



Efficiency Vermont

**ANNUAL PLAN
2007 - 2008**

**Prepared for the Vermont Public Service Board
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1. Introduction and Summary

1.1 Introduction

This Annual Plan is submitted by the Vermont Energy Investment Corporation (VEIC) to the Vermont Public Service Board (PSB), pursuant to VEIC's contract with the PSB for delivery of Energy Efficiency Utility services under the name "Efficiency Vermont." The Plan covers activity from 2007 through 2008 and describes:

- Strategies for achieving a high level of added electric energy and demand savings throughout Vermont, as well as strategies for targeting geographic areas designated by the PSB for concentrated acquisition of electrical demand savings;
- Other significant initiatives anticipated by Efficiency Vermont in 2007 and 2008;
- An estimate of the 2007-2008 Efficiency Vermont Annual Plan budget;
- An estimate of the societal benefits and costs associated with successful implementation of the Annual Plan.

1.2 Context of the Plan

The 2007-2008 Plan represents a significant departure from previous Efficiency Vermont plans in scope and focus. These shifts are due primarily to a series of PSB orders issued during the fall and winter of 2006 / 2007, including:

- August 2, 2006 – Energy Efficiency Utility Budget for Calendar Years 2006, 2007, and 2008
- September 25, 2006 – Targeting of Portion of Energy Efficiency Utility Budget
- December 14, 2006 – Energy Efficiency Utility Participation in ISO-New England Forward Capacity Market
- January 8, 2007 – Geographic Targeting of Energy Efficiency Utility Funds

The net effect of these orders increases funding for the Efficiency Vermont contract for 2006 to 2008 by \$20.5 million (46%), to a total of \$66.5 million. With carryover funds from 2006, Efficiency Vermont will be operating on a budget of \$52 million for 2007-2008. The orders have also created two foci for acquiring energy and demand saving resources by establishing:

- **A base budget of \$46 million** in 2006 through 2008 to fund statewide energy efficiency implementation, where Efficiency Vermont strategies will strive to meet reasonable levels of equity in the distribution of efficiency benefits among customer groups and across geographic regions (as has been the case from 2000 to 2006)
- **An incremental level of \$20.5 million** in 2007 - 2008, to fund geographically targeted peak capacity savings (known as "Geo-Targeting," or "GT")

Development and review of the Plan (detailed in the Efficiency Vermont Interim Status Report, February 15, 2007) involved many key stakeholders. These included national experts on energy efficiency, more than 20

Vermont stakeholders from residential and business communities, and the Efficiency Vermont Advisory Committee. Efficiency Vermont is grateful to all of the participants for their time and effort in contributing to the Plan's formulation.

1.3 Summary of the Plan

1.3.1 Contract performance objectives. The overarching objective of the 2007-2008 Plan is to achieve 100% of the Efficiency Vermont contract performance goals. Objectives and minimum performance requirements for these goals are presented in **Table 1** and **Table 2**.

Table 1. Contract Performance Objectives

Contract Objective	2006 Preliminary Results	Projected 2007-2008 Performance	Performance Goal Total
Total annual MWh savings	56,380	213,620	270,000
Total resource benefits ¹ (TRB)	\$44,252,400	\$139,747,000	\$184,000,000
Total summer peak MW savings, including GT	10.15	29.85	40
Total winter peak MW savings	9.15	30.85	40
GT summer peak MW savings	0	10.75	10.75
GT winter peak MW savings	0	10.75	10.75
Number of large grocery stores selling CFL light bulbs	19	21	40
Two towns (Hardwick and Northfield) achieving significant energy savings through efficiency	1.4% electrical savings and 16.6% participation	1.7% electrical savings and 22.4% participation	3% electrical reduction and 39% participation

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 in 2000, and calculated at a real discount rate of 6.8%. The PSB has recently approved updated estimates of avoided costs, and the Vermont Department of Public Service has recommended a new, slightly lower discount rate for future valuation of Efficiency Vermont resource savings. Efficiency Vermont plans to implement these new avoided costs starting July 2007.

The following minimum performance requirements must be met or exceeded by December 31, 2008:

Table 2. Minimum Performance Requirements

Minimum Performance Requirement	Standard to Be Met
Ratio of gross electric benefits to spending	1.2
2006-2008 spending for the residential customers	\$19.7 million
2006-2008 spending for low-income customers	\$6.3 million
Number of small business customers served	700
Minimum total resource benefits received by each county in Vermont	Prescribed by county; a range of \$0.5 million to \$12 million

This Plan maps out strategies for cost-effectively achieving the contract objectives with a target yield of 40.6 MWh per \$10,000 of spending and a levelized cost of \$0.029 per kilowatt-hour.

1.3.2 Strategic approaches. In general, Efficiency Vermont will continue to use market-based approaches to take advantage of market opportunities for efficiency at the time that residential or commercial building or equipment-related decisions would normally be made. The increased resource acquisition targets and focus on specific GT areas will require a significantly greater emphasis on retrofit than in previous years – i.e., the early replacement or modification of building systems and equipment for the primary purpose of accelerating the adoption of efficiency improvements.

Efficiency Vermont has developed five major strategies to achieve the significantly higher resource acquisition and targeting objectives established by the Board.

- **Account management** (see page 14). Customized solutions for the specific business needs of large and mid-sized businesses. Efficiency Vermont will help identify opportunities and leverage the market resources of design professionals, vendors, and trade allies with financing options and Efficiency Vermont incentives of financial and technical assistance. This strategy includes both retrofit and market opportunities approaches.
- **High-performance partners** (see page 15). 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 15). 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.
- **Direct installation of efficiency measures in GT areas** (see page 17). Providing cost-effective energy efficiency measures at little or no cost to qualified business and residential customers in GT areas. This strategy emphasizes retrofit opportunities, both early retirement of existing inefficient

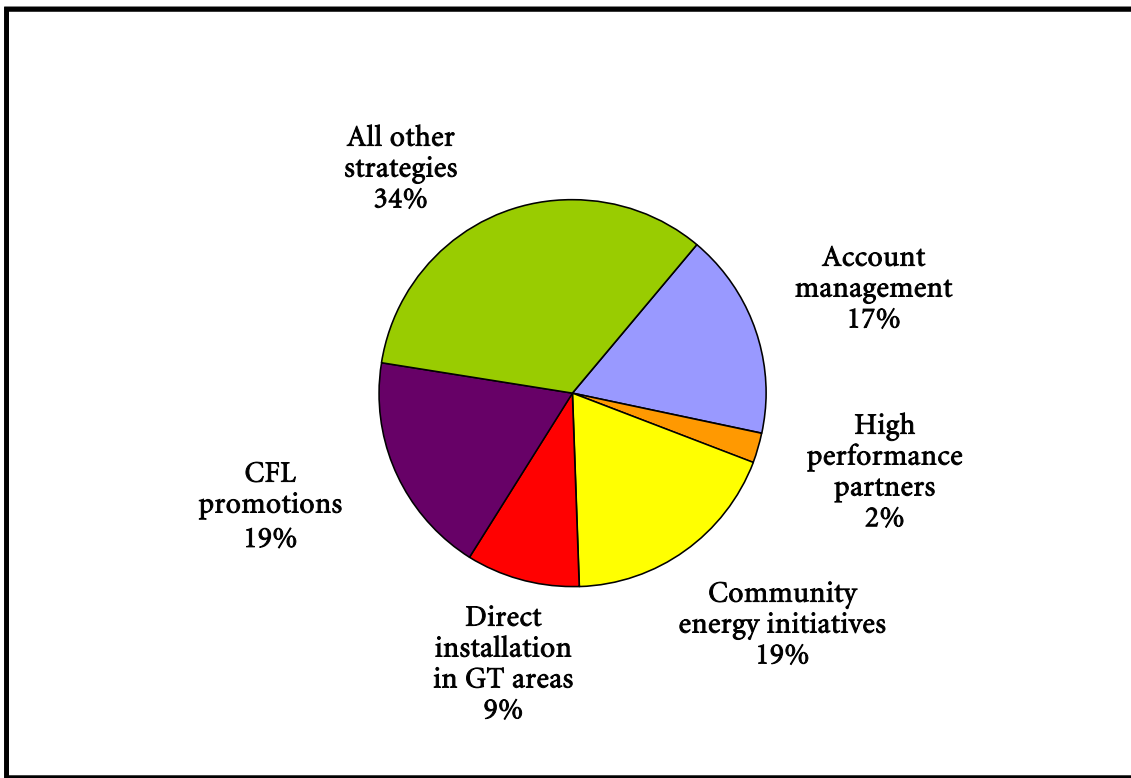
equipment (such as lighting fixtures) and installation of supplemental measures (such as controls or insulation). Direct installation services will be managed and implemented by one or more Vermont-based general contractors selected through a competitive bidding process. The general contractor(s) will subcontract qualified Vermont service contractors to install prescriptive lighting, HVAC, refrigeration, and other efficiency measures, as well as custom measures where feasible.

