	\$342,400,000
Total summer peak kW savings	51,200
Total winter peak kW savings	54,000
GT summer peak kW savings	8,100
GT winter peak kW savings	2,400

The following minimum performance requirements are to be met or exceeded by December 31, 2011:

Table 2. Minimum Performance Requirements

Minimum Performance Requirement	Standard to Be Met
Ratio of gross electric benefits to spending	1.2
2009-2011 spending for residential customers	\$19,700,000
2009-2011 spending for low-income customers	\$6,307,000
Minimum number of small business customers served	700
Total resource benefits received by each county in Vermont	Specific minimums for each county ²

This Plan maps out strategies for cost-effectively achieving the contract objectives with a target yield of 46.08 MWh per \$10,000 of spending³ and a levelized utility cost of \$0.028 per kilowatt-hour.⁴

¹ TRB at 2006 present value of electricity, fossil fuel, wood, and water savings over the estimated lifetimes of all measures installed during the contract period, valued at avoided cost projections approved by the Board and applied by Efficiency Vermont in 2008, and calculated at a real discount rate of 5.7%.

² Table N-5 of the Efficiency Vermont contract with the PSB.

³ Total annual savings of 360,000 MWh, divided by program spending expressed in 2008 dollars.

⁴ Based on program expenditures and an average energy efficiency measure life of 9.8 years.

1.3.2 **Strategic approaches.** In general, Efficiency Vermont will continue using market-based approaches to take advantage of opportunities for installing efficiency measures when residential or commercial building or equipment-related decisions would normally be made. We will also continue our emphasis on retrofit—i.e., the early replacement or modification of building systems and equipment for the primary purpose of accelerating a customer’s adoption of efficiency improvements.

Efficiency Vermont has developed five major strategies for achieving the significantly higher resource acquisition and targeting objectives established by the Board. A brief summary is provided below and more detailed descriptions are provided in Appendix A.

- **Account management** (see page 31). Customized solutions for the specific business needs of large and mid-sized businesses. Efficiency Vermont will help identify efficiency opportunities and leverage the market resources of design professionals, vendors, and trade allies with financing options and Efficiency Vermont incentives. This strategy includes both retrofit and market opportunities approaches.
- **High-performance partners** (see page 31). Influencing the availability of energy efficiency services and equipment by deepening relationships with wholesale suppliers, vendors, and other professionals operating upstream from end-use customers. Efficiency Vermont will seek a mix of efficient equipment buydowns, promotional incentives, energy-efficient design incentives, and other mechanisms that lower initial cost barriers for consumers. This strategy emphasizes the market opportunities approach.
- **Community energy initiatives** (see page 32). Expanding relationships with community and local business leaders, civic and religious organizations, and schools, to turn public awareness of energy efficiency into action. This strategy includes both retrofit and market opportunities approaches.
- **Transition to specialty CFLs and LED products** (see page 32). Energy-efficient lighting products and technologies will continue to evolve and provide a significant contribution to energy and demand savings in 2009-2011. Efficiency Vermont will work to expand retail sale of specialty compact fluorescent lamps (CFLs), as well as light-emitting diode (LED) products to reach higher penetrations of efficient lighting in Vermont homes and businesses.



LED Task Light



CFL Reflector Lamp

- **Direct installation of efficiency measures in GT areas** (see page 34). This strategy provides cost-effective energy efficiency measures at significantly reduced cost to qualified business and residential customers in GT areas. It emphasizes retrofit opportunities for both early retirement of existing inefficient equipment (such as lighting fixtures) and installation of supplemental measures (such as controls or insulation). A Vermont-licensed general contractor will manage and implement direct installation services. The contractor will also continue to retain qualified Vermont service contractors to install prescriptive lighting, HVAC, refrigeration, and other efficiency measures, as well as custom measures where feasible.

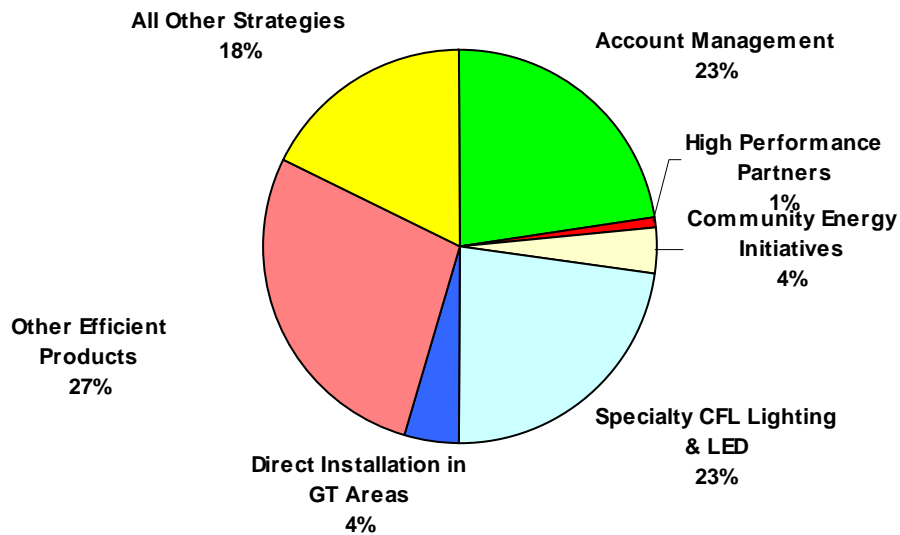


Figure 1. Projected share of 2009-2011 MWh savings, by strategy.

In total, the five major strategies described above will contribute 55% of Efficiency Vermont’s performance targets. Other Retail Energy-Efficient Products and all other strategies are projected to account for 45% of the annual MWh savings for 2009-2011.

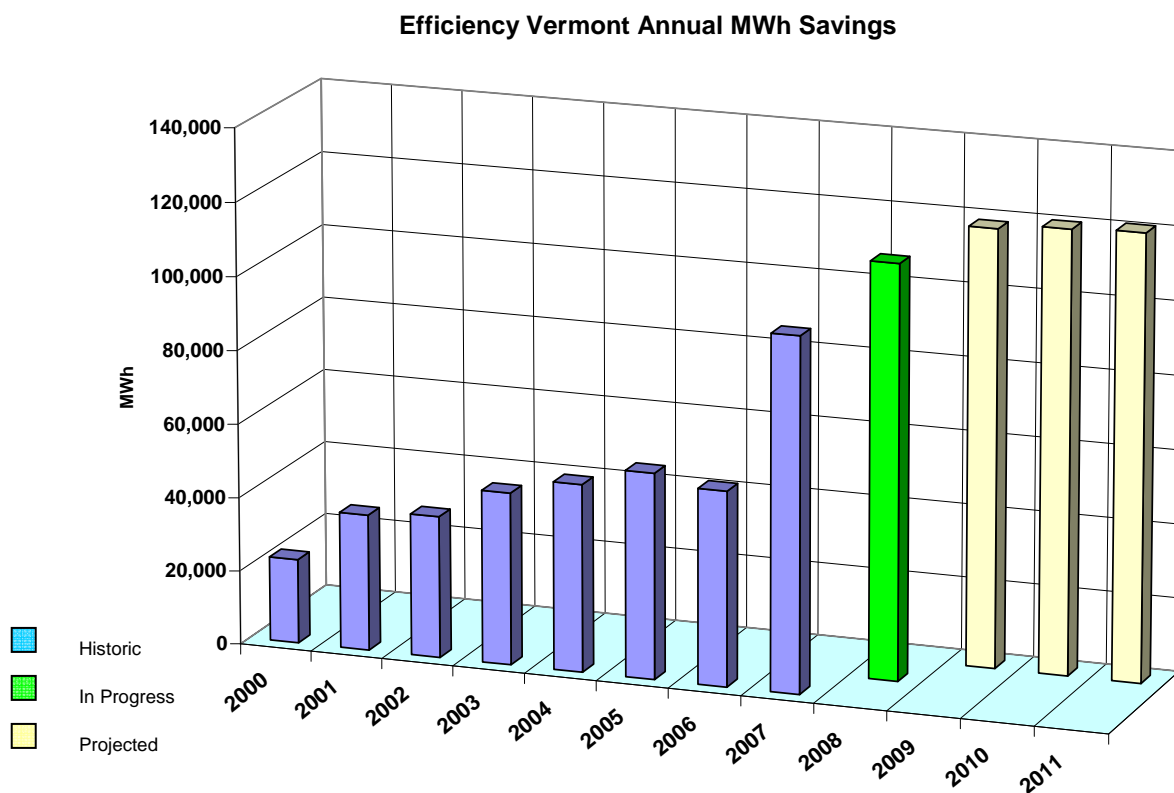
1.3.3 Other activities. Achieving Efficiency Vermont’s performance and resource acquisition objectives will require expanding and deepening its existing efforts to build partnerships with trade allies, design professionals, vendors, and other partners who influence energy efficiency decisions. We will continue to raise public awareness about the value of energy efficiency through: (1) the Better Buildings by Design conference held each year in February; (2) the promotion of ENERGY STAR® products and services; (3) trainings for building professionals, including technical support for the Residential Energy Code and Commercial Energy Codes; and (4) public media education campaigns. We will also continue our participation with major regional and national partnerships for energy efficiency (e.g., USDA Rural Development, the U. S. Environmental Protection Agency’s ENERGY STAR, and the American Council for an Energy-Efficient Economy). We will continue to provide the technical resources necessary to ensure and enhance the reliability of the energy efficiency savings that we report to the Board and to ISO New England (ISO-NE, a regional transmission organization). Finally, Efficiency Vermont will continue to participate with the Vermont Systems Planning Committee and will complete the first 20-year forecast of economically achievable demand-side energy savings, to be used in future load forecasting by the Vermont Systems Planning Committee.

2. Objectives for 2009 to 2011

2.1 Detailed Objectives

The resource acquisition objectives associated with the Board Order authorizing funding for 2009-2011⁵ continues to require high performance levels for Efficiency Vermont. Figure 2 provides the historic and projected annual MWh savings from 2000 to 2011.

Figure 2. Historic and projected performance for annual MWh savings.



Projections of annual MWh savings are allocated as shown in **Table 3** based on the Board's funding objectives through 2011.

⁵ Order re: Energy Efficiency Utility Budget for Calendar Years 2009, 2010, and 2011. Issued August 29, 2008.

