



Efficiency Vermont

ANNUAL PLAN 2013

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1. INTRODUCTION

Efficiency Vermont is Vermont's statewide energy efficiency utility, dedicated to providing comprehensive services to help households and businesses reduce energy costs, strengthen the economy, and protect Vermont's environment. In 2013, Efficiency Vermont will continue to deliver on its mission as defined by the Vermont Public Service Board (the Board):

“Design and implement demand-side services and initiatives to comprehensively address cost-effective opportunities associated with electric and Heating-and-Process-Fuels energy efficiency.”¹

1.1 EFFICIENCY VERMONT'S 2013 OBJECTIVES

In 2013, Efficiency Vermont will focus on three major objectives to improve the energy efficiency of Vermont homes and businesses: 1) Utilize key strategies that promote energy efficiency; 2) Provide lasting benefits for Vermonters; 3) Transform the marketplace to make efficiency the standard.

1.1.1 Utilize key strategies that promote energy efficiency.

- **Deliver Comprehensive Services:** Efficiency Vermont will continue to develop and deliver easily understood and accessible services to Vermont's ratepayers, for both electric and thermal efficiency opportunities. At the core of Efficiency Vermont's services will be its continued objective guidance and technical expertise.
- **Provide Strong Support to Efficiency Providers:** By maintaining and strengthening a statewide network of knowledgeable energy efficiency service and product providers, Efficiency Vermont can reach more Vermonters.
- **Plan for Vermont's Energy Future:** Efficiency Vermont will provide expertise and advocacy in support of state, regional, and national efforts to help shape the course of Vermont's energy future and to have a lasting positive impact on ratepayers.
- **Bring Efficiency within Reach:** To enable more Vermonters to make cost-effective energy efficiency investments, Efficiency Vermont will develop and implement approaches that lower financial barriers.
- **Pursue Excellence in Service Delivery:** Efficiency Vermont will bring excellence to all aspects of service efforts through a commitment to continual improvement in operational and service-delivery systems.

1.1.2 Provide Lasting Benefits for Vermont

Efficiency Vermont's services deliver both direct and indirect economic benefits, as well as non-energy benefits that — taken as a whole — will have a significant, positive impact on Vermont. These benefits, resulting from actions taken to reduce energy use in Vermont's homes and businesses, will include:

- **Energy Savings for Vermonters:** Households and businesses will take energy efficiency actions that will reduce their energy use and costs.
- **Stronger Local Economies:** Although the majority of dollars spent on energy leave the state, the opposite is true for energy efficiency expenditures. Energy-saving investments in Vermont's homes and businesses benefit a range of local service and product providers: Strengthening bottom lines; providing a competitive edge in challenging economic times; creating and protecting local jobs, and contributing to local tax bases. Every dollar spent on energy efficiency creates a net increase of nearly five dollars of cumulative Gross State Product.¹
- **Protections for Vermont's Environment:** When electricity use drops, particularly during periods of peak demand, the need to operate fossil-fuel power plants is reduced. As a result, significant air pollution and greenhouse gas emissions are prevented.
- **Least-cost Electricity Use:** The cost of reducing the use of a unit of electricity through efficiency will continue to be less than the cost of generating and distributing that unit of electricity. The cheapest energy is energy that is not used.
- **Avoided Need for New Electricity Infrastructure:** As Vermonters decrease electricity use through efficiency, all Vermonters will benefit; when electricity use decreases, so does the need for new electricity generation, transmission, and distribution, as well as associated utility costs, which are typically passed on to ratepayers.

Every dollar spent on energy efficiency creates a net increase of nearly five dollars of cumulative Gross State Product.¹

¹ Source: Vermont Department of Public Service Comprehensive Energy Plan 2011, Appendix 5, page 5.

1.1.3 Transform the Marketplace to Make Efficiency the Standard

Efficiency Vermont's comprehensive services will be at the core of its ongoing efforts to create lasting change in market behavior. Efficiency Vermont will continue to increase the adoption of cost-effective energy efficiency as a standard practice by eliminating barriers to participation and by delivering targeted education and technical assistance to end users as well as key players throughout the product and service supply chain. Through awareness of best practices, optimal technologies, and the specific motivations and obstacles of Vermont ratepayers, Efficiency Vermont will design and deliver services to drive: 1) energy savings; 2) greater availability of quality efficiency products and services, and 3) lasting awareness, knowledge, and motivation across Vermont markets.

2. MAJOR STRATEGIES FOR 2013

Efficiency Vermont's services will be implemented through a set of customer-focused strategies with the common aims of delivering value to ratepayers and providing opportunities for all Vermonters to overcome barriers to improving the efficiency of their homes and places of business.

As shown in the 2013 budget, in the Appendix, funding for Efficiency Vermont's activities will continue to be directed either to "Resource Acquisition" (RA) or "Non-Resource-Acquisition" (NRA) activities. RA activities are defined as those that directly achieve energy savings. NRA activities provide vital services in support of the operation and administration of Efficiency Vermont and of Vermont's efforts to plan for a secure energy future. NRA activities include those connected to reporting and planning, research and development, evaluation, quality management, participation in the ISO New England Forward Capacity Market, and other activities included in this Plan. Due to the essential role that all Efficiency Vermont activities will play in the successful implementation of its 2013 strategies, this Plan describes both RA and NRA activities within the strategy descriptions that follow.

Throughout Section 2, icons representing each of the five different areas of implementation will be placed by the description of each major strategy. The icons are highlighted below.



2.1 DELIVER COMPREHENSIVE SERVICES

Efficiency Vermont will deliver services to help Vermonters reduce energy use in their homes and businesses, and in municipal and institutional facilities. Services will include a combination of information, technical assistance, and financial assistance. Discussion of financial services can be found in Section 2.4.

Benefits from taking energy-savings action can include reduced operating costs, lower maintenance expenses, increased occupant comfort, improved indoor air and light quality, increased building durability and resale value, improved working environments and higher sales.

Efficiency Vermont will continue to engage Vermonters at critical decision-making moments in new construction projects, during renovations, or in the purchase of efficient equipment. As importantly, Efficiency Vermont's informational and education efforts will continue to target all Vermonters — whether or not they are currently involved in efficiency activities — to build awareness and to increase knowledge, motivation, and access to efficient products and services.

Efficiency Vermont will continue to design its approaches through an awareness of customers' highest priorities; interest in the non-energy benefits of efficiency are often strong motivators

for taking energy-saving action. These benefits can include reduced operating costs, lower maintenance expenses, greater occupant comfort, healthier indoor air, improved light quality, increased building durability and resale value, improved working environments, higher sales, and other benefits.

To best serve Vermonters and to maximize the benefits of energy efficiency actions, Efficiency Vermont will continue to use a whole-building approach, which integrates thermal efficiency services with electric efficiency services, as well as with services offered by partners. Close coordination with Green Mountain Power (Energy Efficiency Fund and Community Energy and Efficiency Development fund), Burlington Electric Department, the Weatherization Assistance Program, and Vermont Gas Systems will continue to be of particular importance. Efficiency Vermont will capture comprehensive energy savings whether helping customer with thermal, electrical, or industrial process efficiency projects. Customers will experience Efficiency Vermont as a single, comprehensive resource, regardless of the type of service or savings obtained.

2.1.1 Business, Institutional, and Municipal Services

The majority of Vermont's electricity demand comes from its businesses. The greatest opportunity for energy savings is found in existing business facilities. This section of the Plan will discuss 2013 services targeting these facilities; information regarding services designed to incorporate efficient approaches into new construction can be found in Section 2.2.

Efficiency Vermont's efforts in this sector are primarily designed to upgrade technologies that have significant energy demand, including lighting; heating, ventilation, and air conditioning (HVAC) systems; refrigeration; and industrial process equipment.

Small Business Services

Most Vermont businesses are small businesses. These essential contributors to the state's economy face myriad challenges, including many — such as limited time, money, and efficiency information — that stand between them and the strengthened bottom line that energy efficiency can provide. Efficiency Vermont's approach to serving these customers will be to make saving energy as easy as possible, through:

- **Access to Information:** Efficiency Vermont will engage in outreach to specific small business segments using multiple methods, including informational article and column placements in media serving Vermont's businesses, and coordination with chambers of commerce and business associations.
- **Expert Guidance:** Designated small business specialists will provide small businesses with individualized consultation by phone to identify, analyze, and prioritize savings



“The lighting upgrades I did have greatly enhanced my in-store floral displays.”