- **Greater point-of-sale compact fluorescent lamp (CFL) promotion.** Ramp up point-of-sale efforts with retailers to promote energy-efficient lighting. The approach also includes expanded product placement, special events in targeted communities, and wholesale and retail buydown efforts. This strategy includes both retrofit and market opportunities approaches.

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 continue efforts to promote public awareness about the value of energy efficiency through the Better Buildings by Design conference in February 2008; the promotion of ENERGY STAR® products and services; trainings for building professionals, including technical support for the Residential Energy Code and Vermont Guidelines for Energy Efficient Commercial Construction; and public media education campaigns. We continue our participation with major regional and national partnerships for energy efficiency. Finally, 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 Public Service Board and to ISO New England (ISO-NE, a regional transmission organization).

In total, the five major strategies will contribute 66% of Efficiency Vermont’s performance targets. **Figure 1** provides the percentage of the expected MWh resource acquisition by each of the major strategies, along with the expected savings from the continuation of our proven baseline Efficiency Vermont work.

Figure 1. Percentage of projected 2007-2008 MWh by major strategy

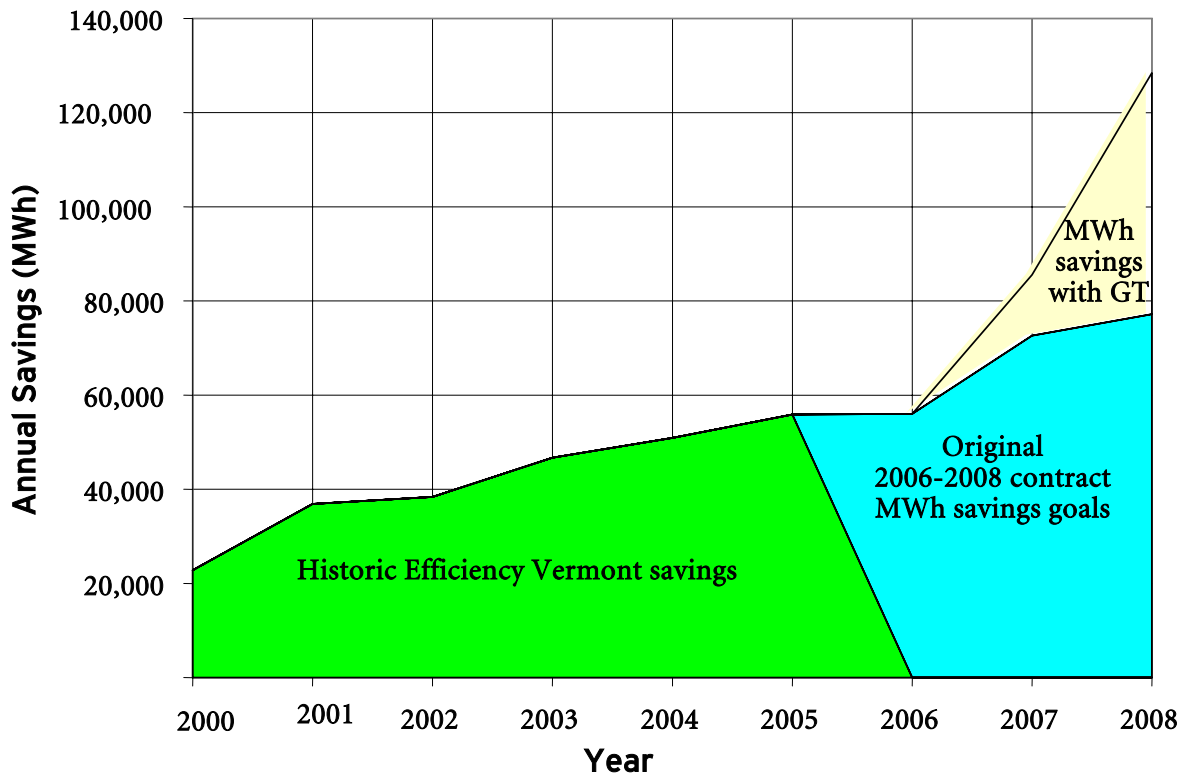


2. Objectives and Strategies for 2007 and 2008

2.1 Detailed Contract Objectives

The significant increase in the performance contract objectives over previous goals is displayed in **Figure 2**. Our strategies will focus on achieving all of the incremental savings (70,000 MWh) associated with the \$20.5 million funding increment in GT areas. We project total annual savings of 85,500 MWh in 2007 and 128,500 MWh in 2008. These savings totals represent, respectively, a 76% increase and a 128% increase over 2006 performance.

Figure 2 - Historic and projected performance in annual MWh savings



The PSB has also indicated that the distribution of efficiency benefits should be relatively proportional to the share of ratepayer investment by the residential and business sectors. Our plans for 2007-2008 in this respect are shown in **Table 3**.

Table 3. Anticipated Savings by Sector for 2007-2008

Sector	Annual Savings (MWh)	Winter Peak Demand Savings (MW)	Summer Peak Demand Savings (MW)	Lifetime Economic Value
Residential	99,452	14.36	13.89	\$65,060,000
Business	114,168	16.49	15.95	\$74,688,000
Total	213,620	30.85	29.84	\$139,748,000

Geo-Targeting (GT) demand resource objectives. The PSB has designated four regions to be targeted for significantly higher levels of summer and winter peak capacity savings. Each region is served by transformers, distribution system circuits, feeders, and / or other technologies projected to require significant upgrades in the next 5 to 10 years. The objective of our geo-targeted implementation of efficiency in 2007-2008 is to determine the extent to which energy efficiency can defer or delay the capital investment to make these electrical infrastructure improvements. The designated areas, and their characteristics, are provided in **Figure 3 and Table 4**.