Table 3. Anticipated Annual MWh Savings, by Sector and by Funding Objective, 2009-2011

Sector	Sector & Geographic Equity	Geographic Targeting	Most Cost-Effective Markets	Total
Residential	166,000	21,000	28,000	215,000
Business	68,000	49,000	28,000	145,000
Total	234,000	70,000	56,000	360,000

2.2 Geographic Targeting Objectives

The Board has designated specific regions to be targeted for significantly higher levels of summer and winter peak capacity savings for the 2009-2011 period. The Board has expanded Northern Chittenden County GT area, and has designated Rutland to be a GT area for 2009-2011. We will also continue to serve St. Albans and the Southern Loop as GT areas. Each region is served by transformers, distribution system circuits, feeders, and / or other technologies projected to require significant upgrades in the next five to ten years. The objective of our GeoTargeting implementation for this period is to determine the extent to which energy efficiency can defer or delay the capital investment in these electrical infrastructure improvements. The designated areas, and their characteristics, are provided in **Figure 3 and Table 4**.

Figure 3. GeoTargeted areas for 2009 - 2011, by utility

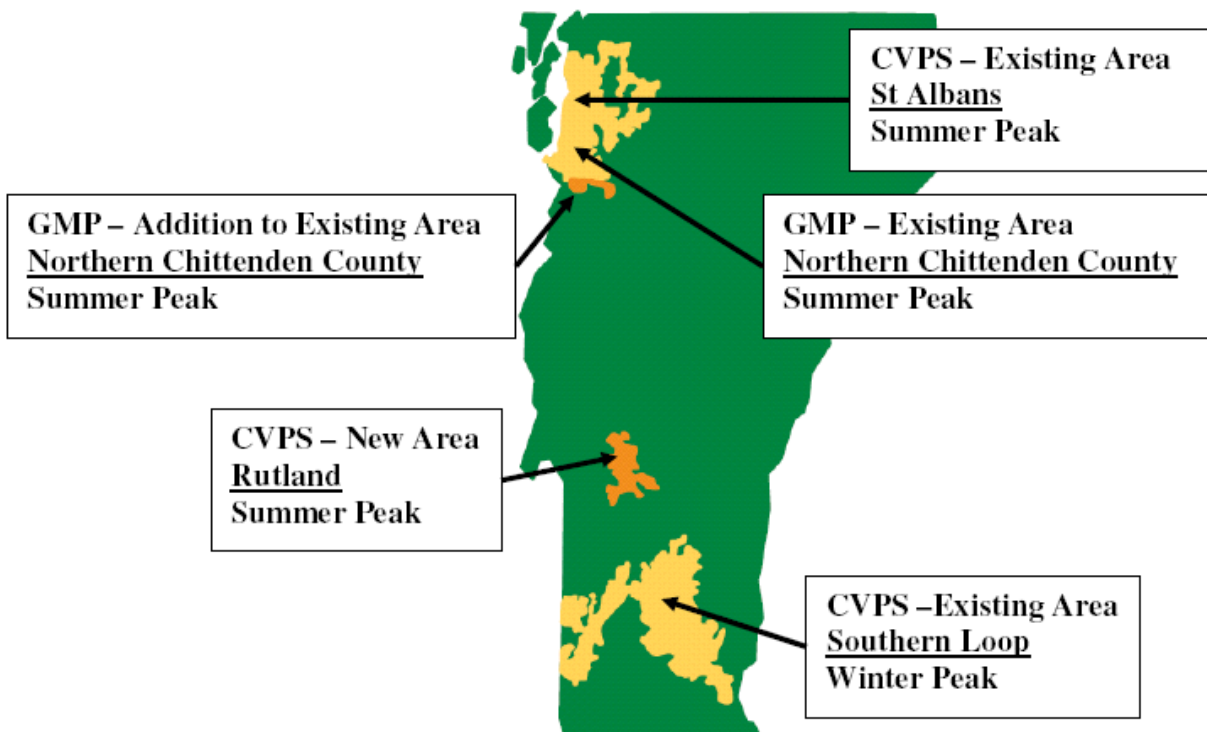


Table 4. Projected kW Demand Savings by Geographic Targeted Area for 2009-2011.⁶

Geographically Targeted Area	Total Premises	Residential Premises	Business Premises	MWh Usage 2007-2008	Projected 2009-2011 Savings	
					Winter kW	Summer kW
St. Albans	17,247	14,921	2,326	379,773	N/A	3,050
Northern Chittenden County	21,353	17,841	3,512	350,508	N/A	2,815
Southern Loop	22,434	19,205	3,229	277,847	2,400	N/A
Rutland	12,538	10,163	2,375	278,164	N/A	2,235
TOTALS	73,572	62,130	11,442	1,286,292	2,400	8,100

The Board has added the Rutland area (12,400 accounts) and an additional 1,190 premises in Northern Chittenden County to the areas that have been part of the existing GeoTargeting effort since July 2007. Newport is no longer identified as a targeted area for 2009-2011.

GT areas will receive special emphasis and top priority for:

- Individualized account management strategies with a focus on coincident seasonal peak reductions,
- High-performance partner strategies,
- Community energy initiatives,
- Enhanced and customized financial incentives,
- Targeted campaigns for specific business markets,
- Local promotions of energy-efficient products,
- Services and incentives specifically designed for educational institutions,
- Special attention to new construction projects, for enhancing comprehensiveness of savings,
- Outreach to residential high-use customers,

⁶ The PSB does not establish specific targets for individual areas in the Efficiency Vermont contract. The three-year demand savings targets for GT areas established by the PSB are 8,100 kW summer demand in summer peaking areas and 2,400 kW winter demand in winter peaking areas. While winter demand savings will be achieved in summer areas and vice versa, the values are not displayed here to highlight the seasonal demand savings focus of GeoTargeting.

- Direct installation of energy-efficient products for businesses and homes,
- Targeted end use strategies to capture relative peak savings.

3. Major Innovations for 2009-2011

3.1 Efficiency initiatives for unregulated fuels. (See Appendix B, page 35 for a full description of this new initiative.) In accordance with Act 92, and with Board authorization, Efficiency Vermont will launch a new set of initiatives designed to save energy for consumers using unregulated fuels for home heating. The initiatives address both direct acquisition of energy efficiency resources to reduce greenhouse gas emissions and an expansion of the contractor network to provide energy efficiency services. Efficiency Vermont will work closely with the contractor implementing programs funded by the Regional Greenhouse Gas Initiative (RGGI) to ensure coordination and non-duplication of services.

The development of efficiency initiatives offered by Efficiency Vermont for unregulated fuels has two tracks. One track was created via Board authorization for advanced spending for services (prior to the finalization of the 2009-2011 Efficiency Vermont contract) to assist Vermonters with heating costs for the 2008-2009 winter. The second track is Efficiency Vermont's new role, as defined in Act 92 and the Efficiency Vermont contract, in administering efficiency initiatives for unregulated fuels.

For advanced spending for unregulated fuel initiatives, defined as services to be delivered across six months from the end of 2008 into the early part of 2009, Efficiency Vermont will offer:

- A heating system replacement initiative that would provide incentives for replacement of inefficient oil and propane heating systems in moderate-income households at a proposed total cost of up to \$235,000.
- A workforce training program that would build energy auditor and installer capacity for contractors and low-income-weatherization providers at a proposed total cost of \$75,000.
- A comprehensive home energy efficiency loan program, with incentives for moderate-income households, at a proposed cost of \$209,000.
- A grassroots community energy mobilization program that would provide low-cost energy-saving materials and education, at a proposed cost of \$150,000.
- Efficiency Vermont is currently developing detailed services and initiatives to promote efficiency for unregulated fuels for the balance of the 2009-2011 period. The following services are currently under development:
 - Incentives for replacement of inefficient oil and propane business heating systems, for small businesses.
 - Incentives and services for agricultural facilities, including incentives for hot water conservation and water heating efficiency, including heat exchangers to pre-heat water with compressor waste heat.
 - Incentives and services for existing homes through Home Performance with ENERGY STAR®, to increase the reach, breadth, and depth of unregulated fuel savings that can result from comprehensive home energy efficiency retrofits of households throughout the state.

The Board will determine the savings goals for these initiatives in early 2009.

3.2 Technology innovations. Existing technologies are the foundation for solid ways to achieve energy efficiency. Efficiency Vermont will encourage new technologies throughout all market sectors. In 2009-2011, special emphasis will be placed on the promotion of the following technologies to expand their market penetration.

- Reduced wattage and high-performance commercial fluorescent lamps that save 15 to 22% in energy over conventional fluorescent lamps.
- Energy-efficient and longer-life halogen infrared technology and electronic lamps for retail, track lighting, and recessed-light applications.
- Specialty compact fluorescent lamps: 3-way, dimmable, reflector, encapsulated, and special applications such as candelabra lamps, each in multiple wattages.
- Light Emitting Diode (LED) technology for commercial and residential applications.
- Compressed air systems emphasizing efficiency gains in distribution systems.
- Commissioning and retro-commissioning.
- Efficient residential pool pump systems.
- ENERGY STAR® personal computer and monitors.
- Consumer electronics; including “smart” power strips and televisions.
- New efficiency levels above ENERGY STAR® for refrigerators, room air conditioners, and clothes washers.
- Advanced residential new construction building practices in which the net heating, cooling, hot water, and electric usage are dramatically reduced, relative to today’s consumption standards.

3.3 Innovations to reduce financial barriers to energy efficiency. In 2009-11, Efficiency Vermont will respond to growing concerns about the availability of investment capital for energy efficiency by continuing to promote awareness of existing financing mechanisms and to aid development of new financing mechanisms to serve underserved markets. These efforts include the following initiatives:

- Building on a newly formed partnership with the Vermont Economic Development Agency to promote business loans for energy efficiency. Over \$2.0 million in funds has been earmarked; Efficiency Vermont will provide technical review and cash flow analysis for 20 projects in 2009.
- Building on newly formed partnerships with Vermont Housing Finance Agency, the State Treasurer’s Office, and TD Banknorth and other lenders to offer low- to moderate-income residential consumers low-interest loans for electrical and fossil fuel efficiency improvements. In 2009, TD Banknorth has committed \$2.0 million in loan funds for an estimated 800 customers.
- Exploring community-based financing mechanisms, including a Community Energy Financing District (CEFD) that could be enacted by communities to establish very-long term financing mechanisms and reduce risks for lower-income home owners.

- Enhancing special financial analysis for business customers to emphasize the benefits of energy efficiency in creating positive cash flow, and high rates of return, when coupled with financing.
- Continuing to offer reduced-rate financing through six local lenders for eligible projects in existing homes under the Home Performance with ENERGY STAR service. In addition, farmers will continue to be offered Efficiency Vermont’s reduced-rate financing (and, where appropriate, loan guarantees) in cooperation with Opportunities Credit Union and Yankee Farm Credit.
- Developing financing options for businesses receiving direct installation services in GT areas.