— **BONNIE HAWLEY,**
OWNER
Hawley's Florist,
Rutland

opportunities; provide guidance on financing options; review contractor quotes to ensure that businesses obtain the optimal technologies for their needs; and deliver high-level project management support.

- **Thermal Shell Improvement Services:** Efficiency Vermont will continue to administer the Building Performance program, which provides small businesses and multifamily property owners with a pool of certified Building Performance Institute contractors specially trained to improve the thermal efficiency of a class of commercial structures. This program is an extension of the successful Home Performance with ENERGY STAR[®] program for residential home improvements. Efficiency Vermont will continue to provide training and marketing support for contractors and to offer financial incentives to participating facility owners.

Large Commercial, Institutional, and Industrial Services

Efficiency Vermont will maintain its customized approach to serving the state's largest energy users, which are defined by their use of more than 500,000 kilowatt-hours of electricity per year. Efforts will include:

- **Account Management:** Designated Efficiency Vermont staff will continue to be assigned to individual businesses to deliver long-term, customized service; helping create comprehensive portfolios of savings opportunities, delivering technical and financial analyses, and providing guidance in developing energy-saving plans.
- **The Energy Leadership Challenge (ELC):** Launched in 2011, this effort challenges businesses to reduce energy use by 7.5% over a two-year period. The ELC will continue to provide a framework for companies to use in pursuing aggressive savings and to gain recognition as energy saving leaders in the state.
- **Customer Advisory Group:** Efficiency Vermont will host the third annual gathering of leaders of large businesses and institutions with complex



“Energy costs for our business are significant. Everything we do is with energy efficiency in mind, as part of our continuous improvement efforts. Efficiency Vermont has provided extremely beneficial guidance in that regard, and our participation in the Energy Leadership Challenge reinforces the work that we are already doing. It’s part of a dynamic process that evolves along with our business.”

— **MASSOOD KHAN**
Imerys Talc America
Vermont Operations

energy savings opportunities and barriers to participation. The aims of the group are to: 1) reinforce the partnerships between Efficiency Vermont and customers by bringing together business and institution leaders and Efficiency Vermont leadership; 2) enable customers to provide feedback about their needs and priorities and about Efficiency Vermont communications and services, and 3) enable Efficiency Vermont to use feedback to better tailor approaches to meet customers' needs.

- **Best Practices Exchange:** Forums will be held around Vermont to enable firsthand information sharing between Efficiency Vermont and account-managed customers, as well as between customers.
- **Communications and Promotions:** Efficiency Vermont will continue to create an e-newsletter for this sector and to motivate participation by promoting energy-saving efforts through press conferences, events, and media releases.

Technology-Based Business Services

Efficiency Vermont will continue its efforts to increase the adoption of efficient technologies that have the potential to provide significant benefits to a wide range of businesses, municipalities, and institutions. These benefits include energy savings as well as improved working environments, increased sales and customer loyalty, greater occupant comfort and safety, better indoor air quality and lighting quality, less tenant turnover, greater building durability, and higher resale value. Descriptions of services targeting businesses and households that purchase efficient products at retail stores can be found in Section 2.1.3.

Efficiency Vermont will continue to offer financial assistance for the purchase of recommended technologies. Discussion of financial services can be found in Section 2.4.

Lighting

The most broadly applicable efficient technology is lighting; opportunities for energy savings from the use of efficient lighting technologies and design may exist in any type of building in Vermont. The majority of efficiency projects already undertaken by Vermonters have included lighting measures. Such measures will continue to be a significant contributor to energy savings in 2013. Efficiency Vermont will continue to:

- provide technical guidance, education, and promotions to encourage the use of efficient equipment and approaches, including the use of:
 - efficient technologies in place of T12 lighting systems;
 - lighting controls;
 - light-emitting diodes (LEDs) in appropriate applications, and
 - partnerships with lighting design professionals to maximize savings.
- monitor and evaluate emerging lighting technologies for possible inclusion in services.

Heating, Ventilation, and Air Conditioning (HVAC)

Efficiency Vermont's HVAC efforts will encourage the installation of high-efficiency equipment and the optimization of entire systems. The latter, whole-building approach identifies if systems are performing well as changes occur in building uses, in occupant needs, and in buildings and systems themselves. The energy savings associated with well-managed HVAC systems can be significant. Specific whole-building practices to be promoted will include ongoing system monitoring and management, monitoring-based commissioning, building retuning, retro-commissioning, benchmarking, and energy system optimizing. These approaches enable each building's particular uses and configurations to be factored into system settings and operation.

NEW! In 2013, new emphasis will be placed on:

- development of regional HVAC equipment supply chain partnerships, and
- a new pilot initiative encouraging the replacement of commercial, rooftop, air conditioning units with equipment built to new U.S. Department of Energy high-efficiency standards.

Space Heating

Efficiency Vermont will continue to offer technical and financial support for certain efficient oil, propane, ground source / geothermal, wood pellet, and wood chip systems, and to offer support in coordination with Vermont Gas Systems for natural-gas system improvements. Efficient approaches to heating systems have broad applications for savings in all building types.

Refrigeration

The electricity costs for refrigeration equipment make up a significant portion of operating expenses for many Vermont businesses, including convenience stores, supermarkets, restaurants, warehouses, and certain industrial businesses. Efficient approaches to refrigeration can reduce this operating cost and can also play an important role in reducing peak power demand during hot summer months. Efficiency Vermont will continue to support the installation of efficient refrigeration equipment and system-wide optimization of refrigeration equipment and controls.

Industrial Process Equipment

For many industrial and manufacturing businesses, the energy costs for process equipment are far greater than those for lighting and other building systems. In addition to saving energy, businesses using efficient approaches and equipment can often increase production output and improve product quality. Efficiency Vermont will continue to work with Vermont manufacturers and



"We're constantly looking for ways to improve. Efficient technology means less waste and more money to spend on other areas of our business."

— **JOE KAMUDA, OWNER**
Kamuda's Country Store
and Market, Pittsford

other businesses to identify improvements for pumps, motor controls, aeration technologies, and such systems as compressed air, snowmaking, and process heating and cooling. Available services will include technical assistance, cost sharing of engineering audits and analyses, pilot technology testing, and site visits to locations that are using a proposed technology.

Target Market Services

Efficiency Vermont has identified unique business markets that will benefit from targeted approaches because of their distinct needs and challenges. In 2013, Efficiency Vermont will maintain its focus on these markets' changing needs and the impact of evolving technologies, economic conditions, consumer demand, and a range of challenges and opportunities particular to specific sectors. Strategically designed and implemented services will be delivered to the following markets: Agriculture, colleges & universities, convenience stores, grocery stores, hospitals, K–12 schools, leased commercial real estate, lodging facilities, restaurants, retail stores, ski areas, Vermont state buildings, and water & wastewater facilities.



Through an understanding of the common characteristics and decision-making drivers of businesses within particular markets, Efficiency Vermont will shape effective approaches to acquiring greater market penetration than by delivering services only at the individual project level. Efficiency Vermont will continue to identify such market traits and match the most effective approaches and technologies to each market's particular needs. For example, two convenience store owners — one in the Northeast Kingdom and another in Manchester — may have similar time and capital constraints,

equipment, and degrees of interest in energy efficiency. Awareness of these similarities enables Efficiency Vermont to design and deliver services that specifically address a market's common barriers and motivations, thereby increasing the adoption of efficient approaches.

Geographic Targeting Services

Efficiency Vermont will continue to implement services targeted to areas of the state that have transmission and distribution capacity constraints. All Vermont electric ratepayers benefit from peak-time capacity reduction, which can help reduce the need to upgrade infrastructure and can be among the most cost-effective energy efficiency savings to acquire.

The two targeted areas for 2012–2014 are in St. Albans and Essex. Due to the fact that both of these areas have been receiving Geographic Targeting services since 2007, achieving deeper savings with these customers will be increasingly challenging. Efficiency Vermont will continue its strategy, established in 2012, that focuses first on customers with the largest summer peak demand load, through individualized customer Account Management and customized peak demand reduction projects. Activities in 2013 will also target medium-sized and smaller businesses with LED lighting and cooling equipment upgrade services. Services and programs will be continually evaluated and modified as needed to maximize savings.