Figure 3. Geo-Targeted areas for 2007 - 2008, by utility

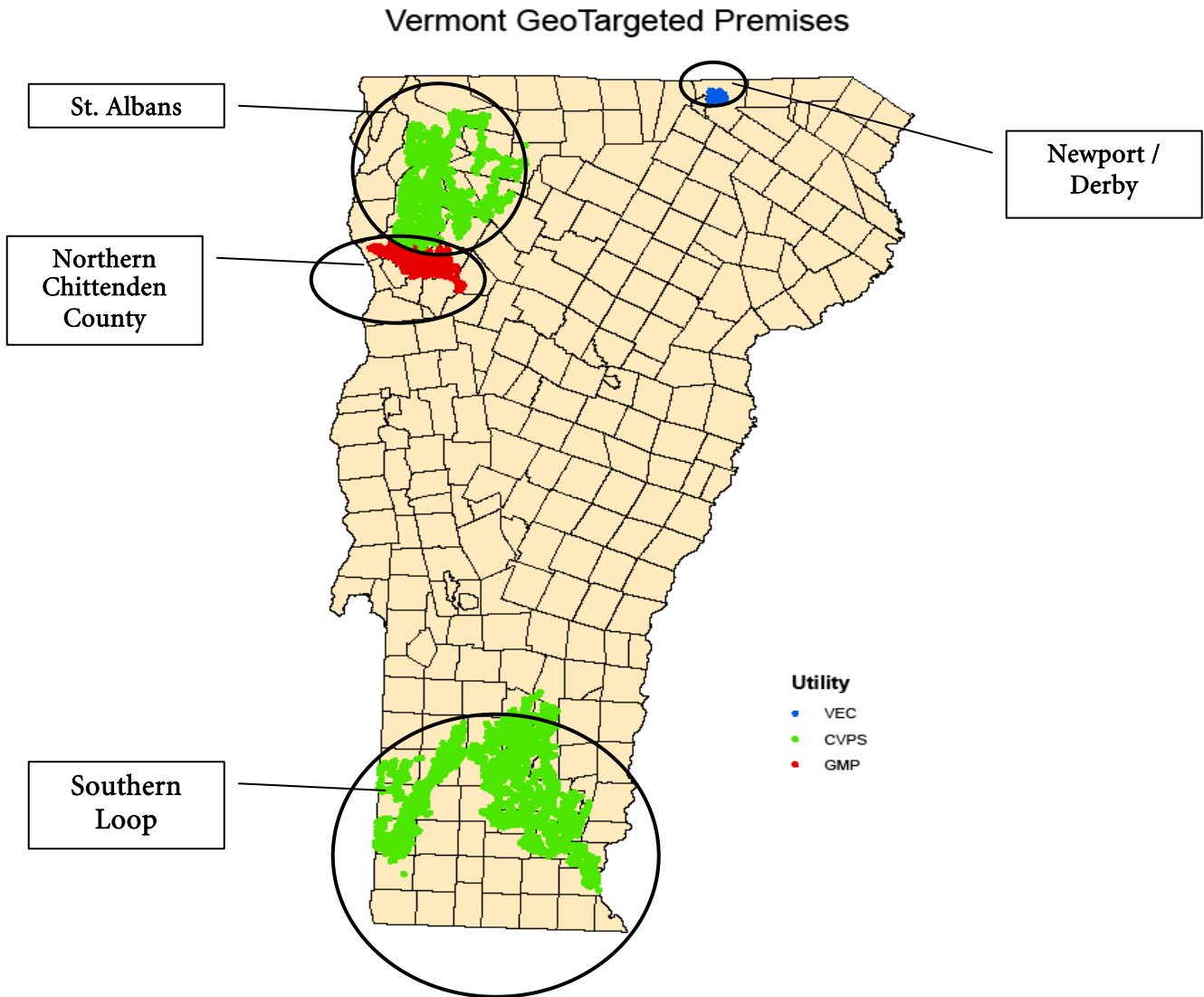


Table 4. Targeted Regions and Electric Account Characteristics

GT Area	Total Number of Accounts	Residential Accounts	Business Accounts with Less than 1 MW Demand	Business Accounts with Greater than 1 MW Demand	Total MWh Usage in 2005	Percent of Accounts with Efficiency Measures (2000-2006)
St. Albans	16,482	14,357	2,118	7	294,790	31.8%
Northern Chittenden County	18,930	16,321	2,606	3	283,899	32.8%
Southern Loop	21,501	18,544	2,953	4	271,136	19.1%
Newport / Derby	5,231	4,389	841	1	77,595	16.9%
TOTALS	62,144	53,611	8,518	15	927,420	26.5%

The PSB has established that the goal for 2007-2008 in GT areas is 10.75 MW in winter capacity savings and 10.75 MW in summer capacity savings. These targets are significantly (approximately 12 times) higher than the average annual capacity savings rate that has been achieved in the past seven years of Efficiency Vermont operations in those regions. **Table 5** shows historic and projected demand resource acquisition for each GT area for the period July 1, 2007, through December 31, 2008.

Table 5. Historic and Projected Demand Resource Savings for GT Areas

GT Area	Historic Average Savings for 18 months (2005-2006)		Projected Savings for 18 Months July 2007-December 2008		% Increase	
	Summer Peak Demand Savings (MW)	Winter Peak Demand Savings (MW)	Summer Peak Demand Savings (MW)	Winter Peak Demand Savings (MW)	Summer Peak Demand Savings	Winter Peak Demand Savings
St. Albans	0.327	N/A	3.87	N/A	915%	N/A
Northern Chittenden County	0.284	N/A	3.34	N/A	1076%	N/A
Southern Loop	N/A	0.584	N/A	8.50	N/A	1355%

GT Area	Historic Average Savings for 18 months (2005-2006)		Projected Savings for 18 Months July 2007-December 2008		% Increase	
	Summer Peak Demand Savings (MW)	Winter Peak Demand Savings (MW)	Summer Peak Demand Savings (MW)	Winter Peak Demand Savings (MW)	Summer Peak Demand Savings	Winter Peak Demand Savings
Newport / Derby	0.300	0.155	3.54	2.25	1080%	1352%
Totals	0.911	0.739	10.75	10.75	1080%	1354%

The “N/A” boxes in **Table 5** illustrate that St. Albans and Northern Chittenden County will be targeted for summer peak demand savings only. The Southern Loop will be targeted for winter peak demand savings only. Newport / Derby will be targeted for both summer and winter peak demand savings.

2.2 Major Strategies

2.2.1 Overview of strategic approach. In each year since 2000, Efficiency Vermont has increasingly acquired more energy efficiency resources. In 2006, annual MWh savings were 260% greater than in the first year of operation and were higher than any other state on a per-capita or total-load-adjusted basis.

This success has been due to strategies evolving from close monitoring of each year’s experience. One of the most important overarching strategies has been to identify the key decision points in the market regarding energy efficiency - and then focusing efforts on influencing those decisions. Over the years, we have also increasingly relied on market partners to achieve our results. This was reflected in our “market approach,” fully embraced in 2003, in which we sought to create value for *all* the key market actors surrounding energy efficiency decisions in the market (including energy end users, building and design professionals, suppliers, retailers, and business partners). We have also increasingly sought to identify the non-energy benefits valued by customers, and to use these to increase implementation of energy-saving projects. We will continue to build on all of this experience in effective strategy design as we seek to ramp up statewide savings and accomplish geo-targeting objectives in 2007-2008.

In 2007-2008, we are applying a greater understanding of what constitutes value for our customers. New, higher goals will take us past the “early adopters” market for energy efficiency into more “mature markets.” This group of customers conceptually understands energy efficiency, but it has not yet seen any significant value in adopting energy efficiency measures. Our job will be to engage these customers in new ways to help them see the value of making significant energy efficiency investments.

Specific objectives for 2007-2008 include:

- Higher percentage of first-time participants
- 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)