4. Market Initiatives and Services for 2009 through 2011

Efficiency Vermont will continue to serve all of the core markets identified in the Board Order in Docket 5980 and in its associated Memorandum of Understanding. Below, we provide a brief profile of each core market, a statement of key objectives for 2009-2011, a description of current approaches that will continue through 2009, and a description of new approaches in 2009 for:

- Retail efficient products,
- Business new construction,
- Residential new construction,
- Businesses existing facilities,
- Existing homes.

Table 5 provides the projected annual MWh savings by each market by funding objective for 2009-2011.

Table 5. Annual MWh Savings, by Market and Funding Objective, for 2009-2011

Market	Sector & Geographic Equity	Geographic Targeting	Most Cost-Effective Markets	Total
Retail Efficient Products	153,000	13,000	28,000	194,000
Business New Construction	14,000	6,000	0	20,000
Residential New Construction	5,000	3,000	0	8,000
Business Existing Facilities	54,000	43,100	28,000	125,000
Existing Homes	8,000	5,000	0	13,000
Total	234,000	70,000	56,000	360,000

4.1 Retail Efficient Products

4.1.1 **Market profile.** Lighting and appliances constitute 60% to 75%% of residential electrical energy use in Vermont's 293,000 residential households. Each year, appliance sales in Vermont are approximately:

- 3,600 gas cook stoves,
- 5,700 electric cook stoves,
- 12,200 clothes washers,
- 9,400 electric dryers,
- 1,600 gas dryers,
- 11,900 refrigerators,
- 1,000 freezers,
- 14,100 room air conditioners,
- 9,100 dishwashers,
- 80,000 personal computers.

In the past several years, higher federal standards have increased the baseline efficiency for appliances. Efficiency Vermont promotes appliance efficiency only for products that are significantly higher than market baseline efficiency; these standards are typically also much higher than the federal standards. The products include refrigerators and freezers; clothes washers; room air conditioners; and consumer electronics, such as televisions, personal computers, and monitors.

Residential lighting alone represents 17% to 25% of residential electrical energy use. There are between 5 million and 8 million lighting sockets in Vermont homes. An additional 2 million sockets exist for businesses that regularly purchase their lighting from retail lighting suppliers. The *Overall Report for Existing Homes in Vermont*⁷ found that while most homes have at least one CFL (89% in owner-occupied homes and 70% of rental homes), CFLs are the product of choice in only about 18% of the screw-in sockets. This means there are approximately 6.5 million sockets that continue to use incandescent lighting in Vermont.

New federal lighting standards that will go into effect in 2012 will have little impact on residential lighting efficiency in Vermont during the next 3 years. The standard spiral CFL is now a readily available product for general residential lighting. In fact, our projection of energy savings in 2009-2011 from standard CFL products has been reduced by 50%, compared to values used in 2008. This trend is occurring because the greater penetration of CFLs that the lamps are now being installed in areas lower average hourly use. Also, there are more customers who would have purchased standard CFLs in the absence of Efficiency Vermont promotional efforts.

However, there are many new opportunities for increased use of specialty CFL lamps to address residential and commercial needs as special products mature. Today, there is low penetration of dimmable, reflector,

⁷ Overall Report for Existing Homes in Vermont, Nexus Market Research, submitted to Vermont Department of Public Service, June 16, 2008.

candelabra, encapsulated, and three-way CFLs. There is also a growing potential for LED lighting which, when the technology matures, will use half the energy of a CFL. Efficiency Vermont will focus its efforts to promote the sale of these products in 2009-2011.

4.1.2 Important objectives for 2009 - 2011. In 2009-2011, Efficiency Vermont expects to realize 194,000 MWh in savings for retail products, of which 96% will come from lighting products, and 4 % from efficient appliances. Efficiency Vermont will continue to promote standard spiral CFLs where cost-effective, but will shift the emphasis to CFL specialty lamps and new LED technologies. We will also maintain our high share of incentivized ENERGY STAR® appliance sales, an objective that has earned Vermont high rankings in almost every appliance category of sales, compared to other states nationwide.

4.1.3 Continuing approaches for 2009 - 2011. A focus on providing incentives or markdowns at the point of sale has proven to be an effective target for influencing buying decisions for energy-efficient products. Today, Efficiency Vermont has an established network of more than 300 retail partner stores. The cornerstone of Efficiency Vermont's approach will continue to be a focus on the ENERGY STAR brand as a way of raising consumer awareness and confidence in energy-efficient products. Specifically, we will continue:

- **Negotiated cooperative promotions** (NCPs, also referred to as "product buydowns"), in which manufacturers and retailers mark down efficient product pricing for the consumer will continue to be the primary mechanism for promoting efficient lighting products.
- **Instant rebate coupons** for energy-efficient lighting products not covered by NCP promotions in more retail locations statewide, as well as special coupons for residences and business in GeoTargeted areas.
- **Mail-in rebates** for appliances that are at the upper end of efficiency within the ENERGY STAR qualifying product lines, including room air conditioners, refrigerators / freezers, dehumidifiers, and clothes washers available in more than 100 retail locations statewide.

Whereas these approaches reduce first-cost barriers, Efficiency Vermont will also continue to support the manufacturer-distributor-retailer supply chain by providing:

- Consumer education on energy-efficient products;
- Displays of energy-efficient products;
- Cooperative advertising;
- Promotional incentives;
- Special targeting for underserved portions of the market; and
- Active participation and support for national efforts to improve energy-efficient product quality, particularly with compact fluorescent lamps.

4.1.4 Key changes for 2009 to 2011. The most significant change will be the transition in emphasis from the standard spiral CFL to CFL specialty lamps and LED technology. Additionally, Efficiency Vermont will initiate promotional activities for efficient consumer electronic equipment, including televisions, monitors, power strips, personal computers, and data servers. Efficiency Vermont will also promote efficient pool pumping systems.

We will continue to monitor technology developments and adapt as necessary in 2009-2011 to adjust our services to a rapidly changing marketplace. Other planned strategies include:

- **Increasing the number of promotions to traditionally non-participating portions of the market**, emphasizing homes and small businesses within GT areas, low-income participants, small businesses throughout the state, and residents who do not live close to participating retailers.
- **Increase the number of promotions in communities.** Efficiency Vermont anticipates supporting community events particularly in GT areas in 2009 through 2011, resulting in the retail sale of more efficient lighting and appliances.

4.2 Business New Construction

4.2.1 **Market profile.** Each year, an estimated 500 commercial and industrial buildings are built or undergo major renovation, representing 6 million square feet of floor space and an investment of over \$600 million. This new construction adds an estimated 70,000 MWh annually to Vermont's electrical load, representing over 1% of total usage.

Efficiency Vermont has established a strong partnership with design and construction professionals in business new construction markets. A 2006 market assessment⁸ conducted by RLW and KEMA for the Department of Public Service showed that approximately 30% of architectural firms regularly participate with Efficiency Vermont. Further, 45% of these firms are involved in multiple projects with Efficiency Vermont. More generally, 94% of architects surveyed had benefited from Efficiency Vermont technical assistance services. The study also showed that 72% of electrical contractors participated (40% of these on multiple projects) and 54% of HVAC contractors participated (28% of those on multiple projects).

Recent feedback from designers and contractors indicate that slow-downs in business new construction markets have begun. We do not have projections that indicate the magnitude of the slow-down for 2009-2011.

4.2.2 **Important objectives for 2009-2011.** Efficiency Vermont will monitor activity in business new construction very carefully, particularly in the first two quarters of 2009, to consider options for adjusting our strategies in the face of significant economic slow-downs. However, based on our current projections, Efficiency Vermont plans to achieve 20,500 annual MWh in 2009-2011, which represents an increase of 43% compared to 2006-2008 annual savings. Other key objectives are to increase market penetration of projects participating with Efficiency Vermont from 20% to 30% (from 300 to 450 projects across 3 years), as well as to increase the participation of design and construction firms by 10%.

4.2.3 **Continuing approaches for 2009-2011.** Efficiency Vermont will continue to offer both customized services and streamlined approaches to encourage and support energy-efficient design in commercial new construction projects. We will work closely with design professionals to incorporate comprehensive energy efficiency and will continue the following mechanisms for overcoming barriers to efficiency in new construction:

- **Comprehensive attention to all end uses**, including electric and non-electric end uses, such as space heating, water heating, building shell, ventilation, and non-electric processes.
- **Continuing to operate the Core Performance services** that provide streamlined approaches for designers and builders of commercial property.

⁸ Final Report: Phase 2 Evaluation of the Efficiency Vermont Business Programs, prepared by RLW Analytics and KEMA for the VT Department of Public Service, February 2006.

- **Monitoring new construction activity to ensure optimal early project enrollment**, when opportunities to influence design are most robust.
- **Technical assistance to design professionals**, supplementing their knowledge of energy-efficient practices and technologies, including the distribution of the *High Performance Design Guide, Building Owner's Guide, Commissioning Guide and Core Performance Guide – Vermont Edition*, and opportunities for continuing education credits at the annual Better Buildings by Design Conference
- **Financial incentives** to reduce the incremental costs associated with energy-efficient technologies.

4.2.4 **Key changes for 2009-2011.** To achieve the increased objectives for this market, Efficiency Vermont will:

- **Increase promotional activity and technical assistance** for design / build firms including “Lunch and Learn” meetings to introduce non-participating firms to benefits and services provided by Efficiency Vermont.
- **Increase the adoption of efficient energy design strategies** by developing a Vermont-specific version of the energy modeling tool, eQuest®,⁹ and introducing it to firms that do not currently model the impacts of various design strategies on building energy use. The tool will link to our Core Performance Guide efficiency guidelines and make **cost-effectiveness analysis of the comprehensive efficiency upgrades easier to analyze and execute.**
- **Collaborate with the DPS on the update to the Commercial Energy Code**, scheduled to roll out in 2010.

4.3 Residential New Construction

4.3.1 **Market profile.** Over the past decade, an estimated 3,000 new homes have been built annually in Vermont by approximately 1,000 builders. This new construction adds an estimated 20,000 MWh annually to Vermont’s electrical use. Energy efficiency programs have been offered statewide for 12 years, and in the past seven years, Vermont has maintained one of the highest shares of energy-efficient homes in the country, ranging from approximately 20% to 34% annually.

Over the past two years, builders have successfully transitioned to new standards for energy efficient homes. In general, the market for energy efficient and “green” homes continues to increase, but it does so in an overall market that is experiencing significant downturns. Cost of materials and new green standards may compete for builders’ attention to energy efficiency.

4.3.2 **Important objectives for 2009-2011.** Efficiency Vermont will monitor activity in residential new construction very carefully, particularly in the first two quarters of 2009, to consider available options to adjust our strategies in the face of significant economic slow-downs. Over the next three years, we will seek to maintain the number of new homes meeting the ENERGY STAR standards in a declining market, thus continuing to increase market share for the 2009-2011 period.

