



# Efficiency Vermont

## ANNUAL PLAN 2014

**Prepared for the Vermont Public Service Board  
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## Annual Plan 2014

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## 1. INTRODUCTION

Efficiency Vermont is Vermont's statewide energy efficiency utility, dedicated to helping Vermonters get the most out of their energy dollars while protecting the state's environment. Efficiency Vermont engages Vermonters at critical decision-making moments in new construction projects, during renovations, or in the purchase of efficient equipment. As importantly, to increase customer benefits, Efficiency Vermont helps Vermonters engage in both immediate action and long-term planning in regard to energy investments and energy use management. Efficiency Vermont provides services that help Vermonters approach energy management as a process rather than a project, and to consider efficient approaches to the use of multiple types of energy. In support of this broad view, Efficiency Vermont makes it easy for customers to access a comprehensive range of services; customers experience Efficiency Vermont as a single resource and not as an organization with separate offerings requiring numerous points of contact.

In 2014, to serve Vermont's households, businesses, institutions, and communities, Efficiency Vermont's efforts will be driven by three fundamental aims:

- 1.1 Motivate energy efficiency actions.**
- 1.2 Benefit Vermonters.**
- 1.3 Make efficiency the standard.**

### 1.1 MOTIVATE ENERGY EFFICIENCY ACTIONS

Efficiency Vermont will use five major strategies that create an environment where Vermonters have access to the information, guidance, resources, services, and products they need to use energy efficiently and to reap the benefits of their actions. These strategies will be:

- **Deliver Comprehensive Services:** Efficiency Vermont will develop and deliver easily understood and accessible services to enable customers to benefit from a range of energy efficiency opportunities. At the core of Efficiency Vermont's services will be its objective guidance; empowering customers with advice on efficient technologies and approaches, customer-friendly data access, and Efficiency Vermont's expert analysis of usage data to give Vermonters the information they need to make informed decisions about their energy use.
- **Collaborate with Partners throughout Vermont:** By supporting and strengthening a statewide network of knowledgeable energy efficiency service and product providers, Efficiency Vermont will reach more Vermonters.
- **Strengthen 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 the state's energy future.
- **Bring Efficiency within Reach:** To enable more Vermonters to make cost-effective energy efficiency investments, Efficiency Vermont will develop 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.

## 1.2 BENEFIT VERMONTERS

Through energy efficiency, Vermonters will benefit from:

- **Energy Savings:** Efficiency Vermont will help households, businesses, institutions, and municipalities take energy efficiency actions that will manage their energy use and costs for years to come. By addressing comprehensive energy use, Vermonters can make efficiency investments that will lower their overall, ongoing energy costs.
- **Stronger Local Economies:** Most dollars spent on energy leave Vermont, but the opposite is true for energy efficiency expenditures. Energy efficiency investments benefit a range of local service and product providers. This business income strengthens bottom lines, provides a competitive edge, creates and protects jobs, and contributes to local tax bases. Every dollar spent on energy efficiency creates a net increase of nearly five dollars of cumulative gross state product.<sup>1</sup>
- **Least-cost Energy Use:** The cost of reducing the use of a given unit of energy through efficiency is less than the cost of obtaining and distributing that same unit of energy. The cheapest energy is energy that is not used.
- **Optimized Energy Use:** As Efficiency Vermont helps customers use energy efficiently, all Vermonters benefit. Whether considering efficiency in facility and equipment investments or making effective conservation choices, Vermonters not only reduce their own costs but also have a beneficial impact on energy demand and management statewide.
- **Protections for Vermont's Environment:** Through strategic and efficient energy use, Vermonters can live, work, play, learn, and shop in high-performance buildings and can operate quality lighting, equipment, and appliances while reducing greenhouse gas emissions that harm the environment.

## 1.3 MAKE EFFICIENCY THE STANDARD

Efficiency Vermont will increase the adoption of cost-effective energy efficiency as a standard practice by working in strategic partnership with key players throughout the product and service supply chain. By providing these partners with such services as technical assistance, education, financial incentives, and promotional support, Efficiency Vermont will drive:

- energy savings;
- greater availability of quality efficiency products and services;
- lasting awareness, knowledge, and motivation within Vermont homes, businesses, institutions, and communities.

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

## 2. MAJOR STRATEGIES FOR 2014

Efficiency Vermont's services will be implemented through a set of customer-focused strategies. These strategies have the common aim of providing opportunities for all Vermonters to overcome barriers to improving the energy efficiency of their homes and places of business.

As reflected in the 2014 budget in Section 4.1 in the Appendix of this Plan, funding for Efficiency Vermont's services will be directed to either "Resource Acquisition" (RA) or "Non-Resource-Acquisition" (NRA) activities. The purpose of this delineation is to provide a high level of transparency regarding Efficiency Vermont's activities. RA efforts 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 2014 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 increase energy efficiency in their homes and businesses, and in municipal and institutional facilities. Services will include information and technical assistance, described in this section, and financial services, described in Section 2.4 Bring Efficiency Within Reach.

Key to its delivery of objective guidance to customers will be Efficiency Vermont's continued and deepening engagement with energy usage data, encompassing a commitment to:

- provision of expert usage data analysis in service to customers;
- empowering Vermonters with easy access to their usage data and information to engender effective independent energy management;
- protecting and ensuring customer privacy;
- staying aware of the state of the art in data applications while maintaining a focus as an innovative leader in exploring and developing new methods and tools to deepen benefits to Vermont.

Efficiency Vermont will design its approaches through an awareness of customers' priorities; interest in the non-energy benefits of efficiency is often a strong motivator for taking efficiency actions. 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, and improved

working environments. These non-energy benefits also are recognized by the Vermont Public Service Board (Board) as factors determining the cost-effectiveness of efficiency investments. Efficiency Vermont's informational and education efforts will target all Vermonters—whether or not they are currently involved in efficiency activities—to build awareness, increase knowledge, and motivate action.