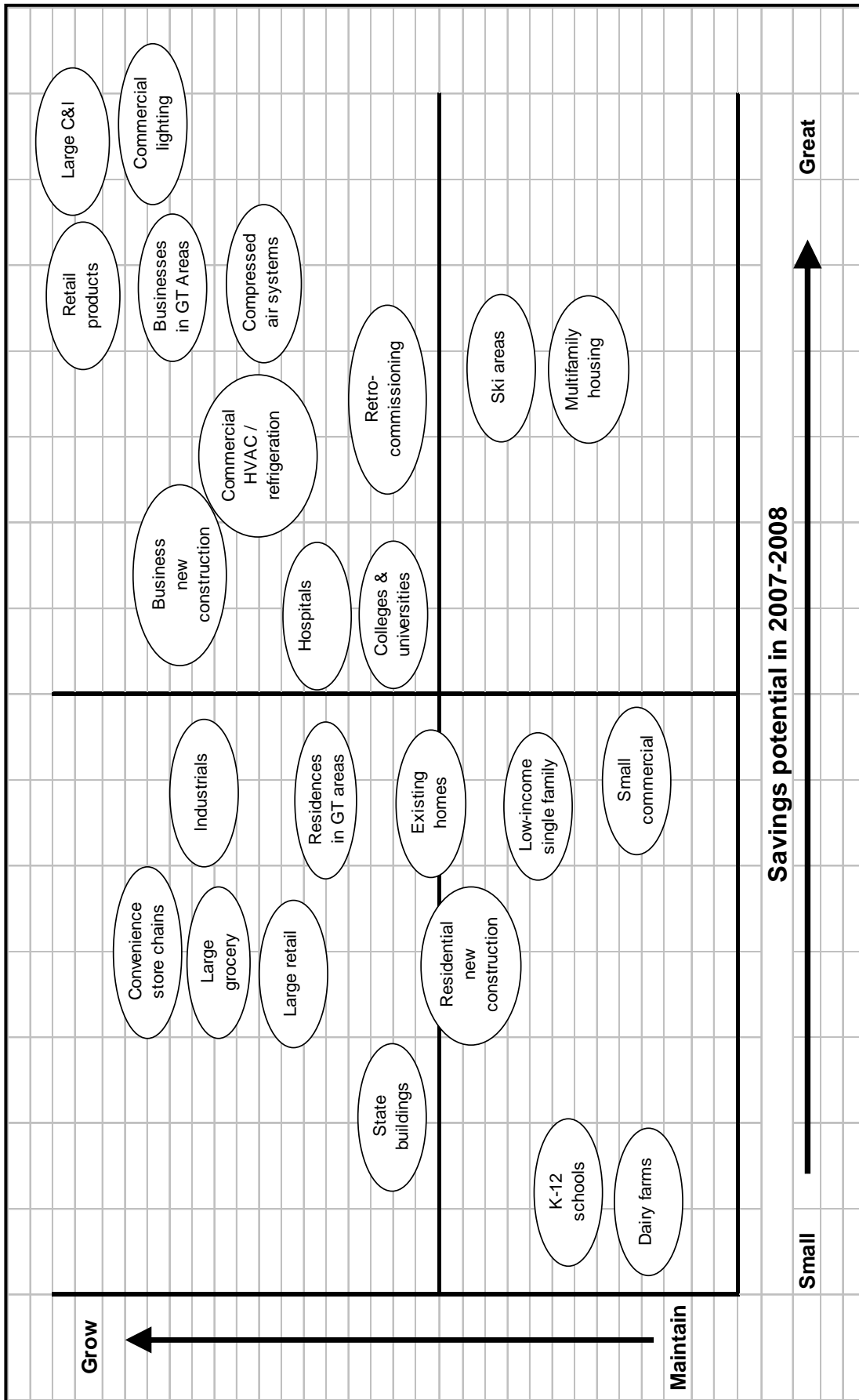
- More savings from niche markets with high potential for energy efficiency
- Higher ratio of project leads and enrollments brought to successful implementation
- Deeper penetration of energy efficiency among mid-sized to large businesses (those with greater than 500 MWh annual consumption)

Figure 4 illustrates strategic prioritization of markets for energy efficiency resource acquisition in 2007 and 2008. It reflects both the magnitude of savings and the difficulty / cost of securing savings.

The figure identifies business and residential markets, as well 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 under-emphasized or under-explored 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 may be a low priority when we are stretching to reach unprecedented overall yield rates.

Figure 4. Strategic emphasis in selected markets, 2007 – 2008



2.2.2 Strategy model and alignment. Efficiency Vermont strategies for energy efficiency resource acquisition in 2007-2008 use aligned objectives across the organization from four organizational perspectives.²

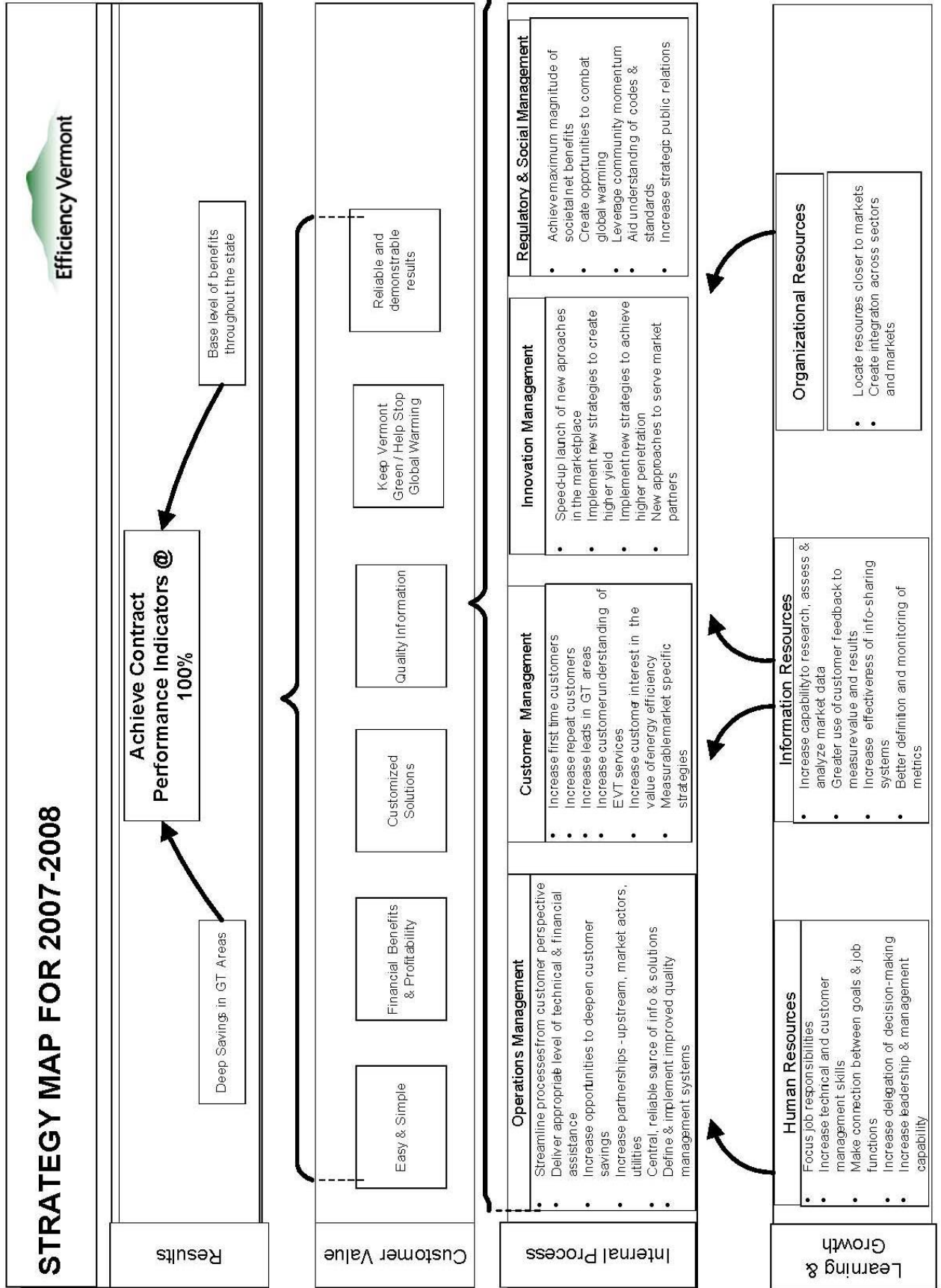
- **Key results** -- Energy and demand savings resource acquisition
- **Customer value** -- Key value propositions that motivate the customer to action
- **Internal processes** -- Key internal objectives to create customer value
- **Knowledge and asset management** -- Alignment of assets to deliver key internal processes

When placed in a map (**Figure 5**), the objectives highlight key business processes that create customer value to achieve solid results. This map created guidance and alignment for all divisions of Efficiency Vermont to build strategies to support the alignment with key objectives of the Efficiency Vermont contract.

After senior management developed a strategy map, each of the leaders of the major and minor market initiatives and support services built supporting strategy maps and corresponding action plans. The Efficiency Vermont Annual Plan for 2007-2008 is the product of the alignment and consolidation of these planning efforts.

² The strategy maps developed by Efficiency Vermont are based on the principles found in the following resources: Kaplan, R.S. and Norton, D.P. (2004). *Strategy Maps: Converting Intangible Assets into Tangible Outcomes*. Boston: Harvard Business School Press; and Kaplan, R.S. and Norton, D.P. (1996). *The Balanced Scorecard: Translating Strategy into Action*. Boston: Harvard Business School Press.