4.3.3 **Continuing approaches for 2009-2011.** Efficiency Vermont will continue to promote the Vermont ENERGY STAR Home as a standard of quality and performance in residential new construction. We will also continue to work with our building partners to:

⁹ eQUEST® is freeware software based on DOE-2 software and was developed by [James J. Hirsch & Associates \(JH\)](#) in collaboration with [Lawrence Berkeley National Laboratory \(LBNL\)](#), with [LBNL DOE-2 work](#) performed mostly under funding from the [United States Department of Energy \(USDOE\)](#) and other work performed mostly under funding from a wide range of industry organizations. Information at <http://www.doe2.com/>.

- **Promote comprehensive attention to all end uses** including electric and non-electric end uses such as space heating, water heating, ventilation and other non-electric end uses.
- **Provide financial incentives to overcome barriers** to the adoption of energy efficient technologies and practices.
- **Offer technical assistance** with plan review, recommendations, testing, and inspections.
- **Provide technical assistance and certification of compliance with the Vermont Residential Energy Code.**
- **Certify qualification for federal tax credits.**
- **Offer ongoing building science training** at special workshops and at the Better Buildings by Design Conference.

4.3.4 **Key changes for 2009-2011.** Building on the foundation of our current approaches, Efficiency Vermont will seek to provide greater value to residential builders by:

- **Launching a higher-tier shell and electric efficiency initiative** that will link to “green” certifications such as LEED for Homes and National Association of Home Builders Green rating system.
- **Providing greater opportunities to share technical information with builders** through the Efficiency Vermont website.

4.4 Existing Business

4.4.1 **Market profile.** There are approximately 37,000 commercial and industrial electric accounts in Vermont (excluding BED service territory), which together account for approximately 2.9 million MWh annually.

An important element of the existing business market is the supply chain of products and services to that market. For example, for commercial lighting, Vermont has approximately 10 manufacturer sales representatives, 20 electrical distributors, 300 electrical contracting companies, and 25 design professional firms. In HVAC / Refrigeration markets there are 30 HVAC contractors, 20 refrigeration contractors, 10 design professionals; and 8 manufacturer’s representatives and distributors.

Efficiency Vermont continues to promote energy efficiency with end users, suppliers, and contractors in this market. We will build on our nine years of strategies and experience, in which energy savings in this market have increased at an average rate of 23% annually. Part of our success is due to targeting important sub-markets to understand their needs better, and from targeting efficiency opportunities and methods of making decisions about energy efficiency. **Figure A1.1** on page 30 illustrates the relative importance of these markets in the strategy to achieve Efficiency Vermont contract goals. **Table 6** ranks the important existing business markets, based on their expected contribution to the goals.

Table 6. Ranking of Existing Business Markets for Strategic Emphasis, 2009-2011.

Rank	Market	Level of emphasis	Expected magnitude of savings
1	Business accounts with more than 1 MW of demand	grow	large
2	Hospitals and health care	grow	moderate
3	Industrials	grow	large
5	Convenience stores	grow	moderate
6	Large grocery stores	grow	moderate
7	Large retail chains	grow	moderate
8	Colleges and universities	grow	moderate
9	Ski areas	maintain	moderate - large
10	Vermont state buildings	grow	moderate - large
11	Water / wastewater treatment	maintain	small - moderate
12	Small businesses	maintain	moderate
13	K-12 schools	maintain	small - moderate
14	Dairy farms	maintain	small

4.4.2 **Important objectives for 2009-2011.** Efficiency Vermont will continue to increase energy efficiency resource acquisition within the commercial sector at an average rate of 5% per year. The overall target for 2009-2011 in the existing business sector is 125,000 MWh.

4.4.3 **Continuing approaches for 2009-2011.** In the existing business sector, Efficiency Vermont will continue to employ the following basic strategies to achieve energy savings:

- **Account management** -- Customized solutions geared to the specific business needs for mid-sized and large businesses. The solutions include providing energy efficiency information, technical assistance, and financial incentives, and partnering with specialized service providers, from design assistance to financing packages.
- **Prescriptive measures** -- Standardized efficiency measures with standard financial incentives. Prescriptive measures include lighting, motors, unitary HVAC equipment, economizers, vending machine controls, LED traffic signals, small refrigeration systems, and transformers. Typically prescriptive measures serve the needs of small business customers.
- **High-performance partners** -- Work with upstream partners in the supply chain to ensure that efficiency equipment and energy efficiency services are readily available to end-use customers. These

efforts include incentives, outreach, education, and training in the promotion of new energy efficient technologies. Efficiency Vermont works with manufacturers and suppliers to ensure product availability and reduce lead times for ordering efficient products. Two major markets targeted by this strategy are lighting and HVAC / R markets. For commercial lighting, we provide incentives to wholesalers and distributors to stock and sell advanced lighting products such as halogen infrared lamps, reduced wattage T-8 fluorescent lamps, and high-performance T-8 fluorescent lamps. Similarly in HVAC / R markets we promote stocking of high-efficiency air conditioning equipment, economizer controls, water source heat pumps, and furnaces with efficient fan motors.

- **General information and assistance** -- Continued support to business customers, with industry-specific technical briefs, *The Commissioning Guide*, facility walkthroughs for qualified business customers, and distribution of energy savings calculators for motors and other electrical equipment.

4.4.4 **Key changes for 2009-2011.**

- **Account management.** Efficiency Vermont will expand the account management efforts from 250 to 300 top businesses in each of the major sub-sectors. A special emphasis will be placed on key accounts in the GT areas. (See page 31).
- **Increased services and incentives for qualified customers in GT areas.** Efficiency Vermont will encourage deeper savings and higher participation in GT areas by providing greater levels of technical assistance, financing assistance, and / or financial incentives.
- **Direct installation.** Efficiency Vermont will build on the success of the commercial direct installation program, known as Lighting Plus. This program provides site assessments for electrical energy efficiency opportunities, at no charge to qualified customers, and arranges for the installation of efficiency measures. The program is targeted to commercial customers in GT areas. For 2009-2011, the program will explore expansion of the eligibility criteria, initiate a pilot customer cost-sharing project, while maintaining high program penetration rates.
- **Greater emphasis on non-lighting end uses** – Efficiency Vermont will increase comprehensiveness by promoting efficiency, in end uses other than lighting, for existing businesses. The end uses with the greatest potential are air conditioning, refrigeration, motors and drives, and processes that rely on compressed air. For 2009-11, Efficiency Vermont will seek to increase savings in these end uses by 15%.

4.5 Existing Homes

4.5.1 **Market profile.** There are 235,000 single-family homes and 58,000 multifamily dwellings in Vermont. Of those, 44,000 households are low-income. In total, residential customers represent about 2.2 million MWh of electricity usage annually.

4.5.2 **Important objectives for 2009-2011.** Promoting energy efficiency in residential dwellings will continue in 2009 to 2011, with expected savings of 12,000 MWh for 2009-2011.

In addition, Efficiency Vermont will increase initiatives designed to obtain fuel savings in unregulated fuel markets. See page 35.

4.5.3 **Continuing approaches for 2009-2011.** Efficiency Vermont will build upon successful strategies to serve the different sub-markets within the residential existing homes market. For the most part, Efficiency Vermont will emphasize this market to support the spending requirements of the Efficiency Vermont contract to achieve goals for geographic equity, residential services, and services to low-income households.

The major approaches in the existing homes market include:

- **Home Performance with ENERGY STAR.** We will continue the effort to build the infrastructure of certified contractors providing comprehensive diagnostic and retrofit services to improve the energy efficiency and quality (indoor air, durability, comfort, etc) of residential buildings. We will help develop this network of contractors by:
 - providing contractor training and certification;
 - offering financial incentives for customers with cost-effective improvement opportunities;
 - providing marketing and advertising support for qualified contractors; and
 - completing 250 Home Performance projects per year.

- **Targeted services for customers with high electrical usage.** This continuing initiative is designed to secure significant electrical savings for customers with high electrical usage, by providing:
 - technical assistance to identify cost-effective energy efficiency opportunities, at no cost to the customer;
 - assistance in securing financing for cost-effective measures;
 - limited offers of financial incentives for qualified energy efficiency measurers;
 - direct installation of energy-efficient lighting and water conservation products;
 - services to facilitate the installation of efficiency measures;

- **Multifamily residential dwellings.** We will continue our successful account management approach with property owners of market rate and subsidized housing. This approach has encouraged comprehensive treatment and has leveraged substantial owner investment in energy efficiency by property owners. In this market Efficiency Vermont will:
 - provide technical assistance to identify cost-effective measures;
 - create financial incentives toward the cost of energy-efficient measures;
 - provide direct installation of energy-efficient lighting and water conservation, at no cost to the owners;
 - enable selective replacement of refrigerators and freezers with ENERGY STAR-qualified models;
 - promote advanced technologies and comprehensive approaches; and
 - increase the number of projects with private, non-subsidized building owners by 50% over 2008 levels.

- **Low-income single-family residential customers.** In this ongoing initiative, Efficiency Vermont will continue its relationship with the five community-based weatherization agencies to provide maximum cost-effective electric efficiency measures, at no cost to participants, including:
 - direct installation of energy-efficient lighting and water conservation products;
 - replacement of inefficient refrigerators and freezers with ENERGY STAR models, where determined to be cost-effective; and
 - converting electric water and space heating equipment to less-costly fossil fuel systems. This measure provides added value because of its consumer and societal benefits.

- **Information for residential customers.** Efficiency Vermont maintains a reputation for providing trusted expertise to all Vermonters via its toll-free phone, e-mail, and Web site. Because the most frequent residential inquiry is about the causes of high energy bills, we will continue to provide information and tools to help people analyze and lower electrical usage, including:
 - simple, plug-in energy consumption meters (a no-cost loan service);
 - a home energy use survey with telephone technical assistance;
 - a CD or online software that enables residents to conduct their own home energy audits;
 - the www.encyvermont.com Web site, providing extensive information, guidance, tips, links, and resources, including listings of providers of energy-efficient products and services throughout the state;

- useful printed information for residential energy consumers to help them understand, and lower, their energy consumption;
- a designated, specially trained Technical Customer Service Representative who answers more in-depth and technical questions by phone and e-mail; and
- our “Ask the Home Team” advice column, featuring our Technical Customer Service Representative answering Vermonters’ questions about residential energy use.

4.5.4 **Key change for 2009–2011.** Efficiency Vermont will launch the new unregulated fuels initiative in the residential sector to capture retrofit opportunities for efficiency for fossil fuel end uses. (see page 35).