2.1.2 Residential Services

In 2013, Efficiency Vermont will build upon successful approaches designed to reduce the financial impact of residential energy use and to bring the benefits of energy efficiency to households statewide and across all income levels. This section of the Plan discusses services

targeting existing homes; information regarding services designed to incorporate efficient approaches into new construction can be found in Section 2.2.

Home Improvement Retrofit Services

Efficiency Vermont will continue its commitment to helping homeowners reduce their energy costs by making comprehensive home improvements that save heating fuel and electricity. Toward this end, Efficiency Vermont will continue to support a network of more than 70 Home Performance with ENERGY STAR contractors. These independent contractors are certified by the Building Performance Institute to perform energy audits, diagnose building problems such as excess moisture and ice dams, identify potential health and safety issues, and make cost-effective energy efficiency improvements. Efficiency Vermont will provide contractor training, quality assurance, customer incentives, and promotions to increase awareness of these services and their benefits.



In 2013, Efficiency Vermont will:

- NEW!** • implement system improvements, including a web portal, a lead-generation tool, and a streamlined audit process, to better support customers and contractors through the Home Performance with ENERGY STAR process from start to finish;
- NEW!** • in partnership with the Vermont Fuel Dealers Association, create a recognition program to promote fuel dealers and residential HVAC contractors who are trained in basic building science and who agree to refer customers with energy-saving opportunities to Home Performance with ENERGY STAR contractors and Efficiency Vermont;
- leverage Property Assessed Clean Energy (PACE) promotions to drive homeowners to Home Performance with ENERGY STAR contractors, and
- address, where appropriate, recommendations from the Department of Public Service–convened Thermal Efficiency Task Force and any resulting legislation to support State goals to improve the energy efficiency of 80,000 homes by 2020.

In addition to its Home Performance with ENERGY STAR efforts, Efficiency Vermont will:

- continue partnering with Vermont Gas Systems on fuel switches from electric heat and hot water to natural gas;
- evaluate emerging technologies, such as air source heat pumps and solar hot water systems, for inclusion in services;
- NEW!** • pilot a targeted Account Management approach for property management companies that serve condominium associations, and

NEW!

- implement a pilot distribution of energy savings kits to households. The kits will include such items as compact fluorescent lightbulbs (CFLs), advanced power analysis to determine the impact of household actions, beyond installation of efficient products, on energy use.

Low-income Household Services

Low-income Vermonters spend a larger percentage of their incomes on utility costs than do Vermonters with higher incomes. It is, therefore, a continuing priority for Efficiency Vermont to provide services to help low-income households make significant reductions in their energy costs.

Historically, in addition to providing services available to all Vermont households, Efficiency Vermont has assisted low-income residents through partnerships with low-income service providers. These cooperative ventures will continue, as discussed in Section 2.2.

Multifamily Market-rate Housing

Efficiency Vermont will continue its efforts to transform the overall multifamily market through services designed to provide market-rate multifamily property owners with efficiency opportunities. To inform, educate, and motivate this market's property owners to improve the efficiency of their buildings, Efficiency Vermont will continue to leverage relationships with trade associations, large property developers, and construction professionals. Efficiency Vermont will also continue to provide property owners with technical and financial support for the installation of efficient equipment and for thermal improvements completed by certified Building Performance contractors. Efficiency Vermont will continue to provide training and marketing support for these contractors.

2.1.3 Retail Efficient Product Services

Efficiency Vermont will once again focus on the promotion of products that meet or exceed standards for efficiency set by the U.S. Department of Energy's ENERGY STAR program and / or Top Ten USA, a nonprofit organization that evaluates the efficiency of consumer products and publishes lists of the top 10 performers in each category. Services will continue to be designed to increase availability and reduce initial costs for Vermonters making retail purchases for their homes and businesses. Through informational activities, point-of-sale materials, consumer rebates, and upstream support (see Section 2.4), Efficiency Vermont will promote and encourage the purchase of a range of efficient products, including lighting (CFLs, LEDs), appliances, air conditioners, dehumidifiers, pool pumps, and electronics. Of particular focus will be the continuation of an education campaign — developed as a result of recently changed federal lighting standards — to help consumers understand how to select lighting products based on lumens rather than watts.



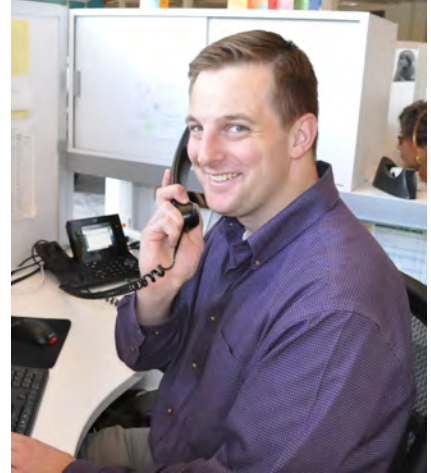
Key to the successful adoption of efficient products by Vermont households will be Efficiency Vermont's continued services to retailers and upstream players in the product supply chain (see Section 2.2) to ensure the availability of high-quality efficient products in Vermont stores, and the provision of financial services, as discussed in Section 2.4.

2.1.4 Education and Information Services

Customer Support

Vermonters will continue to have easy access to expert energy efficiency information and guidance through Efficiency Vermont's toll-free call center, which provides:

- education on electrical and thermal efficiency topics, including energy use patterns, building envelope, equipment modification, and new technologies;
- information about Efficiency Vermont's services and referrals to other resources such as Vermont's weatherization services, the Renewable Energy Resource Center, and the Energy Code Assistance Center, and
- collaboration with distribution utilities on customer education, use of new technologies, and data-driven efficiency solutions.



Public Education

To motivate the general public to take energy-saving actions, Efficiency Vermont will engage in activities designed to increase awareness of: 1) energy efficiency and its benefits; 2) actions that improve energy efficiency, and 3) Efficiency Vermont as the resource for comprehensive energy efficiency solutions for Vermont ratepayers.

Activities will include:

- provision of information and education at home shows, community events, and trade shows;
- production of electronic newsletters and advice columns that present information on efficiency and opportunities to save money and energy through Efficiency Vermont's services;
- provision of general energy efficiency-related news, information, and promotions via print, broadcast, web-based, and social media, and

- the Efficiency Vermont Energy Literacy Project: Efficiency Vermont will work with Vermont teachers, schools, and K–12 associations to increase students’ knowledge of energy and efficiency. The project also will promote the benefits of school participation in Efficiency Vermont services. Approaches may include in-class energy literacy presentations at the middle and high school levels, energy efficiency service-learning projects in high schools, in-service teacher professional development, and projects with specific school energy improvement goals or challenges. Where appropriate, these approaches will be tied to curriculum and state education standards. The project will encourage the incorporation of energy topics into a range of academic subjects, to emphasize the interconnectedness of energy issues.



2.2 PROVIDE STRONG SUPPORT TO EFFICIENCY PROVIDERS

Efficiency Vermont’s ongoing efforts to establish, maintain, and strengthen critical working relationships with the state’s efficiency service and product providers will continue to be key to the successful achievement of its market transformation and energy savings goals. These efforts will continue to be designed to give homes and businesses access to a valuable network of knowledgeable Vermont providers, while also benefiting these providers. Services to these key partners will include coordinated planning, program creation, information services, training, financial incentives, and cooperative advertising.

2.2.1 Designers and Builders of New Buildings

Efficiency Vermont’s efforts to support the creation of optimally efficient new buildings will continue to focus primarily on the professionals to whom property owners turn for the design and construction of business facilities and homes. These professionals include architects, engineers, specialty design service providers, practitioners of construction trades, equipment suppliers and installation contractors, and commissioning agents, as well as appraisers, lenders, and real estate agents. Efficiency Vermont will also directly interact with certain building owners, as key members of project teams, particularly in regard to construction undertaken by institutions, government agencies, and large multi-facility operators.