Figure 5. Efficiency Vermont's alignment of objectives for achieving contract goals



2.2.3 Account management. Much of Vermont's untapped energy efficiency potential can be found within a group of businesses classified as mid-size to large, according to their annual electrical usage (more than 500 MWhs). These customers represent only 2% of the 37,000 business accounts in the state, yet they consume 57% of the electrical energy used by all businesses. Further, within the GT areas, these mid-size and large businesses represent 25% of the business accounts and are responsible for 88% of total business sector electrical energy use. While Efficiency Vermont statewide savings in this group has been 9% of their electrical usage to date, our first-hand experience with these customers suggests they offer significant, unrealized opportunities for further savings.

As many businesses that sell services to other businesses have discovered, successful account management achieves good results by customizing solutions in long-term, mutually beneficial, key business relationships. Efficiency Vermont's approach to account management strategically uses project managers and business development specialists to cultivate stable, valued, and long-term relationships with key business customers. Together, they identify ways in which energy efficiency can deliver important value to the specific business or industry, and create customized solutions to incorporate 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
- **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 2006, Efficiency Vermont developed detailed account management protocols and launched the first round of account management to 25 of the top 65 business accounts in the state.³ Early results are encouraging: one major project has been completed with 2,000 annual MWh savings, and more than 10,000 MWhs in savings from other businesses in this category have been committed.

In 2007-2008, Efficiency Vermont will expand full account management services to all 65 top business accounts. We are also developing a less labor-intensive version of account management, and expect to roll it out to more than 150 additional businesses during 2007 and 2008.

It is expected that account management will result in more than 120 successful business-sector projects during 2007 and 2008. Expected MWh savings across the two years are anticipated to be 37,000 MWhs, accounting for 17% of all Efficiency Vermont 2007-2008 targets.

³ Efficiency Vermont (August 2006). *Account Management Protocol*.

2.2.4 High performance partners. Recent market evaluations have concluded that Efficiency Vermont is positively recognized and has achieved significant amounts of participation from suppliers, vendors, design professionals, builders, and contractors.⁴ These “upstream market partners” – upstream from end-use customers in the supply chain – 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 have named the 2007-2008 strategy for maximizing the benefits of working through these market partners with an operative term, “high performance partners.”

Changing “business as usual” in upstream markets is similar to account management in requiring customized approaches for engaging business partners. The key values for upstream partners are typically: (1) profitability; (2) recognition for high-quality product and service reliability; and (3) added value for end-use customers (e.g., lower costs, less hassle, and environmental stewardship). Efficiency Vermont will expand the approach for delivering these values in upstream markets by offering:

- Product buydown financial incentives, to lower the up-front cost of energy-efficient equipment
- Financial incentives to stock energy-efficient products
- 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
- Customized market training for upstream partners on the value of efficiency for their customers

Early candidates for expanded 2007-2008 efforts will include equipment suppliers of lighting to promote high performance T-8 lighting and infra-red halogen PAR lamps, HVAC, motors, and refrigeration; design professionals (architects & engineers); and design / build contractors. Other upstream market partners who may be included in an expanded effort are suppliers for office equipment, compressed-air equipment, kitchen equipment, and transformers; providers of commissioning and energy services (including those focusing on fossil fuel and envelope technologies); property management and service organizations; realtors, appraisers, and lenders; and manufacturers.

It is projected that this high performance partners strategy may be able to achieve 3,000 to 8,000 MWhs of annual savings for 2007 and 2008.

The expansive use of upstream strategies may be contingent upon the development of new approaches to accounting for energy and demand savings. Typically, sales data comparisons before and after high performance partners activities will help us measure energy efficient technology penetrations. It will be necessary to develop prescriptive characterizations and accounting mechanisms with the Department of Public Service and the Contract Administrator to ensure the validity of the savings to be reported from this strategy.

2.2.5 Community energy initiatives (CEI). Efficiency Vermont has successfully assisted community partners in implementing community energy initiatives – grassroots actions to adopt energy efficiency in individual communities – from 2004 to 2006. These initiatives have resulted in 612 MWh savings annually.

⁴ RLW Analytics, and KEMA, Inc. (February 2006). *Final Report: Phase 2 Evaluation of the Efficiency Vermont Business Programs*. Montpelier, VT: Vermont Department of Public Service.

Community energy initiatives (CEI) are based on a unique set of customer value propositions. Typically, key community leaders serve as sponsors and organizers and are motivated to take action for the collective good of their communities. Community energy initiatives are an effective vehicle for community action initiators to address global warming, the high cost of energy, and energy independence. Within GT areas, Efficiency Vermont expects an increase in community activity around reliability of electricity supply and around reduced delivery costs of electricity. The values added to communities from CEI are local empowerment, individual and community involvement, enhanced good will, and climate protection.

In 2007-2008, Efficiency Vermont will offer services and incentives to support communities at three levels that reflect increases in breadth and depth of service delivery.

- **Comprehensive CEI.** We will continue with major community energy initiatives in Hardwick and Northfield to work within civic organizations, municipal facilities, schools, community event planning, businesses, associations, and local retailers to promote greater levels of energy efficiency. The current goal is to reduce community energy use by 3% and achieve a participation rate (defined by installed measures) of 35% for each town by the end of 2008.
- **Community focus in GT areas.** We will apply resources in approximately 10 to 20 GT communities to develop community energy activities in support of summer and winter peak demand savings. These will include assistance in organizing events that promote sales of energy-efficient lighting through local retailers, schools, direct mail coupons, in-store displays, booths and information at local fairs, and special media and website locations for communities to chart their progress. We will also develop support for community events from local electric suppliers, business associations, and volunteer organizations.
- **Statewide support for community energy initiatives.** We will provide information, tips for organizing community energy events, assistance to local retailers, speakers, and other methods to aid local champions of community energy activities.

It is anticipated that community energy initiatives will significantly leverage multiple resources for energy savings in GT communities. It may be possible to achieve 30% to 50% participation of residential and commercial customers within GT areas.

2.2.6 Geographic targeting. Geo-targeting will incorporate the major strategies described above, along with several innovations planned to fulfill the GT goals. Important GT customers within each of the major and minor markets have been identified and prioritized for outreach. In total, 142 of the 449 largest Vermont business customers – those with annual use greater than 500 MWh – are located within GT areas. GT areas will receive special emphasis and top priority for:

- Individualized account management strategies
- 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 for new construction projects to enhance comprehensiveness of savings
- Outreach to residential high-use customers
- Direct installation of energy-efficient products for businesses and homes

2.2.7 Direct installation in GT areas. A major innovation for 2007 and 2008, direct installation of energy-efficient measures squarely addresses the PSB objective of exploring just how much efficiency can be delivered in a limited area, in a limited time. Direct installation programs identify and assess cost-effective energy efficiency opportunities, with follow-up specification and installation at little or no cost to the end user. VEIC's experience and data from programs throughout the United States indicate that direct installation can remove most of the traditional barriers to making efficiency investments, and that up to 90% participation is possible.

Efficiency Vermont will build on American and Canadian experience in direct installation programs and may implement more than 1,000 projects. Projected savings by the end of 2008 are 20,000 MWh. The implementation of this strategy will be limited to utility customers within the designated GT areas. We anticipate starting with commercial customers, followed by service to qualified residential GT customers.

An important aspect of the direct installation program will be the partnership with Vermont firms in delivering services. Efficiency Vermont estimates that the program will deliver approximately \$8 million in products and services to more than 1,000 customers through 2008. We anticipate hiring at least one Vermont general contractor through a competitive bidding process to manage energy assessments, energy efficiency specification, general contracting, and data reporting. Efficiency Vermont will work with Vermont electrical, HVAC, and refrigeration suppliers to provide equipment, materials, and controls for the program. The general contractor will arrange for installation of efficiency measures by subcontracting with probably dozens of GT-area service and installation companies.

Details of the GT direct installation strategy are currently under development, with an expected launch date in autumn 2007. Efficiency Vermont will consult with firms that currently deliver similar programs and adopt effective best practices for delivering services and marketing the program directly to eligible customers.