4.6 Customer Credit

Efficiency Vermont will continue to offer and support the Customer Credit option for large customers meeting the qualifications set forth by the Vermont Public Service Board for the self-administration of efficiency investments. As directed by the Board, we will also support the development and implementation of alternative mechanisms for self-administered energy efficiency improvements by large customers.

4.7 Other Major Initiatives

4.7.1 **Better Buildings by Design conference.** Efficiency Vermont annually presents a comprehensive conference on high-performance residential and commercial new construction. The 2009 Better Buildings by Design conference will maintain and expand on the success of the 10 previous conferences. This gathering of the top construction and design professionals who affect how buildings are built in Vermont is viewed as a key resource for information about innovations in energy efficiency, superior building performance, and indoor air quality. The conference is also a key component of Efficiency Vermont’s positioning strategy in this market, establishing us as a trusted technical resource and supporter of existing market actors on whom we rely to drive energy efficiency in this market. The event is expected to draw more than 1,000 building and design professionals. The 2009 conference will include nationally renowned speakers and workshop leaders, and more than 40 presentations on building envelope, integrated design, lighting, and mechanical systems. Featuring more than 50 exhibits of energy-efficient products and services, the event also provides exceptional visibility for vendors and service providers.

4.7.2 **New England regional capacity market.** As the state’s Energy Efficiency Utility contractor, VEIC will continue to participate in the regional energy capacity market conducted by ISO – New England (ISO–NE), the region’s Independent Systems Operator. As directed by the Vermont Public Service Board, VEIC will continue to represent the interests of Vermont ratepayers in the ISO-NE Forward Capacity Market. Under the rules of the current Transition Period, VEIC will continue to file with ISO-NE monthly reports of capacity savings from Efficiency Vermont investments, and claim ISO-NE payments for these savings, through May 2010. Additionally, VEIC will prepare and submit bids to provide Efficiency Vermont capacity savings as a demand resource in annual Forward Capacity Market auctions for capacity commitments beginning in June 2010. In cooperation with the Board, the Department of Public Service, and Burlington Electric Department, VEIC will develop and implement required measurement and verification plans for capacity savings claims. VEIC will also perform all necessary administrative and fiscal activities associated with these responsibilities.

Further, VEIC will continue to participate in rule-making processes established by ISO-NE regarding the establishment and operation of the Forward Capacity Market and other responsibilities associated with being a Market Participant.

4.7.3 **Energy Code support.** Efficiency Vermont will continue to provide information services to support the Residential Energy Code. These services include a toll-free hotline, technical assistance, information, and certification of homes that meet the Residential Energy Code. Efficiency Vermont will also continue to support the Commercial Energy Code by providing technical assistance and

copies of Commercial Guidelines to design professionals and commercial customers. We will also collaborate with the DPS to update the Commercial Energy Code for rollout in 2010.

4.7.4 **Regional and national partnerships.** Through ongoing collaboration with entities both outside and within the state, Efficiency Vermont will continue to bring state, regional, and national resources to Vermont while ensuring greater consistency of energy efficiency resources available to Vermonters. Key partners for 2008 will include:

- Northeast Energy Efficiency Partnerships (NEEP) –participation with regional lighting and HVAC initiatives;
- Lighting for Tomorrow – Consortium for Energy Efficiency / American Lighting Association / U.S. Department of Energy - annual competition for the next generation of CFL fixtures and LED technology;
- Product Stewardship Institute - end-of-product-life issues – Chittenden Solid Waste district; mercury-free lighting alternatives; and disposal;
- Consortium for Energy Efficiency;
- The ENERGY STAR program of the U.S. Environmental Protection Agency and the U.S. Department of Energy (DOE) – CFL awareness campaign;
- New Buildings Institute; and
- Building Performance Institute.

Services stemming from these partnerships will include statewide delivery of ENERGY STAR-qualified residential products and services. Vermont businesses will be served through our ongoing participation in events and services such as:

- The Compressed Air Challenge;
- Incentives for ENERGY STAR-qualified equipment;
- Building Operator Certification training; and
- Training and certification by the Building Performance Institute for residential retrofit contractors.

4.7.5 **Twenty-year DSM Forecast.** Efficiency Vermont will complete a 20-year forecast of economically achievable demand side management (DSM) costs and savings in the second quarter of 2009. The forecast will be used by the Vermont Systems Planning Committee to integrate the DSM forecast with the load forecast for Vermont.

For the Period January 1, 2009 through December 31, 2011

5. Budget

	<u>Estimate Year</u> <u>2009</u>	<u>Estimate Year</u> <u>2010</u>	<u>Estimate Year</u> <u>2011</u>	<u>Three-Year</u> <u>Budget</u>
<u>Services and Initiatives Supported by Contractor</u>				
<u>Electric EEU Funds</u>				
Business Sector	\$14,308,900	\$17,366,200	\$21,315,460	\$52,990,560
Residential Sector	\$11,256,200	\$11,496,900	\$11,766,400	\$34,519,500
Total Electric EEU Funds Services and Initiatives	<u>\$25,565,100</u>	<u>\$28,863,100</u>	<u>\$33,081,860</u>	<u>\$87,510,060</u>
<u>Services and Initiatives Supported by Contractor</u>				
<u>Unregulated Fossil Fuel Funds</u>				
Business Sector	\$246,200	\$310,100	\$297,500	\$853,800
Residential Sector	\$721,100	\$1,561,200	\$1,254,000	\$3,536,300
Total Unregulated Fuel Funds Services and Initiatives	<u>\$967,300</u>	<u>\$1,871,300</u>	<u>\$1,551,500</u>	<u>\$4,390,100</u>
TOTAL SERVICES AND INITIATIVES	<u>\$26,532,400</u>	<u>\$30,734,400</u>	<u>\$34,633,360</u>	<u>\$91,900,160</u>
<u>Contractor Electric EEU Funds Supporting Services</u>				
General Administration	\$282,000	\$289,400	\$287,000	\$858,400
ISO-NE Regional Capacity Activities	\$451,800	\$398,300	\$385,600	\$1,235,700
Vermont System Planning Committee Participation	\$96,300	\$3,300	\$84,900	\$184,500
Information Technology	\$756,700	\$856,600	\$889,100	\$2,502,400
Total Supporting Services	<u>\$1,586,800</u>	<u>\$1,547,600</u>	<u>\$1,646,600</u>	<u>\$4,781,000</u>
Operations Fee	\$222,990	\$265,510	\$291,490	\$779,990
Sub-Total Prior to Performance-Based Fee	<u>\$28,342,190</u>	<u>\$32,547,510</u>	<u>\$36,571,450</u>	<u>\$97,461,150</u>
Performance-Based Fee	\$761,000	\$871,400	\$999,600	\$2,632,000
TOTAL ESTIMATED COSTS INCLUDING PERFORMANCE-BASED FEE	<u>\$29,103,190</u>	<u>\$33,418,910</u>	<u>\$37,571,050</u>	<u>\$100,093,150</u>

Note 1: Annual budget components are provided for information purposes only. It is agreed by the parties that the *Contractor* will operate under a total three-year budget for each of the above line items.

Note 2: The above budget does not include the *Customer Credit Net Pay Option Available Incentive Funds*.

6. Projected Benefits and Costs for 2009-2011

6.1 Societal Benefits and Costs Test

Table 7 provides the results of a societal test analysis to determine the projected benefits and costs for new energy and demand resource acquisition from 2009 through 2011, for each of the major markets served by Efficiency Vermont. The values displayed are lifetime values for the efficiency measures that will be installed (approximately 9.25 years on average). The net benefits are positive for each major market. Overall, the energy and demand savings acquired through 2011 are projected to achieve over \$230 million in net benefits and will provide a benefit / cost ratio of 2.88 for the entire portfolio.

Table 7. Societal Benefits and Costs of Energy Efficiency Projected for 2009-2011.¹⁰

Major Market	Present Value of Benefits	Present Value of Costs	Present Value of Net Benefits	Benefit / Cost Ratio
Business Existing Facilities	\$158,303,189	\$51,904,566	\$106,398,622	3.05
Business New Construction	\$27,655,439	\$10,535,468	\$17,119,971	2.62
Retail Efficient Products	\$136,775,520	\$33,227,195	\$103,548,325	4.12
Existing Homes	\$19,286,057	\$14,461,661	\$4,824,396	1.33
Residential New Construction	\$11,437,472	\$7,834,137	\$3,603,335	1.46
Non-Market Specific Efficiency Vermont Costs		\$4,747,649	(\$4,747,649)	
Total	\$353,457,677	\$122,710,676	\$230,747,001	2.88

¹⁰ Analysis used 2.6 % inflation rate and 5.7% discount rate. Values are expressed in 2009 \$

Appendix A - Major Strategies

A1 - Overview of strategic approach. Efficiency Vermont is entering its tenth year of operation working in Vermont's marketplace to accelerate the adoption rate of energy efficiency technologies. In each year since 2000, we have increasingly acquired more energy efficiency resources. This success is due to a combination of Vermont's deepened commitment to investing in energy efficiency and the effectiveness of the strategies we have deployed to influence the market. Today, we have a strong pipeline of commercial customers implementing energy efficiency. We also have a robust retail point-of sale network for the sale of efficient products. We continue to make progress in new construction and other lost-opportunity markets acquiring significant market share of participation.

Over the years, we have advanced our "markets" approach to rely increasingly on market partners to involve them in achieving our results. We seek to create value for *all* the key market actors in making energy efficiency decisions (including energy end users, building and design professionals, suppliers, retailers, and business partners). We continually seek to identify new non-energy benefits valued by customers that leverage the implementation of energy-saving projects. We are positioned to build into the next 3-year contract all of this experience in effective strategy design.

Market conditions for 2009 to 2011 are changing. We recognize the need to focus our efforts for some efficiency technologies beyond the "early adopters" market into more "mature markets." This latter group of customers conceptually understands energy efficiency, but it has not yet seen any significant value in adopting energy efficiency measures. Compounding this reluctance, we have also entered extremely unstable economic times, earmarked by investment volatility, tight credit, and employment downturn. Such an economic environment is expected to affect decisions about potential efficiency projects. That is, we expect customers to scrutinize projects more closely, against a background of ever-shrinking investment resources.

At the same time, technology continues to evolve. What has been considered energy efficient will soon become baseline. Next-generation technologies are beginning to enter the marketplace and we will enter another cycle of "early adopters" for advanced efficiency. Such is the case with new designs of compact fluorescent lamps expanding into specialty applications and the next generation of LED technology.

One further challenge is the Board directive to achieve greater depth of savings in GT areas. Our strategies will continue to focus on ways to achieve higher levels of penetration of first-time participants while looking for new opportunities with customers who have already invested in some levels of energy efficiency.