Support for New Commercial Buildings

Efficiency Vermont will maintain its delivery of customized and streamlined services to encourage a comprehensive approach to efficient design; integrating energy efficiency decisions into the process and including energy goals as part of the overall building goals from the earliest stages of a project. Key aspects of ongoing efforts will include:

- technical assistance throughout the design, construction, and post-construction phases;
- analytical tool development;
- market outreach and education through industry associations and events;

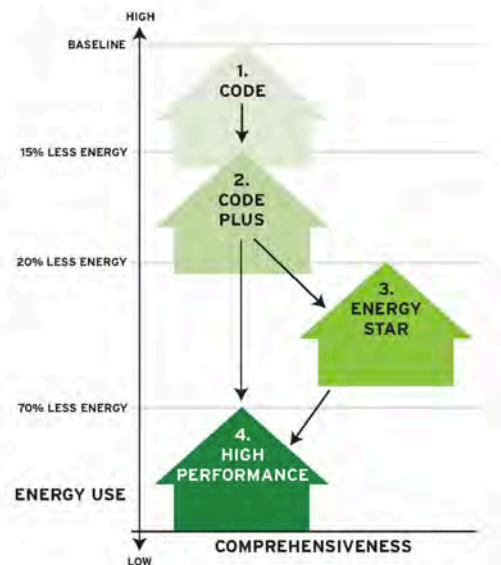
- prescriptive and customized financial incentives for efficient approaches, equipment, and building-operation systems;
- continued partnerships with national and regional organizations, such as the New Buildings Institute, to promote high performance in new commercial construction, and
- the leveraging of customer interest in green building, energy performance, and green rating systems such as Leadership in Energy and Environmental Design (LEED).

NEW! In 2013, Efficiency Vermont also aims to launch three pilot services: 1) assistance in the design of buildings capable of achieving net-zero energy use;² 2) post-occupancy energy performance tracking, and 3) post-construction building owner engagement to identify ongoing and future savings opportunities for existing and new buildings.

Support for New Homes

To assist builders and owner-builders in meeting and exceeding Vermont Residential Building Energy Standards while promoting low-load and net-zero building practices, Efficiency Vermont will offer services in support of the construction of homes meeting one of three levels of energy performance. In each tier, Efficiency Vermont will provide technical guidance, energy ratings services, and financial assistance to support the completion of homes to meet the applicable standard. These tiers, in increasing order of energy performance, will be:

1. *Energy Code Plus*. Homes will exceed Vermont code requirements for energy efficiency and receive certification for Home Energy Rating and Vermont Residential Building Energy Standards.
2. *Vermont ENERGY STAR Homes*. Homes will achieve Energy Code Plus certifications and meet elevated criteria for thermal and electrical efficiency and water management.
3. *High Performance Homes*. Launching in 2013, this tier will specify that homes reach a level of energy efficiency that makes them well-suited to achieve net-zero energy use with the incorporation of renewables.



² A net-zero property generates as much energy as it uses. When a building achieves net-zero energy use, all its consumption needs are met through energy efficiency and renewable energy systems.

To advance efficiency in the marketplace, Efficiency Vermont will continue to provide information and education to builders, appraisers, lenders, and real estate agents through engagement with Vermont's homebuilders and remodelers associations, the Vermont Green Home Alliance, media placements, and Efficiency Vermont's *Builder News*. Outreach efforts will increase to building supply houses, municipalities, and those electric utilities that have not historically provided project leads.

Information and Education



Better Buildings by Design Conference

Efficiency Vermont will present the annual Better Buildings by Design conference to an expected 1,000-plus of the region's top construction and design professionals, real estate agents, and equipment installation and service contractors. The conference is viewed as a key information resource on innovations in energy efficiency, superior building performance, and best practices in design, construction, and renovation for both residential and commercial buildings. The 2013 conference will include nationally renowned speakers and workshop leaders as well as more than 35 presentations on building envelope, integrated design, lighting, and mechanical systems. In addition, the conference will provide exceptional visibility to more than 50 exhibitors of energy-efficient products and services.

Codes and Standards Support

Efficiency Vermont will provide Vermont energy codes and standards information and training to building design, construction, renovation, and real estate professionals through a variety of methods, including:

- the Energy Code Assistance Center toll-free phone lines, which Efficiency Vermont staffs;
- technical assistance for builders and homeowners;
- provision of materials and advice to assist in code compliance, and;
- assistance for municipalities, building supply houses, professional organizations, and others providing code-related information to Vermonters.

2.2.2 Equipment Manufacturers, Distributors, Suppliers, Retailers, and Installers

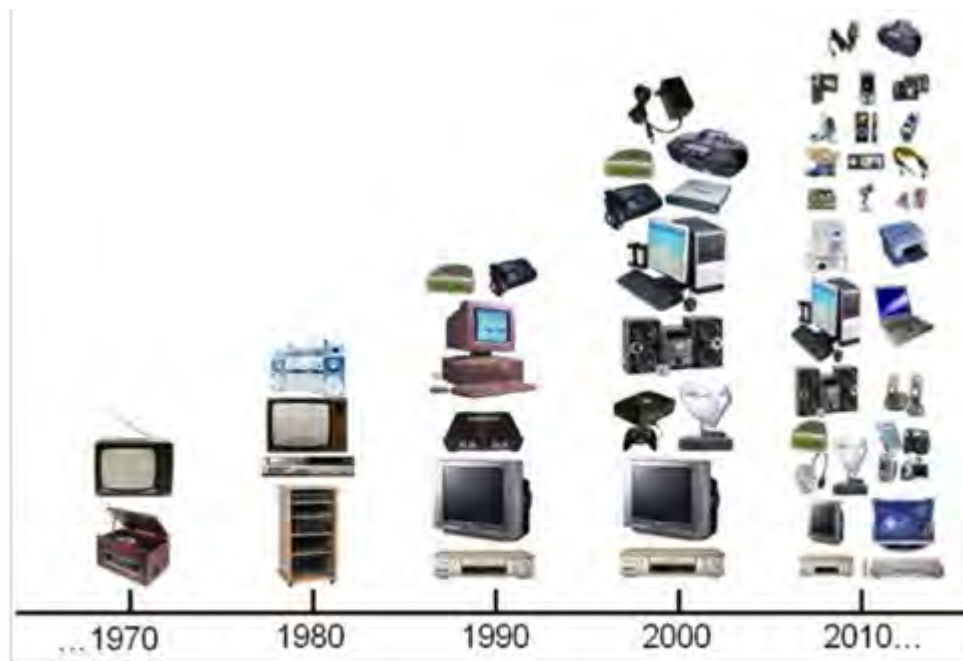


Individuals throughout the product supply chain play key roles in ensuring that Vermont homes and businesses have access to the highest-quality efficient technologies and to knowledgeable installation and service contractors. In 2013, Efficiency Vermont will build upon and deepen relationships with manufacturers, distributors, suppliers, independent and chain retailers, installers, and service technicians through such activities as:

- ongoing interactions with manufacturers, to share information on emerging and rapidly advancing efficiency technologies, such as lighting technologies;
- engagement with manufacturers and suppliers to ensure Vermont product availability and to reduce lead times for product ordering;

- Account Management of Vermont stores in retail chains, targeting store owners, managers, and staff to ensure implementation of promotions agreed to at the corporate level;
- assistance to independent and chain retailers, including merchandising support, efficient product differentiation on the sales floor, and product knowledge training, and
- training and support for installers, to encourage the adoption of new, efficient technologies and approaches.

A key ongoing focus of supply chain activities will be business and consumer electronics, because of their significant and growing impact on electricity use. The impact is, in fact, so great that it has the potential to negate the efficiency gains that have been made through the adoption of efficient household appliances and lighting. Efficiency Vermont will continue to engage stores and online retailers to increase sales of efficient electronics. Also in 2013, promotional work with supply chain players will continue to focus on a variety of products, including LEDs and super-efficient clothes dryers.



Since the 1970s there has been a steady and dramatic rise in the use of devices requiring electricity. The impact is so great that it has the potential to negate the efficiency gains that have been made through the adoption of efficient household appliances and lighting.

2.2.3 Professional and Trade Associations



In 2013, Efficiency Vermont will work with more than 75 professional and trade member organizations representing a wide range of constituents. These relationships will enable Efficiency Vermont to leverage existing professional network connections while benefiting associations that are eager to provide value to their members. By sharing information about best practices in association newsletters, websites, and technical materials, as well as through event sponsorship

and promotional campaigns, Efficiency Vermont will keep business customers informed through trusted channels and with targeted messaging that resonates with their particular needs.