2.3 Major Innovations for 2007-2008

2.3.1 Technology innovations. Existing technologies form the backbone for reliable ways to achieve energy efficiency, but Efficiency Vermont will also continue to encourage new technologies throughout all market sectors. In 2007-2008, special emphasis will be placed on the promotion of the following technologies to expand their market penetration.

- High performance T-8 commercial lamps and fixtures
- Halogen infrared PAR and MR16 lamps
- Specialty compact fluorescent lamps: 3-way, dimmable, and encapsulated
- Compressed air systems emphasizing efficiency gains in distribution systems
- Commissioning and retro-commissioning
- ENERGY STAR dehumidifiers

- Pool pump timers
- ENERGY STAR personal computer power supply systems
- New efficiency levels above ENERGY STAR for refrigerators, room air conditioners, and clothes washers

2.3.2 Innovations to reduce financial barriers to energy efficiency. Efficiency Vermont will continue to explore innovative ways to reduce financial barriers to energy efficiency for business and residential customers. Direct incentives to reduce the premium prices on energy efficiency purchases are a key component of Efficiency Vermont strategies. However, we will also develop and implement techniques designed to enhance business and residential customers' net cash flow and to reduce the first-cost barrier for energy efficiency retrofit investment.

2.3.3 Innovations in addressing financial barriers for mid-sized to large businesses. Access to capital is not typically a barrier for mid-sized to large businesses, but effective account management with corporate decision-makers can help businesses incorporate energy savings into cash flow projections to meet their needs. Efficiency Vermont account managers have been trained in financial analysis appropriate for this type of business decision-making.

Most businesses have become accustomed to gauging financial viability of prospective efficiency investments by how long it takes for reductions in energy bills to pay back the cost of the investment. Efficiency Vermont account managers now provide cash flow analyses of recommended efficiency investments emphasizing standard financial investment concepts such as rate of return and lifetime net present value. These are the same approaches most businesses use to judge competing investment opportunities in their long-term capital budgets. Further, Efficiency Vermont can introduce different approaches to financing that will meet specific customer financial needs such as loans, leases, fundraising, bonds, and customer-financed capital.

These cash flow models are a key strategy to addressing customer concerns of equity and / or liability and risk, how to value non-energy benefits, and how Efficiency Vermont can strategically tailor financial incentives to address particular management concerns.

2.3.4 Innovations in addressing financial barriers for small businesses and residential customers. Efficiency Vermont will continue to offer reduced-rate financing through 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.

Efficiency Vermont has also begun to investigate other ways to provide easier access to capital for this market. On-bill financing is one such example. As promoted by PAYS America, Inc. (Pay As You Save, or PAYS[®]), this concept is enhanced by attaching to the meter the responsibility for payment, and passing that responsibility on to successive customers at the same location. This model allows an electric utility to recover the cost of an energy efficiency investment, with interest and across long periods of time, as an add-on charge to the utility bill. The utility then repays the entity that provided the capital, and the utility customer can enjoy neutral or positive cash flow, compared to paying for energy efficiency up front.

A pilot for this concept has been implemented in New Hampshire, and evaluations indicate that the program is effective in getting more people to participate in installing energy efficiency measures.⁵ Efficiency Vermont is considering further investigating the feasibility of implementing a PAYS pilot as part of our research,

⁵ GDS Associates, Inc. (2003). *Process Evaluation of the Pilot "Pay As You Save" (PAYS) Energy Efficiency Program, as delivered by the New Hampshire Electric Cooperative and Public Service of New Hampshire*. Manchester, NH, pp. 7-12. See also <http://www.paysamerica.org/index.html>.

development, and design efforts. If Efficiency Vermont does pursue this research, we will work closely with the Department of Public Service and the PSB Contract Administrator to explore the concepts associated with on-bill financing.

3. Market Initiatives and Services for 2007 and 2008

Efficiency Vermont will continue to serve, through 2008, all of the core markets identified in the PSB's 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 2007-2008, a description of current approaches that will continue through 2008, and a description of new approaches in 2008 for:

- Retail efficient products
- Business new construction
- Residential new construction
- Existing businesses
- Existing homes

3.1 Retail Efficient Products

3.1.1 Market profile. There are between 5 million and 8 million energy efficient lighting opportunities in Vermont homes. An additional 2 million opportunities exist for businesses that regularly purchase their lighting from retail lighting suppliers. In 2002, the *Evaluation of the Efficiency Vermont Energy Efficient Products Program* estimated that there are 340,000 lighting fixtures purchased annually by Vermont households.⁶ Annually, Vermont sells 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

⁶ Xenergy, Inc. (2002). *Phase I: Evaluation of the Efficiency Vermont Efficient Products Program Evaluation*. Montpelier: Vermont Department of Public Service, p. 51. Available at http://publicservice.vermont.gov/energy-efficiency/ee_files/efficiency/eval/res_efficient_products/epp_complete.pdf.

- 80,000 personal computers

The electrical energy efficiency potential for lighting products alone (lamps and fixtures) continues to outpace the electrical efficiency potential for all other electrical appliances combined – by a significant margin. And because federal appliance efficiency standards continue to rise, the energy efficiency potential for appliances continues to decline.

3.1.2 Important objectives for 2007 - 2008. In 2007-2008, Efficiency Vermont expects to realize 80,000 MWh in savings for retail products, of which 79,000 MWh will come from lighting products and 1,000 MWh from efficient appliances. Efficiency Vermont plans to increase the sale of compact fluorescent light bulbs from 300,000 units per year to more than 400,000 units per year, a 33% increase. The Plan also calls for a substantial part of that increase to occur in GT areas.

3.1.3 Continuing approaches for 2007 - 2008. A focus on the point of sale has proven to be an effective target for influencing buying decisions for energy-efficient products. 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:

- **Instant rebate coupons** for energy efficient lighting products in more than 200 retail locations statewide
- **Mail-in rebates** for ENERGY STAR-qualified room air conditioners, refrigerators / freezers, dehumidifiers, and clothes washers available in more than 100 retail locations statewide
- **Negotiated cooperative promotions** (NCPs, also referred to as “product buydowns”), in which manufacturers and retailers mark down efficient product pricing for the consumer

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
- Mail-order catalog sales for underserved portions of the market
- Active participation and support for national efforts to improve energy-efficient product quality, particularly with compact fluorescent lamps.

3.1.4 Key changes for 2007 2008. The most significant change in retail products will be a planned increase in the use of negotiated cooperative promotions (NCPs), which will engage chain outlets and other retailers who have not yet participated in point-of-sale lighting product promotions. NCPs buy down the price of efficient lighting products to the distributor, who passes the savings on to the consumer. Efficiency Vermont will seek to include targeted major chains such as Brooks Pharmacy, Rite-Aid, Wal-Mart, and retail hardware and grocery stores. Efficiency Vermont anticipates increased savings of 300% by the end of 2008 with NCPs, compared to 2006 savings achieved with NCPs.

Efficiency Vermont piloted NCPs in 2004 and substantially increased CLF sales due to these agreements in 2006. NCP participants provide aggregate data to document the amount of energy-efficient lighting product

sales. The NCP agreement overcomes many barriers that some larger retail chains perceived with Efficiency Vermont's Instant Coupon program. NCP agreements also open a significant portion of the market for energy-efficient lighting to consumers who normally purchase their lighting products from these larger retail chains.

As the percentage of overall savings associated with NCPs increases, it may be necessary to develop new prescriptive characterizations with the Department of Public Service and Contract Administrator for lighting products sold through the NCP agreement mechanism.

Other planned innovative strategies are:

- **Increase 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** throughout the state. Efficiency Vermont anticipates supporting approximately 10 to 20 community events throughout the state by the end of 2008, resulting in the retail sale of more than 300,000 compact fluorescent lamps in this one sector alone.
- **Promote efficiency levels beyond ENERGY STAR** for appliances. Efficiency Vermont will provide incentives for appliances that are more efficient than ENERGY STAR standards, including incentives for clothes washers, room air conditioners, and refrigerators.
- **Introduce new energy efficient products**. Efficiency Vermont may introduce rebates for new energy-efficient products including dehumidifiers, pool pump timers, and power supplies for personal computers.