Our strategies will engage customers in new ways to help them see the value of making significant energy efficiency investments. We will closely monitor the impact of the new economic challenges and the advancement of new technologies. We will also make adjustments as needed to respond to these ever-changing conditions.

Specific objectives for 2009-2011 are:

- a higher percentage of first-time participants;
- a greater percentage of business customers who deepen their savings by completing second and / or third efficiency or business expansion projects;
- more savings from initiatives that involve upstream business partners (that is, partners such as manufacturers and distributors);
- more savings from niche markets with high potential for energy efficiency;
- a higher ratio of successfully implemented project leads and enrollments;

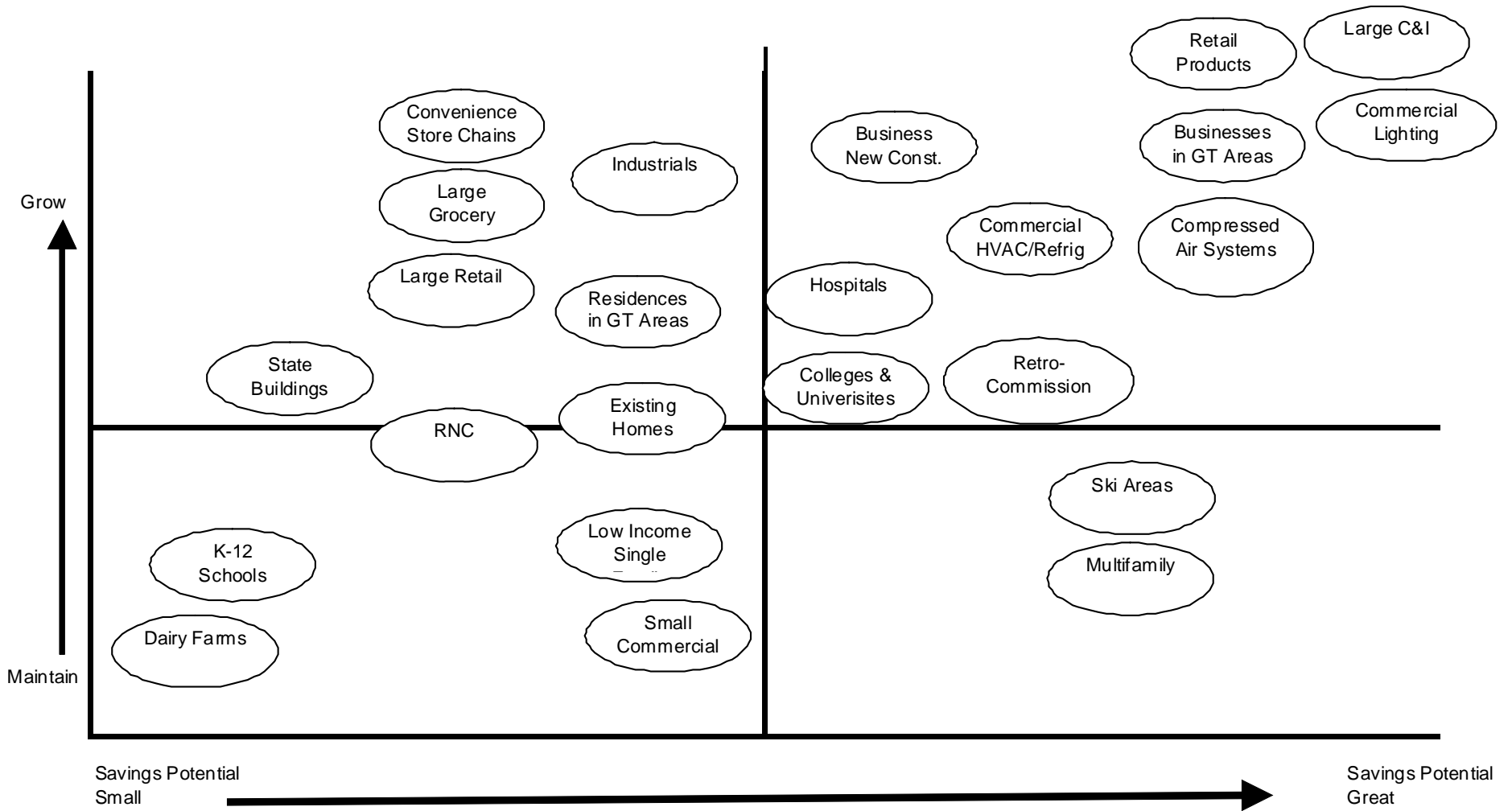
- the deeper penetration of energy efficiency among mid-sized to large businesses (those with more than 500 MWh in annual consumption);
- a special emphasis on small businesses in GT areas;
- tailored incentive strategies in business markets to create positive cash flow through financing, as well as through direct financial incentives;
- a shift in focus from standard spiral CFLs to specialty CFLs and LED technology; and
- expanding electrical energy efficiency while introducing new opportunities for fossil fuel efficiency.

Figure A1.1 illustrates strategic prioritization of markets for energy efficiency resource acquisition in 2009 through 2011. It reflects both, the magnitude of savings and the difficulty / cost of securing savings.

The figure identifies business and residential markets, and certain technology markets such as commercial lighting, compressed air systems, and commercial HVAC. The figure indicates the relative emphases that will be placed on each market. The following factors influence each market's position on the grid:

- **Electrical energy consumption marketwide.** Markets with higher use generally offer high savings opportunities.
- **Savings potential in the market.** Previously underemphasized or underexplored markets generally offer more per-measure or per-customer savings.
- **Maturity of market approach.** Markets in which Efficiency Vermont has established relationships with market partners and customers offer a foundation for expanding savings at lower cost.
- **Cost of savings.** Markets in which expected savings per dollar are low might become a lower priority when we are stretching to reach unprecedented overall yield rates.

Figure A1.1 Strategic emphasis in selected markets, 2009 – 2011



A2 - Account management. Efficiency Vermont's account management approach directed to businesses classified as mid-sized to large, according to their annual electrical usage (more than 500 MWhs) has proven to be highly successful. These businesses represent 61% of the electrical energy used by businesses, but represent only 1% of the business accounts served by the state's utilities. In 2008, a significant percentage (60-70%) of electrical energy savings acquired in the business sector were from these businesses. Account management achieves reliable results by customizing solutions in long-term, mutually beneficial key business relationships. It also incorporates energy efficiency as part of each company's routine planning, operations, and growth strategy.

Account management provides the following benefits to key customers:

- **A single contact person from Efficiency Vermont** to ensure smooth and effective communication, because large projects require a high degree of detail work.
- **Timely response** to requests for technical and / or financial assistance.
- **Alignment of efficiency services with the customer's own operations and business cycles.**
- **Cash flow and other financial analyses** that clearly indicate how economic benefits will fit with business customers' objectives. This approach includes information about access to capital for financing energy efficiency.
- **Customized solutions** that optimize market resources, reduce or eliminate barriers to energy efficiency, and leverage efficiency to achieve other business objectives (e.g., greater profitability, productivity, improved working conditions, reduced-cost equipment replacement, renovation or expansion, and / or regulatory compliance).

In 2009-2011, Efficiency Vermont will continue full account management services to all 65 top business accounts, as well as to 300 additional businesses during 2009 and 2011. Two hundred of the businesses receiving account management services are within the GT areas. Expected MWh savings across the three years are anticipated to be 81,500 MWhs, accounting for 23% of all Efficiency Vermont 2009-2011 targets.

A3 - High-performance partners. We will continue to advance our efforts to introduce energy efficiency upstream from retail market partners by working with suppliers, vendors, design professionals, builders, and contractors. These market partners, known as "high performance partners," can significantly leverage energy efficiency in the marketplace through their decisions, influence, and products. They can reach and affect many times more efficiency decisions in markets than Efficiency Vermont ever could on its own. Moreover, by working through these upstream partners, we contribute to making energy efficiency standard practice in existing market structures (often referred to as "market transformation"). We are continuing and expanding this strategy in 2009-2011

Efficiency Vermont will work with high-performance partners by offering:

- Product buydown financial incentives, to lower the up-front cost of energy-efficient equipment – we will expand existing efforts in lighting and introduce initiatives in HVAC and refrigeration markets.

- Financial incentives to stock energy-efficient products – we will continue in lighting, particularly specialty CFLs and LED products, as well as consumer electronics and commercial HVAC equipment.
- Financial incentives for energy efficiency design, to encourage high-performance design, particularly with design / build firms.
- Financial incentives for contractors, to identify energy efficiency opportunities for customers and for Efficiency Vermont; in commercial HVAC markets, we will introduce a pilot to encourage enhanced services and tune-ups for energy-efficient equipment to prolong life and increase performance. Home Performance with ENERGY STAR will continue to expand the contractor network with the addition of significant incentives for efficiency improvements that save fossil fuels.
- Customized market training for upstream partners on the value of efficiency for their customers.

Our projections indicate that this high-performance partners strategy may be able to achieve 5,000 MWhs of annual savings for 2009 to 2011.

A4 - Community Energy Initiatives (CEI). Efficiency Vermont has employed several approaches to work with communities to expand energy efficiency in homes and businesses. In 2009 through 2011, we will continue to refine these approaches to suit the needs of the communities and Board objectives. Services available to communities will include:

- educational support – speakers and educational materials to support locally organized events;
- employer-sponsored events – speakers, educational materials, and special promotions of energy efficient products as an employee benefit;
- school events – speakers, educational materials, and fund-raising support through the sale of efficient products;
- community-wide targeted lighting campaigns – to targeted communities in GT areas – special community-wide promotions, advertising, special local retailer in-store events, and targeted solicitation of businesses for energy efficiency projects;
- residential door-to-door campaigns in targeted communities for combined unregulated fuel and electric energy savings through individualized education, promoting do-it-yourself energy efficiency measures, direct installation of lighting and water conservation measures, and encouraging greater efficiency investment;
- small commercial door-to-door campaigns to provide guidance and gain acceptance to the purchase and installation of efficient lighting for their offices, stores, and shops; and
- engagement with local government to expand opportunities to reduce local utility bills through greater efficiency.