Active partnerships include the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Vermont Ski Areas Association, Vermont Grocers Association, Vermont Retailers Association, Vermont Superintendents Association, Vermont Apartment Owners Association, Vermont Rental Property Owners Association, Home Builders and Remodelers Association of Vermont, Vermont Association of Hospitals and Health Systems, Vermont Convention Bureau, Vermont Hospitality Council, Vermont Fuel Dealers Association, American Institute of Architects–Vermont Chapter, Building Safety Association of Vermont, Vermont Green Building Network, Green Mountain Water Environment Association, and Vermont Rural Water Association.



2.2.4 Low-income Service Providers

The primary focus of Efficiency Vermont's efforts to reduce energy costs for low-income Vermonters will be the delivery of services through established partnerships with low-income service providers, including:

- **Low-income Electrical Efficiency Partnership (LEEP):** This partnership teams Efficiency Vermont with the state's five community-based Weatherization Assistance Program (WAP) agencies to install no-cost, efficient lightbulbs and water conservation products, and to arrange for conversion of electric water- and space-heating equipment to less-costly natural gas systems, where available. Activities in 2013 will also include: 1) developing continuous-improvement training opportunities for WAP agency staff; 2) integrating electrical measures into WAP agencies' quality assurance process, in partnership with the Vermont Office of Economic Opportunity, and 3) continuing to partner with WAP agencies to include, as appropriate, advanced power strips and upgrades to lighting, refrigeration, and laundry equipment in thermal projects.
- **Vermont Fuel Efficiency Partnership (VFEP):** VFEP works to increase the efficiency of apartment buildings that house income-qualified tenants. To promote the implementation of comprehensive retrofit projects that provide deeper energy savings than standard weatherization approaches, Efficiency Vermont will continue to contribute funding to VFEP for enhanced assistance, including project identification and management, as well as financial incentives for thermal and electric measures. VFEP is a partnership among Efficiency Vermont, the Central Vermont Community Action Council, the Vermont Housing and Conservation Board (VHCB), and the Vermont Housing Finance Agency (VHFA).
- **Nonprofit Affordable Housing Providers:** Efficiency Vermont will continue to coordinate with Vermont's network of nonprofit affordable housing providers to promote the design and construction of housing that exceeds Vermont's Residential Building Energy Code Standard and ENERGY STAR specifications. Efficiency Vermont will also continue to partner with VHCB

and VHFA to include energy efficiency requirements in financial underwriting criteria.

- **Vermont Foodbank:** Efficiency Vermont will make free CFLs, LED desk lamps, screw-in LED lights, water conservation products, and advanced power strips available to the Vermont Foodbank, which distributes to 280 Vermont food shelves and food pantries.

2.2.5 Community Leaders

Throughout the state, members of Vermont communities are eager to lead or join efforts to reduce energy use by their towns, institutions, and local households. Efficiency Vermont will continue to partner with such communities, whether providing support to increase the impact of existing town energy committees and nonprofit organizations, or helping to create and assist groups devoted to efficiency efforts. Assistance may include planning guidance, promotions, educational materials, volunteer training, and the contribution of efficient lighting and water-saving devices. For example, in 2013, Efficiency Vermont will launch a statewide challenge to increase participation in Home Performance with ENERGY STAR services through low-cost, word-of-mouth promotions, in partnership with town energy committees, local energy-focused groups, and statewide organizations such as the Vermont Energy and Climate Action Network.

NEW!

2.3 PLAN FOR VERMONT'S ENERGY FUTURE

Efficiency Vermont will continue to lend its expertise to efforts that will shape energy and efficiency policies and programs that have a lasting impact on Vermont's ratepayers.

2.3.1 Information in Service to the State of Vermont

In ongoing support of the State's 2011 Comprehensive Energy Plan goals and long-term energy planning, Efficiency Vermont will provide energy, financial, and economic information and analysis to policy makers, State agencies, utilities, and other key stakeholders. These efforts are in addition to direct service activities targeting energy savings in State-owned buildings. Activities will include the following:

- Evaluating the costs and benefits of energy efficiency and the incorporation of energy efficiency savings into local, state, and regional energy growth forecasts in service to Vermont Public Service Board proceedings.
- Providing policy makers with information on energy savings and related economic benefits and, where appropriate, supporting efforts to advance State policies that enhance pertinent existing Efficiency Vermont activities and to further Vermont's energy policy goals in areas such as thermal efficiency.
- Keeping all stakeholders and policy makers well-informed of Efficiency Vermont's activities, its services, and the value it delivers to Vermonters.

2.3.2 ISO-NE Forward Capacity Market Participation

To enable states to reduce the need for energy purchases at peak-capacity costs, the Independent System Operator for New England (ISO-NE) allows demand resources to be bid on a wholesale Forward Capacity Market (FCM) on an equal basis with supply resources, such as generation. Vermont Energy Investment Corporation (VEIC), as the State of Vermont's appointee operating Efficiency Vermont, will continue to represent the interests of Vermont ratepayers through participation in the ISO-NE FCM. This activity will continue to include: 1) the submission of bids and claims for capacity savings, which result in payments made to VEIC and transferred to Vermont's electric Energy Efficiency Fund for future investment in thermal initiatives; 2) reporting to ISO-NE and Vermont stakeholders; 3) associated administrative, operational, and fiscal activities, and 4) participation in ISO-NE rule-making processes regarding the establishment and operation of the FCM and other responsibilities associated with being a New England Power Pool (NEPOOL) member. Gross revenue from the FCM in 2013 is expected to be approximately \$3,535,000.



In addition, VEIC will continue to engage in activities related to the annual measurement and evaluation of its performance as a NEPOOL participant in the FCM. The process, focusing on a sampling plan for Efficiency Vermont custom business projects, will include four activities: 1) measurement and verification implementation; 2) measurement review; 3) measurement and verification finalization; and 4) equipment calibration.

2.3.3 Demand Resource Plan and Demand Resource Plan Proceedings

The Demand Resource Plan (DRP) provides: 1) year-by-year values for statewide demand-side electricity resource acquisition savings goals; 2) resource acquisition and non-resource acquisition budgets, by calendar year, for a 20-year period (2012–2031), and 3) a set of annual values for savings from and budgets for heating and process fuels, by calendar year, for a 10-year period (2012–2021).

Demand Resource Plan Proceedings (DRPP) are conducted by the Board in cooperation with a variety of stakeholders, including the Vermont System Planning Committee, VEIC, and the Vermont Department of Public Service (the Department), and include public comment and public workshop components. The purpose of the DRPP is — at minimum — to bring about the adoption of a DRP to determine efficiency evaluation budgets, and to identify: 1) Efficiency Vermont quantifiable performance indicators, and 2) any geographic areas to be the focus of targeted energy efficiency efforts.

VEIC will engage in a range of activities in 2013, including reviewing forecasting tools and methodologies and cost-effectiveness assumptions, continuing work on the triennial DRP update due for completion by 2015, and working with the Department, Burlington Electric Department, and Vermont Gas Systems regarding proposed revisions to the DRP process.

2.3.4 Vermont System Planning Committee

The Vermont System Planning Committee (VSPC) seeks to collaboratively address reliability issues in Vermont's electric transmission system. The VSPC, created by Board order, includes representatives of Vermont's transmission, distribution, and energy efficiency utilities, as well as members of the public from the residential, commercial, industrial, and environmental protection sectors. VEIC will attend meetings as a voting member, and will participate in subcommittee work.

2.3.5 Applied Research and Development

Efficiency Vermont will continue to support a variety of research, development, and demonstration projects to advance innovative solutions for meeting long-term resource acquisition goals and to enhance customer value. Through collaboration with others, Efficiency Vermont will leverage funding to maximize the potential impact of these projects for Vermont's ratepayers. These activities are critical to Efficiency Vermont's efforts to provide high-quality services in an industry that sees continuous technological change and development as well as to accommodate changes in consumer preferences.