3.2 Business New Construction

3.2.1 Market profile. Each year, an estimated 500 commercial and industrial buildings are constructed 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.

3.2.2 Important objectives for 2007-2008. Efficiency Vermont plans to increase energy savings in this market by approximately 200% annually compared to 2006 savings. A total of 300 new construction projects are expected to be completed. In total, we will attempt to achieve 15,000 MWh of savings, approximately 10% of the electrical energy projected for this market.

3.2.3 Continuing approaches for 2007-2008. Efficiency Vermont's customized approach to building in energy efficient design in large commercial new construction projects will continue. 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:

- **Monitoring new construction activity to ensure optimal early project enrollment**, when the 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 and Advanced Buildings Energy Benchmark for High Performance Buildings, and opportunities for Continuing Education credits at the 2008 Better Buildings by Design Conference

- **Financial incentives** to reduce the incremental costs associated with energy-efficient technologies

3.2.4 Key changes for 2007- 2008. Efficiency Vermont will introduce new strategies for 2007-2008 to increase efficiency savings in new construction. These techniques include:

- Simplify participation by offering streamlined **prescriptive approaches for small commercial projects**
- Simplify participation for mid-size projects by **standardizing the incentive structure for common efficiency technologies** such as lighting, HVAC, and motors
- Initiate a **performance-based incentive structure** for design professionals who use energy modeling for high performance buildings
- **Provide standardized incentives for design professionals**
- **Target design professionals in 20 top firms that have never participated,** including architects, engineers, and design / build and contracting firms

3.3 Residential New Construction

3.3.1 Market profile. An estimated 3,000 new homes are 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 10 years, and in the past 5 years, Vermont has maintained one of the highest shares of energy-efficient homes in the country, ranging from approximately 20% to 34% annually.

In 2006, the EPA introduced new energy-efficient homes standards that will require greater involvement by builders with Efficiency Vermont's services. The new standard requires a pre-drywall inspection to ensure that proper insulation and air-sealing techniques have been applied. The new standards present a training and education hurdle for builders, but Efficiency Vermont is ready to provide necessary support for meeting those EPA standards.

3.3.2 Important objectives for 2007-2008. Efficiency Vermont will seek to increase energy savings in residential new construction from 900 to 1,100 MWh per year in 2007-2008 compared to 2006. An important objective will be to increase the value of the ENERGY STAR certification for builders, because of the greater investment they must make to comply with the new standard.

3.3.3 Continuing approaches for 2007-2008. 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:

- **Financial incentives to overcome barriers** to the adoption of energy efficient technologies and practices
- **Technical assistance** with plan review, recommendations, testing, and inspections
- **Technical assistance and certification of compliance with the Vermont Residential Energy Code**
- **Certification of qualification for federal tax credits**

- **Ongoing building science training** at special workshops and at the Better Buildings by Design Conference

3.3.4 Key changes for 2007-2008. Building on the foundation of our current approaches, Efficiency Vermont will seek to provide greater value to residential builders by:

- Implementing special marketing in a softer housing market to distinguish builders of ENERGY STAR homes
- Providing ENERGY STAR labeling for qualifying modular homes
- Streamlining scheduling and coordination that make extra inspection services easy for the builder
- Creating greater recognition for ENERGY STAR builders through cross-marketing of ENERGY STAR products

3.4 Existing Business

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

Efficiency Vermont continues to promote energy efficiency successfully in this market. Over the past seven years, energy efficiency resource acquisition in this market has been sustained at an average of 34% 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 4** 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, 2007-2008

Rank	Market	Level of emphasis	Expected magnitude of savings
1	Business accounts with greater than 1 MW of demand	grow	large
2	Hospitals and health care	grow	large
3	Industrials	grow	moderate
5	Convenience stores (new market in 2007-2008)	grow	small - moderate
6	Large grocery stores (new market in 2007-2008)	grow	small - moderate
7	Large retail chains	grow	small – moderate
8	Colleges and universities	grow	moderate
9	Ski areas	maintain	moderate - large
10	Vermont state buildings	grow	small - moderate
11	Water / wastewater treatment	maintain	small - moderate
12	Small businesses	maintain	moderate
13	K-12 schools	maintain	small
14	Dairy farms	maintain	small

3.4.2 Important objectives for 2007-2008. Efficiency Vermont will continue to increase energy efficiency resource acquisition within the commercial sector at an average rate of 34% per year. The overall target for 2007-2008 in the existing business sector is 72,000 MWh.

3.4.3 Continuing approaches for 2007-2008. 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-size and large businesses. The solutions include providing energy efficiency information, technical assistance, financial incentives, and partnering with service providers on services 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.
- **Upstream partners** -- Work with partners who are upstream in the supply chain of end-use customers to ensure that efficiency equipment and energy efficiency services are available. These efforts include 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.

- **Facility operational efficiency pilot** — Continued participation in a pilot project with Hallam Engineering and Kilowatt Partners to obtain energy savings at 10 facilities, using simple low-cost and no-cost behavioral changes. The pilot is targeted at schools, colleges, and state buildings. To date, nine out of the ten facilities have been enrolled for services and one of the facilities has been completed.
- **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.

3.4.4 Key changes for 2007-2008. Efficiency Vermont will increase and enhance the strategies for existing businesses in 2007 and 2008.

- **Account management.** Efficiency Vermont will expand the account management efforts from 25 to 200 top businesses in each of the major sub-sectors. A special emphasis will be placed on key accounts in the GT areas. See page 14.
- **High performance partners.** Product buy-downs with commercial lighting suppliers, HVAC, and refrigeration equipment is a feature of this strategy. We will also offer incentives for high performance designs to upstream market partners See page 15.
- **Increased services and incentives for qualified customers in GT areas.** Efficiency Vermont will encourage deeper savings and higher participation in GT areas by providing higher levels of technical assistance, financing assistance, and/or financial incentives. See page 17.
- **Direct installation.** We plan to implement the strategic direct installation of cost-effective efficiency measures in GT areas. See page 17.
- **Streamlined process for small business custom projects.** Streamlined forms and processes for small business customers to identify cost-effective energy efficiency opportunities for custom measures are the key feature of this strategy. The assumed outcomes are reduced project staff time, better customer service, and stronger relationships with these customers.

3.5 Existing Homes

3.5.1 Market profile. There are 235,000 single households plus 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.

3.5.2 Important objectives for 2007-2008. Promoting energy efficiency in residential dwellings will continue in 2007 and 2008, with expected savings of:

- 4,800 MWh in non-low- income single family homes
- 6,000 MWh in multifamily dwellings
- 4,700 MWh in low-income single family dwellings

3.5.3 Continuing approaches for 2007-2008. 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 geographic equity, residential spending, and low-income spending requirements of the Efficiency Vermont contract. Greater emphasis will be placed on residential dwellings in the GT areas through enhanced incentives, promotional efforts, and cost-effective direct installation of efficiency measures by qualified Vermont-based contractors.

The major approaches in the existing home market include:

- **Home Performance with ENERGY STAR.** A continuing initiative to build an 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 continue to assist the development of this network of contractors by providing or generating:
 - contractor training and certification;
 - financial incentives for customers with cost-effective improvement opportunities;
 - marketing and advertising support for qualified contractors; and
 - completion of 300 home performance projects.
- **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; and
 - increased emphasis to generate 800 targeted high-use projects, of which approximately 70% will be located in GT areas.
- **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 leveraged substantial owner investment in energy efficiency from property owners. In this market Efficiency Vermont will:
 - provide technical assistance to identify cost-effective measures;
 - create financial incentives towards 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 by 25% over 2005 levels the number of projects with private, non-subsidized building owners.
- **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 approximately 2,400 participants across two years, 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
 - conversion of electric water and space heating equipment to fossil fuel systems that are less costly, from both a consumer and a societal perspective

- **Additional low-income services.** Efficiency Vermont also plans to continue and develop new supplemental efforts to reach low-income households with energy efficiency measures through:
 - distribution of efficient lighting products through food shelves
 - special targeted efforts to low-income neighborhoods and communities (including mobile home developments)
 - cooperative efforts with the state's Low Income Home Energy Assistance Program (LIHEAP) and other social service agencies that target Vermont's low-income and aging populations.