A4 Transition to specialty CFLs and LED products. In Vermont and across the nation, energy efficiency for lighting is rapidly changing. The period from 2009 to 2011 marks a transition in

lighting efficiency standards, wide acceptance of standard compact fluorescent lamps for general illumination, and the advent of next-generation lighting technology. All three of these market influences affect the strategies proposed by Efficiency Vermont for 2009 to 2011 for continuing to advance lighting efficiency. Although the market is in transition, lighting efficiency remains the most cost-effective and widely applicable energy efficiency measure to reduce electric energy use and coincident peak demand. Our strategies for lighting transition in 2009 to 2011 are based on our understanding of the following market conditions:

- Federal lighting standards¹¹ will phase in mandatory efficiency for lighting from 2012 to 2014; any technology can meet the standards such as incandescent, fluorescent, or LED. In most cases, today's compact fluorescent lamps (CFLs) meet or exceed the federal standards
- The federal lighting standards have exempted whole classes of lighting products, including lamps designed for special applications, 3-way use, reflectors, globe lamps, and candelabra based lamps. The baseline technology for these products is incandescent, with standard incandescent efficiencies. For the foreseeable future, CFL versions of these specialty lamps can save significant amounts of electricity.
- ENERGY STAR lighting standards are continuing to improve CFL lighting technology, including CFL candelabra-base lamps, cold-cathode CFL technology, and extending product lifetimes. The ENERGY STAR testing protocols are also evaluating CFL reflector technology quality. Further, color rendering in CFLs is improving, and the bulbs themselves are being produced with lower levels of mercury.
- We are entering a sustained period of rapid improvement in solid-state lighting technology, principally LEDs. Over the next four years, it is expected that LED efficiency will improve about 92%, while the price will decline by 80%.¹² The jump to LEDs will have tremendous benefits to consumers, including an anticipated lower lifetime cost, long product life, improved light quality and control, better performance for dimming and directional focus, and no disposal issues relating to harmful substances such as mercury. LED technologies will be available for both residential and commercial applications for both general illumination and specialty applications.
- There are efficient incandescent technologies that are available today that include halogen lamps and infrared halogen technology. These products are improving through the use of halogen gas and advanced coatings.
- A Nexus Research¹³ study for the DPS in June 2008 indicates that there are still many opportunities for cost-effective efficient lighting in Vermont homes. Some findings conclude:
 - only 10% of Vermont homes have CFL saturation of greater than 50% of the home's screw-in light bulb locations;
 - 36% of Vermont homes have installed CFLs in less than 10% of the home's screw-in light bulb locations; and
 - specialty lamps are used in 43% of screw-in lamp locations in Vermont homes.

All of these market conditions suggest that Efficiency Vermont can play a significant role in the advent of CFL specialty lamps and LED technology from 2009 to 2010. We will make these products and their applications known, affordable, and available to Vermont consumers in an

¹¹ The Energy Independence and Security Act of 2007 (HR6)

¹² US DOE Solid State Lighting Multi-Year Program Plan FY'09-FY'14, March 2008, Table 4-2.

¹³ Overall Report for Existing Homes in Vermont, Nexus Market Research, submitted to Vermont Department of Public Service, June 16, 2008.

accelerated ramp-up of the technology. We work to promote these technologies in all markets with end-use customers, as well as with partners in the supply chain. However, the greatest emphasis will be in Retail Efficient Products, where we will work with more than 200 retail partners to stock and promote the specialty CFLs and LEDs. As we move into new technologies to gain a greater depth of lighting efficiency, we will transition away from promoting the standard CFL in Retail Efficient Products. These efforts will include:

- reducing and / or eliminating advertising for standard CFLs for general illumination;
- reducing incentives for standard CFLs;
- developing special tracking and reporting to distinguish standard CFLs from specialty CFLs; and
- reducing by an average of 50% the claimed savings for standard CFLs during 2009 to 2011. In 2011, savings claims for standard CFLs will equal 25% of the 2008 values.¹⁴

A5 - Direct installation in GT areas. Efficiency Vermont will continue direct installation of energy-efficient measures to meet the PSB objective of exploring just how much efficiency can be delivered in a limited area, and in a limited time, to achieve coincident peak demand savings. For this service, Efficiency Vermont employs a Vermont subcontractor to identify and assess cost-effective energy efficiency opportunities, with follow-up specification and installation at little or no cost to the end user. The subcontractor partners with Vermont lighting suppliers and electricians to provide products and to install them for mid-sized businesses located in GT areas.

This service provides site assessments for electrical energy efficiency opportunities, at no charge to qualified customers, and arranges for the installation of efficiency measures. The program is targeted to commercial customers in GT areas. For 2009-2011, the program will explore expanding the eligibility criteria and will also conduct a pilot project in customer cost-sharing, while maintaining high program penetration rates

In 2009-2011, the service will expand to smaller businesses in GT areas. The projected annual savings in 2009-2011 for direct installation services is expected to be 16,000 MWhs.

¹⁴ Reduction in savings claims for standard CFLs are subject to review by the Board and the Department.

Appendix B - Efficiency Services for Unregulated Fuels

B1 - Introduction

Vermont Energy Investment Corporation, as the Energy Efficiency Utility contractor, was authorized by the Public Service Board in 2006 to participate in the ISO New England Forward Capacity Market (FCM) (“Order re: EEU Participation in ISO-NE Forward Capacity Market”, 12/14/06). For the past two years, Vermont has received FCM revenue in increasing amounts and recently the cumulative net revenues have begun to exceed cumulative participation costs. Projected net revenue for the 2009-2011 period totals approximately \$5.2 million.

Pursuant to Act 92, the PSB was directed to use FCM revenues to expand Vermont’s regulated electric and gas efficiency efforts to implement comprehensive energy efficiency strategies using unregulated fuels (URF, sometimes also referred to as “All Fuels”). Act 92 sets statewide building efficiency goals, as well as other statutory and Board policy objectives. The portion of FCM revenues allocated for use to deliver services and initiatives are referred to as Unregulated Fuels Funds. This legislation also specified a Department-administered RFP process to distribute RGGI proceeds for the same purpose.

To date, Efficiency Vermont as made use of FCM revenues to fund administrative costs associated with FCM participation, and, in the past six months, to create materials and capacity that enable us to respond to requests for information and technical assistance related to all-fuels, space-heating efficiency (see, for example, http://efficiencyvermont.com/pages/Residential/Home_Heating/).

In early Fall 2008, Efficiency Vermont was asked by Governor Jim Douglas’s Administration, the Department, and the Joint Fiscal Office what initiatives we might be able to provide during the colder 2008 – 2009 months to respond to rapid increases in heating fuel costs. Working in cooperation with Department staff and other stakeholders, we developed several initiatives for quickly using a limited amount of 2009 FCM and RGGI revenues (\$260,000 and \$200,000, respectively). This proposal was subsequently submitted by the Department to the Board for consideration. The Board approved the proposal in orders issued on November 10, 2008, and November 12, 2008, but specified that all of the programming be funded with 2009 FCM revenues. As a result of these orders, funding available for further URF services and initiatives in 2009 will be reduced from the anticipated revenues of approximately \$1.3 million by \$460,000, to an estimated budget of approximately \$835,000.

The initiatives outlined in the advance-funding proposal are expected to run through March 2009. As a result, there may be some overlap between several activities that will be conducted through advance-funding authorization, and similar activities that take place during the 2009-2011 contract period. Efficiency Vermont intends to use the experience gained through the advance-funding programming to improve and refine the URF services and initiatives that it will undertake over the course of the 2009-2011 contract period.

For 2009 – 2011, expected net revenues from the FCM that may be available to support the purposes set forth in Act 92, as recently estimated by the EEU Contract Administrator, are as follows:

2009: \$1,295,000 (minus \$460,000 committed to the advance funding proposal, for a total of \$835,000)

2010: \$1,857,072

2011: \$1,938,100

In considering how to invest these resources, we developed the following principles and considerations in conjunction with the Board and Department:

1. All activities funded with Unregulated Fuel Funds should be consistent with and guided by the provisions of Sec. 12. 30 V.S.A. § 209(d) and (e) as amended in Act 92.
2. The Unregulated Fuel Funds available in the 2009-2011 period are very limited resources to accomplish the statutory Building Efficiency Goals set through Act 92 in Sec. 6. 10 V.S.A. § 581. Nonetheless, the language in § 209(e)(15) requires that “energy efficiency programs implemented under this section . . . make continuous and proportional progress toward attaining the overall state building efficiency goals established by 10 V.S.A. § 581, by promoting all forms of energy end-use efficiency and comprehensive sustainable building design.” The activities supported by Unregulated Fuel Funds need to proceed systematically down the path to achieving the § 581 goals.
3. Short-term strategies should be designed and implemented to demonstrate models that are extendable and scalable in future years to achieve § 581 goals. For example, near-term building retrofit strategies should demonstrate how to achieve replicable, deep savings in a range of building types, and under a range of pre-retrofit circumstances (e.g., different levels of use and heating system types), establishing the costs and verified savings that can be used in further planning toward § 581 goals. Early efforts may similarly include pilots of mass implementation models.
4. Efficiency Vermont’s 2009-2011 plans should address “all-fuels” in all sectors and activities. In some cases, existing approaches are already comprehensively addressing all fuels (e.g., new construction). Other initiatives will need to be enhanced or expanded.
5. While 2009-2011 services and initiatives should be comprehensive in scope and seek to address whole buildings, regardless of fuel type, it will be necessary to determine costs and attribute savings to the unregulated fuel components.
6. Because of limited resources relative to the need and to the number of efficiency opportunities, short-term strategies will necessarily require greater use of financing mechanisms. The 2009-2011 period can serve as a test for determining the extent to which financing can address these needs. To the extent financing is not sufficient, the experience will help inform how many additional resources may be required, moving forward.
7. Also due to limited resources, early efforts to expand services and initiatives to address unregulated fuels comprehensively will treat Unregulated Fuel Funds as incremental resources. For example, where an initiative like Home Performance with ENERGY STAR already exists, new resources would be used to provide incremental incentives or marketing associated with non-electric measures and savings.
8. Given the adoption of the § 581 Building Efficiency Goals, it will be increasingly important not to create lost opportunities in retrofit markets (e.g., we will not implement a 10% savings project if it sacrifices the opportunity to get 30%). This needs to be reflected in planning and program designs, and could be part of the designs for financing and incentive structures.
9. Existing infrastructure, organizations, relationships and community efforts should all be leveraged.
10. An appropriate guide for balancing residential vs. non-residential efforts should be the approximate proportion of non-regulated fuels used by each sector. This suggests an allocation of approximately 75% residential and 25% business. This allocation is based upon U. S. Energy Information Agency data that tracks residential and business fuel oil consumption.
11. Workforce training to provide greater capacity to deliver new efficiency services will be essential. While other entities will certainly have major roles to play, some Unregulated Fuel Funds may need to be applied to fund this need.

12. Act 92 also established a Heating and Process Fuel Efficiency Program (30 V.S.A. § 235.) to be administered through the Department of Public Service, with objectives that are largely identical to those for the use of Unregulated Fuel Funds. Clearly, our efforts to use these funds will be designed and implemented in ways that are complementary or integrated with the RGGI revenue-funded Heating and Process Fuel Efficiency Program. At this time, no entity or entities that would carry out the Heating and Process Fuel Efficiency Program has been designated, and the associated services and initiatives that would be delivered are unknown. Our plans for 2009-2011 will accommodate this uncertainty. For the near term, our proposed services and initiatives are designed to complement what we understand will be supported through RGGI revenues, as indicated by the Department's RFP for services.