Efficiency Vermont will plan activities, in collaboration with others, with an aim of advancing sound product and program design over time. Projects will ideally represent a wide range of customer segments, market sectors, and technologies while focusing on three key approaches: 1) research on emerging technologies and innovative efficiency implementation strategies; 2) field-testing of new implementation strategies, and 3) technology demonstrations. A list of selected projects for 2013 is in the Appendix.

2.3.6 Advanced Metering Infrastructure

In 2013, new advanced ("smart") meters will continue to be installed by the majority of the state's electric utilities in up to 85% of Vermont's homes and businesses. These new meters are part of Vermont's advanced metering infrastructure (AMI), designed to help ratepayers lower energy use and to enable utilities to manage demand loads. Efficiency Vermont will continue to explore the most beneficial and cost-effective uses of AMI data in delivering energy savings to Vermonters. Activities will include:

- working with distribution utilities and regulators in establishing a uniform data transfer and storage protocol based on leading industry standards;
- developing ways for Vermonters to access their own AMI data (when and where available) through industry-standard Green Button³ protocol files and web-based services;
- providing consumers with information and recommendations about web and mobile applications that utilize meter data;
- developing AMI-related services and tools to help Vermonters understand and take advantage of savings opportunities;
- continuing participation as a partner in the U.S. Department of Energy (DOE) Recovery Act Smart Grid Investment Grant (SGIG);



³ Green Button is a recently developed industry-standard interface for energy service providers that provides electricity consumers with access to their energy usage data. For more information, visit www.greenbuttondata.org.

- two ongoing consumer behavior studies, one through an SGIG and the other through a DOE Weatherization Innovation Pilot Program grant. These projects will continue to study AMI's potential to benefit residential customers, including low-income households. Efficiency Vermont will analyze results, in partnership with academic researchers, to determine which technologies can most cost-effectively deliver energy savings to Vermonters.

2.3.7 State, Regional, and National Partnerships

In service to Vermont ratepayers, Efficiency Vermont will continue to engage in a comprehensive and collaborative effort that leverages the expertise and resources of entities that are engaged in a range of energy- and efficiency-focused endeavors within and outside our state. In Vermont, such partners will continue to include organizations such as the High Meadows Fund and the Regulatory Assistance Project. On a regional and national level, Efficiency Vermont will maintain ongoing partnerships with such energy efficiency program sponsors as the Northeast Energy Efficiency Partnerships, the New Buildings Institute, the Consortium for Energy Efficiency, ENERGY STAR, Top Ten USA, and the American Council for an Energy-Efficient Economy, working to share information on best practices and to establish uniform product eligibility criteria and program designs. Efficiency Vermont's participation enables Vermont to benefit from collective efforts in support of regional and national codes and standards, new construction initiatives, and research on best practices. More uniform program criteria make it easier for national retail chains and manufacturers to work with Efficiency Vermont.

2.4 BRING EFFICIENCY WITHIN REACH

As in past years, Efficiency Vermont will strive to identify, support, and implement methods to remove financial barriers between Vermont ratepayers and their ability to invest in cost-effective efficiency for their buildings.

2.4.1 Financing for Energy Efficiency Projects



Efficiency Vermont will continue its work to support the development and implementation of financial policies and products that, in turn, enable Vermonters to make cost-effective investments in their homes and businesses. Through ongoing discussions with Vermont financial institutions, Efficiency Vermont will endeavor to ensure that energy efficiency financing programs meet the needs of Vermont homeowners and business operators and that Vermont financial institutions recognize the opportunities for business in this sector.

Efficiency Vermont will continue to work with lenders and customers to ensure the availability of cost-effective financing for energy efficiency projects. By including energy savings in the repayment formula, lenders may be able to provide funding for individuals and businesses not otherwise qualifying for financing. In many instances, such funding creates a positive cash flow for borrowers due to monthly energy savings that are larger than loan payments. In 2013, Efficiency Vermont will support loan arrangements through such activities as initial advocacy and start-up involvement; technical and financial analysis; promotions, and informational customer support. Efficiency Vermont will continue its engagement with:

- **Opportunities Credit Union:** Low-interest loans for homes and businesses.
- **Vermont Economic Development Authority:** Business loans through the Vermont Business Energy Conservation Loan Program.

- **Green Mountain Power (GMP) EverGreen Fund:** Zero-interest financing for Vermont’s K–12 schools located in GMP service territory.
- **Municipal Tax-Exempt Leasing:** Opportunities for K–12 schools to make energy-saving upgrades without raising budgets or establishing bonds.
- **Property Assessed Clean Energy (PACE):** Home loans secured by a property lien and repaid as an added assessment to property taxes. If the property is sold, the lien becomes an obligation of the new owners.
- **Green Revolving Fund:** Financing for colleges, universities, and other nonprofit institutions, with financial support from the High Meadows Fund and in partnership with the Sustainable Endowments Institute.



2.4.2 Financing Education and Information

To enable Vermonters to be aware of, understand, and make decisions regarding financing options, Efficiency Vermont will provide easy access to information by phone, through its website, in printed materials, and in media placements. Efficiency Vermont will also continue to provide training to staff on financing concepts, and to develop financial analysis and project financing summary tools for use in helping customers understand the financial aspects of efficiency projects, make financing decisions, and engage in financing processes.

2.4.3 Product and Service Price Reductions

To motivate Vermonters to make energy-efficient choices in the marketplace, Efficiency Vermont will continue to target specific products and services for purchase price reductions. Primary mechanisms will continue to be: 1) negotiated cooperative promotions that provide incentives to manufacturers and retailers (both independent and “big box”) to lower the retail price of products, and 2) end-user rebates and financial incentives for:

- lighting, HVAC equipment, refrigeration, compressed air systems, and cost-effective custom efficiency services and equipment projects;
- process equipment for such businesses as farms, ski areas, manufacturers, and industrial facilities;
- completion of thermal building upgrades in small commercial and multifamily properties through Building Performance contractors;
- completion of thermal and/or electric home improvement projects through Home Performance with ENERGY STAR contractors.

2.4.4 Fund Leveraging

Efficiency Vermont will utilize a portion of its budget to engage in activities designed to acquire public and private funding for Vermonters engaged in efficiency projects in their homes and businesses. This approach multiplies the impact of ratepayer dollars by using a modest amount of funds to draw higher amounts of new funding without additional ratepayer investment. A recent

example of funding obtained through these efforts is a U.S. Department of Energy grant to the State Energy Program, providing \$500,000 to establish a loan loss reserve for business energy-efficiency project financing. Efficiency Vermont obtained this funding in partnership with the Department. In 2013, this self-sustaining financing approach will become available to Vermont businesses through Efficiency Vermont.

2.5 PURSUE EXCELLENCE IN SERVICE DELIVERY

To bring maximum benefits to Vermont ratepayers, Efficiency Vermont will continue to strive for excellence, efficiency, and accuracy in all aspects of its work, whether in direct service or in the development, assessment, continual improvement, and implementation of systems and protocols necessary to the delivery of effective services.

2.5.1 Information Technology

Efficiency Vermont will continue to provide optimal management of information that is critical to the effective delivery of services to Vermonters and to the accurate provision of reporting and regulatory claims to utilities, the Department, and ISO-NE. Through the development, acquisition, and maintenance of information technology tools and systems, Efficiency Vermont will:

- collect and report on data through the entire process of ratepayer efficiency projects;
- ensure the security of confidential customer data and the highest levels of data quality. and
- accurately calculate and track savings claims.

Planned efforts for 2013 include:

- user-friendly improvements to web-based systems that give customers the online ability to apply for prescriptive financial rebates and to provide feedback to Efficiency Vermont;
- data system enhancements to expand Efficiency Vermont's ability to serve customers, and
- NEW!** • the release of Efficiency Vermont's web-based Technical Reference Manual management system to enable simplified coordination with the Department

2.5.2 Quality Management

Efficiency Vermont will follow rigorous, ongoing quality management protocols in alignment with the following:

- The Efficiency Vermont Administrative Efficiency Quantifiable Performance Indicator (Admin QPI) plan, established with the Board for 2012–2014, requiring continual assessment of operations and service delivery. The Admin QPI plan establishes performance indicators under two main categories:

- Management Span of Control, intended to optimize administrative efficiencies while ensuring continued market impact and effectiveness, and
 - Key Process Improvements, utilizing a methodology for process mapping and improvement, providing value to customers by reducing waste and inefficiency in processes. Activities will be reported upon to the Department.
- Efficiency Vermont's Service Quality and Reliability Plan (SQRP), which defines customer service performance standards in these key categories: General customer satisfaction, project customer satisfaction, incoming call responsiveness, and complaint rate and resolution. Satisfaction and performance data will serve as key drivers of continual improvement activities. Performance metrics will be reported upon to the Department.