- **Information for residential customers.** Efficiency Vermont maintains a reputation for providing trusted expertise to all Vermonters via its toll-free phone, e-mail, and website. 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 website, providing extensive information, guidance, tips, links and resources, including listings of providers of energy-efficient products and services throughout the state
 - a wide variety of printed information for residential energy consumers to help them understand and lower their energy use
 - a designated, specially trained Technical Customer Service Representative, who answers more in-depth and technical questions by phone and e-mail
 - the "Ask Rachael" advice column, featuring our Technical Customer Service Representative answering Vermonters' questions about residential energy use

3.5.4 Key change for 2007-2008. In all aspects of Efficiency Vermont initiatives and services for residential customers, special emphasis and targeting will be applied in GT areas. Efficiency Vermont will explore the feasibility of an aggressive residential direct installation program for energy efficient lighting and water conservation products within GT areas.

3.6 Customer Credit

Efficiency Vermont will continue to offer and support the Customer Credit option for large customers who meet 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.

3.7 Other Major Initiatives

3.7.1 Better Buildings by Design conference. Efficiency Vermont presents an annual comprehensive conference on high performance residential and commercial new construction. The 2008 Better Buildings by Design conference will maintain and expand on the success of the nine 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 the latest 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 1,200 building and design professionals. The 2008 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.

3.7.2 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 the Independent System Operator – New England (ISO-NE). As directed by the Vermont Public Service Board, VEIC will represent the interests of Vermont ratepayers in the ISO-NE Forward Capacity Market. Each month, through the end of the Efficiency Vermont contract in December 2008, VEIC will continue to report capacity savings from Efficiency Vermont investments to ISO-NE and claim payments for these savings from ISO-NE. VEIC will perform all necessary administrative and fiscal activities associated with this responsibility.

VEIC will also continue to participate in rule-making processes established by ISO-NE regarding the establishment and operation of a Forward Capacity Market and other responsibilities associated with being a Market Participant. Additionally, VEIC will prepare and submit a bid to provide Efficiency Vermont capacity savings as a demand resource in 2010 and beyond, as part of the ISO-NE Forward Capacity Market. In cooperation with the Board, the Department of Public Service, and Burlington Electric Department, VEIC will develop required measurement and verification plans for capacity savings claims.

It should be noted that while these activities related to ISO-NE are described here, they are not supported by the Efficiency Vermont budget for 2007-2008. As determined by the Public Service Board, all costs for these activities are to be covered by the payments received from ISO-NE for capacity reductions.

3.7.3 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.

3.7.4 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)
- Consortium for Energy Efficiency
- The ENERGY STAR program of the U.S. Environmental Protection Agency and the U.S. Department of Energy (DOE)
- New Buildings Institute
- Building Performance Institute
- Construction Specification 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

- Dissemination of *Energy Benchmark for High Performance Buildings*⁷
- Implementation of DOE Rebuild America projects at universities
- Building Operator Certification training
- Lighting professional training
- NEEP HVAC working group
- Training and certification by the Building Performance Institute for residential retrofit contractors

⁷ Johnson, Jeffrey A. (2005). Benchmark™: *Energy Benchmark for High Performance Buildings*. White Salmon, WA: New Buildings Institute, Inc.

4. Budget

BUDGET

For the Period January 1, 2006 through December 31, 2008

	<u>Actual Year 2006</u>	<u>Estimate Year 2007</u>	<u>Estimate Year 2008</u>	<u>Three-Year Budget</u>
<u>Services and Initiatives</u>				
Business Sector	\$6,346,343	\$12,198,900	\$17,059,300	\$35,604,543
Residential Sector	<u>\$6,881,350</u>	<u>\$8,308,900</u>	<u>\$9,581,000</u>	<u>\$24,771,250</u>
Total Services and Initiatives	<u>\$13,227,693</u>	<u>\$20,507,800</u>	<u>\$26,640,300</u>	<u>\$60,375,793</u>
<u>Supporting Services</u>				
General Administration	\$111,213	\$251,600	\$292,109	\$654,922
ISO-NE Regional Capacity Activities	\$85,082	\$280,500	\$196,100	\$561,682
Information Technology	\$489,992	\$658,200	\$774,200	\$1,922,392
Total Supporting Services	<u>\$686,288</u>	<u>\$1,190,300</u>	<u>\$1,262,409</u>	<u>\$3,138,996</u>
Operations Fee	<u>\$102,693</u>	<u>\$162,700</u>	<u>\$209,300</u>	<u>\$474,693</u>
Sub-Total Prior to Performance-Based Fee	<u>\$14,016,673</u>	<u>\$21,860,800</u>	<u>\$28,112,009</u>	<u>\$63,989,482</u>
Performance-Based Fee	<u>\$616,400</u>	<u>\$758,600</u>	<u>\$972,000</u>	<u>\$2,347,000</u>
TOTAL ESTIMATED COSTS INCLUDING PERFORMANCE-BASED FEE	<u>\$14,633,073</u>	<u>\$22,619,400</u>	<u>\$29,084,009</u>	<u>\$66,336,482</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.

5. Projected Benefits and Costs for 2007-2008

5.1 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 during 2007 and 2008 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 11 years on average). The net benefits are positive for each major market. Overall, the energy and demand savings acquired during 2007 and 2008 are projected to achieve over \$99 million in net benefits and will provide a benefit / cost ratio of 2.44 for the entire portfolio.

Table 7 Societal Benefits and Costs of Energy Efficiency Projected for 2007-2008

Major Market	Present Value of Benefits	Present Value of Costs	Present Value of Net Benefits	Benefit / Cost Ratio
Business Existing Facilities	\$85,633,762	\$29,691,510	\$55,942,252	2.88
Business New Construction	\$10,670,866	\$6,993,667	\$3,677,199	1.53
Residential New Construction	\$20,755,155	\$3,736,521	\$17,018,635	5.55
Existing Homes	\$15,087,523	\$11,431,012	\$3,656,511	1.32
Retail Efficient Products	\$36,322,825	\$15,534,916	\$20,787,909	2.34
Non-Market Specific Efficiency Vermont Costs		\$1,726,779		
Total	\$168,470,131	\$69,114,404	\$99,355,727	2.44

Lifetime values are expressed in 2006\$; average measure life equal to 11 years

5.2 Other Economic Impacts for Vermont

The implementation of the Efficiency Vermont Annual Plan for 2007-2008 will introduce \$52 million of spending into the Vermont economy. Much of the spending will be retained in the economy through the creation of Vermont-based jobs, and through product and service purchases with Vermont companies. The energy savings will continue to reduce electric ratepayer energy bills by an estimated \$21.5 million annually, which will also enter the local economic stream, on average for the next 11 years. The demand savings reported to ISO-NE will generate approximately \$0.8 million during 2007-2008 and will continue to provide additional revenues during the Forward Capacity Market's Transition Period of \$2.95 million through May 2010 (net of expenses).

Table 8 provides an estimate of the Vermont job creation for the investments in energy efficiency from 2007 to 2008.

Table 8. Estimate of Direct Job Creation in the Vermont Economy for 2007-2008

Job Type	Full-Time Equivalents	Estimated Earned Income (2 years)⁸
VEIC staff for Efficiency Vermont contract	114	\$11.4 million
Direct subcontractors to Efficiency Vermont	65	\$6.5 million
Increased labor due to efficiency services ⁹	255	\$25.5 million
Total	434	\$43.4 million

Efficiency Vermont financial incentives will provide \$22 million in direct incentive payments to Vermont ratepayers and providers of efficiency services during 2007-2008. This investment, along with Efficiency Vermont technical assistance and information services, will leverage an additional \$63 million in customer-related investment. In total, energy efficiency investments will result in \$85 million dollars of products and services moving through the Vermont economy during 2007-2008. This investment will provide \$99.4 million in net future economic benefit.

⁸ Assumes average annual earned income of \$50,000 per position.

⁹ Assumes that 30% of estimated efficiency measure cost (\$85 million) is direct labor cost.