B2 - Context for Efficiency Vermont's Initiatives in Unregulated Fuels

Efficiency Vermont has had a role since its inception to promote efficiency of non-electric fuels. This is recognized in the Total Resource Benefits line item, in which we document and report the lifetime savings value of any fuels saved through initiatives. In many of the core markets served by Efficiency Vermont, comprehensive treatment requires program services to address electrical efficiency as well as other fuels.

However, for 2009-2011, the Board requires that services to promote efficiency for unregulated fuel end uses using Unregulated Fuel Funds shall be accounted for separately and distinctly from services funded by the Energy Efficiency Charge and services primarily intended to achieve electrical efficiency. To avoid confusion, unregulated fuel initiatives will be clearly distinguished in planning and reporting activities. However, Efficiency Vermont will make every effort to provide seamless services for customers and market partners. We also will try to leverage higher levels of efficiency for both electricity and other fuels in our initiatives.

For clarity, the following description indicates the extent to which unregulated fuel initiatives will be integrated into existing markets served by Efficiency Vermont:

1. Business New Construction – As the current strategy already achieves considerable success in addressing comprehensive energy efficiency, regardless of fuel, neither will we make any changes in strategy or implementation for, nor will Unregulated Fuel Funds be used in, this market 2009-2011. If additional resources to support non-electric savings become available, additional incentives would be considered to achieve deeper savings.
2. Business Existing Facilities
 - Large customers with custom projects – Due to the limited funding initially available, we do not believe the resources exist to provide meaningful additional incentives for this sector in 2009. If additional resources become available, we will explore the possibility of offering more incentives to achieve additional bulk fuel savings. Regardless of incentives, we will increase efforts to include bulk fuel savings measures in bundled packages of efficiency retrofits and increased use of financing to implement these bundled packages. Any costs to increase unregulated fuel efficiency in this market using Unregulated Fuel Funds will clearly be identified in our reporting.
 - Small customers – We will provide limited incentives for qualified small businesses and multi-family housing facilities to replace inefficient oil and propane heating systems. Custom incentives will initially be offered, with a goal of establishing a prescriptive program for 2010. The cost associated with delivering these services will clearly be identified as using Unregulated Fuel Funds.
 - Farms – We will provide limited incentives to address bulk fuel savings opportunities on farms. A particular focus will be on water heating efficiency, including heat

exchangers to pre-heat water with compressor waste heat. The cost associated with delivering these services will clearly be identified as using Unregulated Fuel Funds.

3. Residential New Construction – As the current strategy already achieves considerable success in addressing comprehensive energy efficiency, regardless of fuel, neither will we make any changes in strategy or implementation, nor will Unregulated Fuel Funds be used in this market for 2009-2011. If additional resources to support non-electric savings become available, additional incentives will be considered to achieve deeper savings and greater participation.
4. Residential Existing Homes – We will make use of the additional resources available through URF to increase the reach and depth of non-regulated fuel savings attained through Home Performance with ENERGY STAR. The result will be a comprehensive service that cost-effectively addresses shell and heating-system savings, in addition to continuing to provide electric benefits. A substantial portion of available Unregulated Fuel Funds is anticipated for use with incentives that will increase unregulated fuel savings. Additional workforce training is also anticipated to build infrastructure to deliver these expanded services.

B3 - Advanced Spending for Efficiency Initiatives for Unregulated Fuels

The Board has authorized advanced spending for services (prior to the finalization of the 2009-2011 Efficiency Vermont contract) to assist Vermonters with heating costs for this coming winter in two Board orders. These services are currently in operation or nearly ready to be deployed:

1. Loans for replacement of inefficient oil and propane residential heating systems, with incentives for low-income households - This initiative would provide low-interest loans to households for replacement of highly inefficient existing furnaces, boilers and/or water heaters with qualified energy efficient equipment. Low- and moderate-income households (those below 120% of median income) would receive incentives in addition to low-interest loans.
2. Workforce training to build installer capacity for Home Performance with ENERGY STAR contractors– To address the growing need for skilled labor for energy-efficient building improvements, Efficiency Vermont would offer a series of workshops targeted to individuals in need of developing new job skills, particularly in the construction industry. Such a skilled workforce will expand the capacity for the state’s energy efficiency providers. Placement services would link trainees with employers, facilitating quick deployment of the newly trained workers. Efficiency Vermont would coordinate program design, scheduling, and other details with entities concerned with workforce development, including the Vermont Department of Labor and Vermont Technical College.
3. Loans for comprehensive home energy efficiency improvements, with incentives for moderate-income households - This initiative proposes to provide comprehensive home energy efficiency improvements that meet Home Performance with ENERGY STAR standards using low-interest loans and financial incentives for households with incomes below 120% of median income. To assure quality and optimal savings, all home energy assessments and installations would be done by, or under the supervision of, qualified contractors - either certified Home Performance with ENERGY STAR contractors or individuals trained and certified by Vermont’s Low-Income Weatherization providers. Efficiency Vermont would provide administration and quality control inspections through the Home Performance with ENERGY STAR program.
4. Vermont Community Energy Mobilization Pilot. - Local groups will have the responsibility for coordinating the program in their communities. These groups will recruit volunteers, organize and attend volunteer trainings, and conduct door-to-door home visits for the direct installation of low-cost energy efficiency measures. Further, they will educate neighbors about energy-saving

opportunities. The community energy groups will be encouraged to work with other community partners, such as their local Area Agency on Aging and food shelves, to identify and serve vulnerable populations. Efficiency Vermont will train community volunteers to install energy-saving measures such as compact fluorescent light bulbs and water conservation devices, to educate residents about conservation behaviors, and to provide referrals to services such as Vermont's Weatherization Program and Home Performance with ENERGY STAR®. Efficiency Vermont and the Project Coordinator will select three to six Vermont communities for the pilot project. Communities will be chosen according to criteria that include: demonstrated level of interest and commitment, presence of an active town energy committee or similar local organization, success in previous volunteer recruitment, access to vulnerable populations, and ability to implement the program quickly. Further, the pilot project will seek a balanced, statewide mix of community sizes and geographic areas. Guidance documents, technical training, and energy-saving measures and materials will be provided at no cost to local organizers. Efficiency Vermont and the Project Coordinator will evaluate project results for replicability on a larger scale, and develop recommendations for expansion, as appropriate.

B4 - Efficiency Initiatives for Unregulated Fuels Beyond Advanced Spending.

Beyond advanced spending for unregulated fuel initiatives, Efficiency Vermont proposes to develop and implement the following services. Services will continue to evolve as more becomes known with respect to RGGI-funded programs and we incorporate lessons learned from the advanced funding initiatives.

- 1. Incentives for replacement of inefficient oil and propane business heating systems by small businesses.**

This initiative will provide incentives for qualified small businesses and multi-family housing facilities to replace inefficient oil and propane heating systems. Only small business customers will be eligible due to the limited resources available at this time. These groups were chosen because: (1) they tend to have less access to capital than do larger commercial and industrial customers; (2) they have less access to technical resources and energy efficiency information; and (3) their projects are of a small enough that Efficiency Vermont can have a positive financial impact on decision-making with the available limited resources.

Eligibility will be based on a combination of boiler / furnace size and fuel consumption. This combination of screens will ensure that large commercial customers with small boilers are not screening as eligible for this targeted program. Incentives will initially be implemented on a custom basis in 2009, with a prescriptive element likely added in 2010, once we have more experience with this program.

- 2. Services for agricultural facilities**

To serve agricultural customers such as dairy farms, we will provide limited additional services and / or incentives to address bulk fuel savings opportunities on farms. A particular focus would be on water heating efficiency, including heat exchangers to pre-heat water with compressor waste heat. This will reinstate a heat exchanger initiative that was recently discontinued due to lack of continuing federal grant funds. This service is highly valued by eligible Dairy Farm customers and the vendors that provide and install the heat exchanger equipment. A typical application for this initiative could be the capture of heat from dairy product refrigeration equipment to support the extensive supply of hot water needed for dairy facility cleaning. High-efficiency water heaters and hot-water conservation measures will also be considered.

3. Services for Existing Homes

In 2002, Efficiency Vermont developed and has continued to implement Home Performance with ENERGY STAR initiative to promote comprehensive, quality home energy efficiency retrofits. With a very modest investment (based on electric benefits), limited but reasonable results have been achieved and a statewide network of trained, certified installers has been established. The pieces were all put in place for scalable growth, when and if additional investments became available. The experience gained over the past three years will be reinforced by the learning that is expected to occur through the advance funding initiatives for Heating System Replacements and the Comprehensive Home Energy Efficiency Loan program (both making incentives available to moderate-income Vermont households). Efficiency Vermont will use URF funding and the Home Performance with ENERGY STAR platform to increase the reach, breadth, and depth of unregulated fuel savings that can result from comprehensive energy efficiency retrofits of Vermont households. Incentives will be tailored to maximize progress toward Act 92 goals, within the constraints of available budgets.

To assure the quality of installations and the reliability of savings, all home energy assessments and installations will be done by or under the supervision of certified Home Performance with ENERGY STAR contractors (including market service divisions of agencies that provide Vermont's Low-Income Weatherization Program). Efficiency Vermont will provide administration and quality control inspections through the Home Performance with ENERGY STAR program.

Given the January release of the two advance funding initiatives mentioned above, Efficiency Vermont will use the first quarter of 2009 to formulate more detailed plans for Existing Homes URF services and initiatives for the remainder of this contract period. Should information on the Department's plans for RGGI funding related to Existing Homes become known during this time period, every effort will be made to develop Efficiency Vermont's services in such a way that they will be well coordinated with RGGI initiatives. Our intention is to shift from the advance funding initiatives to the ongoing Existing Homes URF-funded services on April 1. However, this may be delayed in order to minimize market confusion, if resolving coordination with RGGI programs is not possible within this time frame.

Efforts in 2009-2011 to address existing homes will also include additional workforce training to support greater savings achieved through more participation and deeper savings. Efficiency Vermont has made regular investments over the past three years in training contractors in energy efficiency retrofit best practices and in certifying them to Building Performance Institute (BPI) standards. To achieve greater savings in unregulated fuels, additional workforce training and certification will be required. Efficiency Vermont anticipates coordinating training design, scheduling, and other details with entities concerned with workforce development, such as the Vermont Technical College, various vocational training programs, and the Vermont Department of Labor.