2.5.3 Planning and Reporting

Planning and reporting efforts serve multiple purposes, including: 1) fulfilling requirements specified under agreements with State agencies; 2) maintaining accountability, and 3) providing accurate tracking of progress for optimizing service delivery, for public benefit, and for the benefit of entities outside Vermont seeking replication. Efficiency Vermont will continue to prepare and submit the documents listed below:

- An Annual Plan, provided to the Board by November 1 in the year prior to the Plan, providing a summary of planned service delivery strategies and service offerings, market initiatives, and other planned implementation activities for the coming year.
- Periodic reports to the Board and Department, including:
 - Annual Savings Claim and "Success Stories" brochure, submitted in the spring;
 - Annual Report, submitted in the fall after the completion of the savings verification process, and
 - monthly and quarterly reports.

As an essential part of its reporting efforts, Efficiency Vermont will continue to engage in activities designed to maintain the accuracy of reported savings claims, including:

- Maintaining and updating the Technical Reference Manual, which characterizes energy-saving measures on the basis of several parameters: Annual electric savings, annual coincident peak savings, annual fossil fuel energy savings, incremental costs and measure lives, and other applicable resource savings such as water savings and operational and maintenance cost savings.
- Working with the Department as it conducts its annual savings verification to review the initial savings claim.
- Participating in the Technical Advisory Group with the Department, Burlington Electric Department, and other stakeholders to resolve any issues

arising from the annual savings verification process and to provide a proactive mechanism for developing energy characterization and savings calculations.

2.5.4 Administration

In support of Efficiency Vermont's efforts outlined in this Plan, administrative activities will continue to be undertaken. These activities will center on such needs as staff meetings; coordination of service implementation across different functions; and the management, monitoring, and internal communication of overall performance and spending.

3. ENERGY EFFICIENCY UTILITY FUNDING

The Vermont Public Service Board has specified that the funding sources for Efficiency Vermont's electric and heating-and-process fuel (HPF) efficiency services will be separate and distinct. Electric services will be funded through the Energy Efficiency Charge, whereas HPF services will be funded by Vermont's Regional Greenhouse Gas Initiative revenues and by revenues generated by Efficiency Vermont's bidding of electric capacity savings into the regional ISO-NE FCM. Efficiency Vermont will continue to ensure that, from the customer's perspective, the provision of services will be seamless, regardless of the funding source.

HPF services will continue to support Vermont State energy policy goals as outlined in Section 581 of Act 92 (the Vermont Energy Efficiency and Affordability Act, enacted in 2008), and the 2011 Vermont Comprehensive Energy Plan. A

“Efficiency investments must continue to be the first choice in energy policy.”

— **Vermont Comprehensive Energy Plan 2011**

key provision of Act 92 is improving the energy fitness of 80,000 homes by 2020. Although HPF funding levels will not be sufficient on their own to achieve this goal, Efficiency Vermont will design its HPF services to be scalable to levels consistent with these public policy goals.

In 2013, the majority of HPF funding will be directed in support of thermal improvements in homes and small businesses as well as residential and commercial heating system upgrades. Due to a decrease in available HPF funding in 2013, services beyond these core target areas will be scaled back to ensure adequate funding for residential single-family and multifamily services.

4. APPENDIX

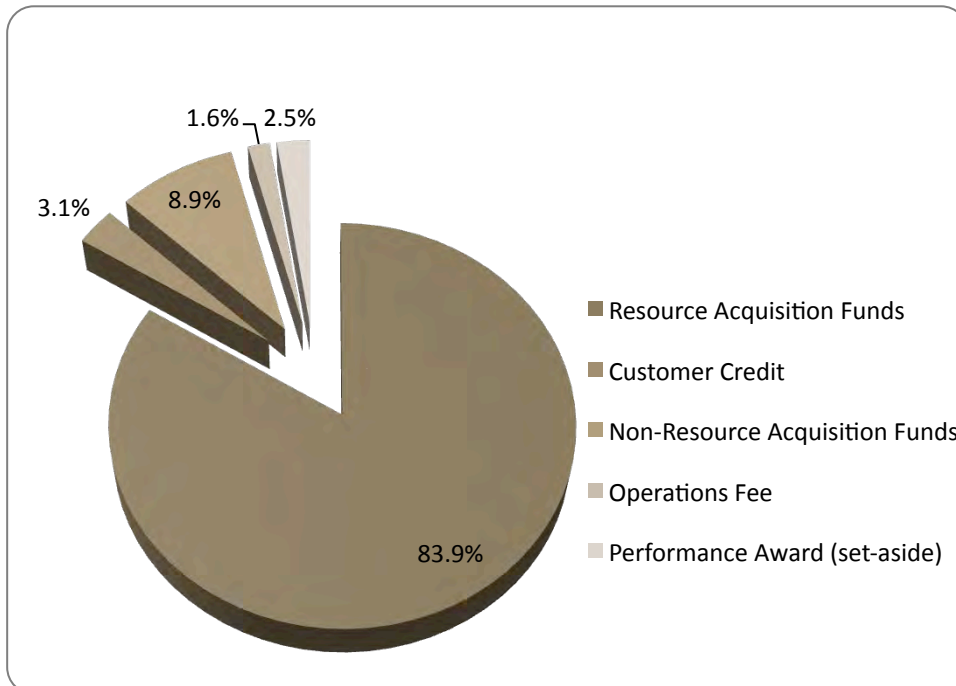
4.1 Resource Acquisition and Non-Resource Acquisition Budget Summary

Resource Acquisition	
Total <i>Electric EEU Funds</i> ¹	\$33,366,770
Customer Credit ²	\$1,339,770
Total <i>Heating and Process Fuels Funds</i>	\$3,377,200
Total Resource Acquisition Budget	\$38,083,740
Non-Resource Acquisition	
Total <i>Electric EEU Funds</i>	\$3,264,000
Total <i>Heating and Process Fuels Funds</i>	\$629,643
Total Non-Resource Acquisition Budget	\$3,893,643
Operations Fee	\$717,813
Sub-Total Prior to Performance Based Fee	\$42,695,196

[1] Resource Acquisition Electric EEU Funds include Geographic Targeting budgets

[2] Estimated Customer Credit budgets

4.2 2013 Combined Efficiency Vermont Budget



4.3 Quantifiable Performance Indicators

QPIs for the 2012–2014 period include goals linked to such areas as energy savings, peak demand reduction, and equitable service delivery to ensure benefits to all Vermont commercial and residential ratepayers throughout the state and across household income levels. As in past years, Efficiency Vermont will operate under a performance-based model that gives significant weight to the degree to which specific goals are achieved.

4.3.1 Efficiency Vermont Electric Efficiency Performance Goals 2012-2014

Performance Indicator / Milestone	Target	Policy Objective
Electricity Savings (MWh)	331,000	To reduce Vermont's electric supply requirements.
Total Resource Benefits-present worth of lifetime electric, fossil, and water benefits	\$270,589,000	To maximize the economic benefits to Vermont ratepayers
Statewide Summer Peak (kW) Demand Savings	55,900	To reduce statewide summer peak electric capacity needs, thereby increasing the reliability of Vermont's electric supply system and decreasing supply costs.
Summer Peak (kW) Demand Savings in the St Albans area	1,800	To reduce summer peak electric capacity needs in targeted areas of Vermont to help avoid or delay expensive electric system upgrades.
Summer Peak (kW) Demand Savings in the Susie Wilson area	1,400	
Business Comprehensiveness-projects with multiple types of efficiency measures	400	Ensure a comprehensive approach in business program delivery.
Market Transformation Residential-residential new construction program participation as % of total building permits	40%	To encourage the design and implementation of programs that maximize the long-term effect on the building and equipment stock in Vermont.
Market Transformation Business-instances when a supply chain partner provides efficient equipment for a business project	7,360	

4.3.2 Efficiency Vermont Electric Efficiency Minimum Performance Requirements 2012-2014

Minimum Requirement	Minimum	Policy Objective
Total electric benefits divided by total costs	1.2	Compares ratepayer economic benefits to Energy Efficiency Charge collected.
Total residential sector spending	\$22,000,000	Ensures a minimum amount of spending will be focused on Vermont residential customers.
Total low-income single and multifamily services spending	\$7,500,000	Ensures a minimum amount of spending will be focused on low-income Vermonters.
Small Business- number with efficiency measures	1,950	Ensures small business customers will be equitably served.
Geographic Equity-Counties Served	14	Ensure that energy efficiency benefits are geographically distributed across the state.
Staff-to-Supervisor FTE ratio	8.5-to-1	These indicators ensures VEIC will continually assess operations and service delivery in order to delivery maximum value to Vermont's ratepayers.
Administrative Efficiency - Key Process Improvement Milestones	8	
Service Quality-Points Earned	92	Ensures customers receive quality customer service

4.3.3 Geographic Equity

Geographic Area	Required TRB per Geographic Area ¹
Addison	\$8,690,000
Bennington	\$8,761,000
Caledonia	\$7,369,000
Chittenden	\$30,302,000
Essex/Orleans	\$7,915,000
Franklin	\$16,561,000
Grand Isle	\$1,645,000
Lamoille	\$5,776,000
Orange	\$6,829,000
Rutland	\$14,547,000
Washington	\$14,050,000
Windham	\$10,505,000
Windsor	\$13,374,000

[1] To determine the TRB per county, the total statewide minimum TRB was multiplied by the percent population by county to establish the minimum by county. Consistent with the prior performance periods, Essex and Orleans counties are combined.

4.3.4 Efficiency Vermont Heating and Process Fuels Efficiency Performance Goals 2012-2014

Performance Indicator / Milestone	Target
Annual incremental net MMBtu savings	126,000
Residential Comprehensiveness	
a. Average air leakage reduction per project	34%
b. Percent of projects with insulation added \geq 50% of the home's finished floor area (sq.ft.)	44%
c. Percent of projects with both shell measures and heating system measures installed	16%

4.3.5 Efficiency Vermont Heating and Process Fuels Efficiency Minimum Performance Requirements 2012-2014

Minimum Requirement	Minimum
Residential sector spending as % of total spending	62.5%
Low-income (single- and multi-family) spending as % of total spending	17.0%

4.4 Applied Research and Development and AMI Projects

Efficiency Vermont will engage in a range of projects in 2013 as part of its Applied Research and Development efforts. The projects shown below constitute an initial list, which will undergo ongoing assessment to ensure its alignment with the goals and priorities outlined in this Plan.

- Efficiency Vermont AMI Implementation:** Continuation of various projects related to integration with ongoing AMI deployment, including utility collaboration, technology and market research, data analytics, data transfer protocols, and other supporting efforts.
- Gamification and Customer Engagement:** To investigate approaches to increasing awareness of Efficiency Vermont and the benefits of energy efficiency through gamification, which involves applying game design thinking to non-game applications to make the experience more fun and engaging.
- Ductless Heat Pumps for Existing Homes:** To develop a methodology to quantify energy savings from installation of inverter-driven ductless heat pumps as a supplemental heat source in existing single-family homes with varying levels of shell efficiency.
- SkySpark Data Analytics Software:** To investigate the feasibility of using data analysis software as an enhanced customer engagement tool to help customers better utilize the information provided by advanced meters in

commercial buildings. These devices include building automation systems, electric meters, thermostats, and other building sensors and controls.

- **Whole-Building Control Systems:** To investigate the application of web-based, wireless controls as an efficiency measure by allowing convenience store owners to better manage their HVAC, lighting, and refrigeration systems remotely across multiple locations.
- **Ventilation Approaches for Residential Buildings:** To investigate five different ventilation approaches across five identical homes in a residential subdivision to compare the cost, energy usage, maintenance, air quality, and application challenges of each system.
- **Continuous Energy Improvement Dashboard:** To investigate the use of a graphical display “dashboard” of energy per unit production as a tool to allow employees in a manufacturing setting to better understand what affects energy use and to encourage more active energy management through continual improvement efforts.
- **Lighting Controls — Advanced vs. Stand-alone Controls in Offices:** To determine the cost effectiveness of advanced lighting control systems as compared with stand-alone controls in commercial offices.
- **Electric Vehicles as a Grid Resource:** To investigate how electric vehicles and AMI technology can be integrated to increase the overall net benefit of plug-in electric vehicles to energy usage, electric rates, and grid stability.
- **Domestic Hot Water Control via Electronic Mixing Valves:** In partnership with Housing Vermont, to compare a standard water heating recirculation system with an electronic mixing valve to determine the cost-effectiveness of applying this technology in multifamily and commercial buildings.
- **Rack Hybrid System for Medium-sized Grocery Stores:** To investigate the cost effectiveness and verify long-term savings of retrofitting an existing medium-temperature rack system with a hybrid refrigeration system in medium-sized grocery stores.
- **Efficiency Vermont and University of Vermont Research Partnership:** To investigate improved heating, ventilation, and refrigeration approaches for commercial greenhouses in Vermont.

4.5 Evaluation Plans

1. SMARTLIGHT Lighting Program

This evaluation will monitor the performance of the SMARTLIGHT program to verify participation, document an in-service rate, and ensure distributor compliance with program requirements. Efficiency Vermont will visit commercial customers in person and will interview residential customers by phone.

2. Commercial and Industrial Lighting Partners

In order to inform future planning, a survey of commercial lighting suppliers will be conducted to gain insight and feedback regarding lighting services for commercial and industrial customers. Lighting partners have asked for an opportunity to provide input regarding technologies that Efficiency Vermont supports, how programs are designed, what rebate levels are offered, and other program aspects. The survey will be distributed via Efficiency Vermont's lighting e-newsletter and e-mail.

3. Restaurant and Lodging Market

Two e-mail surveys are planned:

- A survey that targets the restaurant industry to determine awareness and understanding of Efficiency Vermont, the challenges and barriers to installing energy efficiency equipment, and the impacts of measures on operating costs and profitability
- A survey that targets the lodging sector and focuses on owners' motivations for implementing energy efficiency measures; it will seek information about ways that Efficiency Vermont can optimally support the sector

4. Effectiveness of Marketing Campaigns

Evaluations will be undertaken to assess the effectiveness of marketing campaigns in relation to established success metrics. The primary focus of the evaluations will be on the digital component of the campaigns. Efficiency Vermont will use best practices for digital campaign evaluation, including online survey and standard benchmarks.

5. Public Awareness of Efficiency Vermont

This evaluation will assess Vermonters' awareness of Efficiency Vermont and its services, as well as their understanding and awareness of energy efficiency and its benefits. The evaluation will be conducted by an independent third-party contractor and will likely include telephone surveys and, potentially, focus groups.

6. Residential New Construction

Two evaluation activities are planned for this market in 2013:

- **Builder Survey:** An e-mail survey of builders participating in Efficiency Vermont's residential new construction services to determine the effectiveness of the tiered service structure (Energy Code Plus, Vermont ENERGY STAR Homes, and the new High Performance Home tier).
- **Evaluation of pilot outreach to municipalities:** Efficiency Vermont will be working with several towns that have expressed interest in partnering to help town energy committees and town planners advance more efficient new

construction practices at the local level. Evaluation with participating municipalities will be conducted via email to determine which community outreach and planning strategies towns are using to promote energy efficient new construction, as well as what strategies they find most effective.

7. Existing Homes — Energy Savings Kits Pilot

Efficiency Vermont will conduct analysis of its pilot program that provides energy savings kits to households. This evaluation will determine the impact of household actions, beyond the installation of efficient products, on energy use.

8. Existing Homes: Ductless Mini-Split Heat Pumps Pilot

Efficiency Vermont will undertake a pilot project to offer incentives for ductless mini-split heat pumps to residential customers with primary electric resistance space heat. The purpose of this pilot project is to determine if energy savings can be captured by reducing the need for customers to use their electric resistance space heat systems in the shoulder season and during non-peak days in the winter by displacing this usage with higher-efficiency heat pump electric heat.



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