In 2014, Efficiency Vermont will continue to align its activities with the 2013 recommendations of the Thermal Efficiency Task Force (TETF).<sup>2</sup> This group was convened by the Vermont Department of Public Service (Department) to develop a plan for Vermont to meet its statutory goal of improving the energy efficiency of 80,000 homes and reducing fossil fuel use in residential and commercial buildings by 7.5% by 2020. As discussed further in this section of the Plan, Efficiency Vermont will support a local network of Home Performance with ENERGY STAR<sup>®</sup> contractors offering energy efficiency home improvements, and will strengthen relationships with fuel dealers, heating contractors, and hot water system installers to provide a new depth of heating, ventilation, and air conditioning (HVAC) services to Vermont homeowners. Efficiency Vermont will also provide thermal-shell improvement services to small businesses and private multifamily property owners through its Building Performance program, and will partner with affordable housing providers and weatherization agencies to offer comprehensive multifamily services.

**NEW!**

## 2.1.1 Services for Existing Households



*"We significantly improved our home's air quality and are saving about \$700 a year on energy costs."*

Elizabeth and Ella Warner  
Putney, VT  
Home Performance with  
ENERGY STAR<sup>®</sup> program  
participant

This section of the Plan describes Efficiency Vermont's services available to existing households; discussion of construction services can be found in Section 2.2.2 Designers and Builders of New Buildings, for market-rate homes, and in Section 2.1.2 Services for Low-income Households, for low-income homes.

In continued alignment with Vermont's thermal efficiency goal of lowering energy use by 25% in 80,000 homes by 2020, Efficiency Vermont will build upon successful approaches to improve the energy efficiency of existing residential buildings statewide. To help owners make efficient home improvements, Efficiency Vermont will 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 such building problems as excess moisture and ice dams, identify potential health and safety issues, and make cost-effective thermal and electrical efficiency improvements.

In 2014, Efficiency Vermont will expand its residential efforts with a view toward achieving greater comprehensiveness of service delivery and customer efficiency opportunities. The aim of this effort will be to enable customers to approach household energy performance improvement as a process with multiple, often interactive opportunities rather than as a single project. This broadened focus will be designed to empower customers to take control of the total energy performance of their homes and to make informed decisions according to their priorities and budgets. Efforts related to this expansion will include:

- the addition of heating contractors, fuel dealers, and hot water system installers to Efficiency Vermont's retrofit contractor network (discussed in Section 2.2.1 Building Retrofit Contractors);

<sup>2</sup> Considerations of recommendations of the TETF can be found in Section 4.4 in the Appendix. *TETF Report*: [http://publicservice.vermont.gov/topics/energy\\_efficiency/tetf#report](http://publicservice.vermont.gov/topics/energy_efficiency/tetf#report).



**NEW!**

- a pilot effort designed to measure energy savings associated with customer behavior changes;
- customer access to usage data through a secure portal on [www.encyvermont.com](http://www.encyvermont.com), backed with Efficiency Vermont guidance and analysis;
- the delivery of a Vermont home energy score label to existing homes.

Efficiency Vermont will help residential renters benefit from energy efficiency through services targeting rental-property owners. To inform and educate owners, and to motivate them to improve the efficiency of their buildings, Efficiency Vermont will leverage relationships with trade associations, large property developers, and construction professionals. Efficiency Vermont will also provide rental-property owners with technical and financial support for the installation of efficient equipment and for thermal improvements completed by certified Building Performance contractors.

### 2.1.2 Services for Low-income Households

An ongoing priority for Efficiency Vermont will be service to low-income Vermonters. These members of our state's population spend a larger percentage of their income on energy than do Vermonters with higher incomes. Due to this disproportionate energy burden, Efficiency Vermont will serve this population both through offerings available to all households (discussed in Section 2.1.1 Services for Existing Households) and through partnerships with low-income service providers.

#### Existing Low-income Households

Customers will have access to services offered by Efficiency Vermont through:

- Low-income Electrical Efficiency Partnership (LEEP): This partnership teams Efficiency Vermont with the state's five community-based Weatherization Assistance Program (WAP) agencies to provide and install efficient lightbulbs and water conservation products. Activities in 2014 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 conjunction with 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 retrofit projects that provide deeper energy savings than standard weatherization approaches, Efficiency Vermont will provide funds to VFEP for enhanced assistance, including project identification and management, as well as financial incentives for thermal and electric measures. VFEP is a collaboration among Efficiency Vermont, the Central Vermont Community Action Council, the Vermont Housing and Conservation Board (VHCB), and the Vermont Housing Finance Agency (VHFA).
- Vermont Foodbank: Efficiency Vermont will make free CFLs, and screw-in LED lights available to the Vermont Foodbank, which distributes to 280 Vermont food shelves and food pantries.



*Qualifying participants of the Women, Infant and Children (WIC) program receive a new energy-efficient kitchen refrigerator free of charge.*

## New Homes for Low-income Vermonters

Efficiency Vermont will 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 Standards and ENERGY STAR specifications. Efficiency Vermont will also partner with the Vermont VHCB and VHFA to include energy efficiency requirements in financial underwriting criteria for funding of improvements in subsidized new and existing housing.



**NEW!** In 2014, Efficiency Vermont will implement a 10-home pilot High-performance Mobile Home service. This effort was launched in 2013 to apply efficient construction approaches to new mobile homes, including those replacing units destroyed in Tropical Storm Irene. This pilot, designed to significantly lower owners' energy costs, will be undertaken in partnership with a Vermont builder and the VHCB, which will offer subsidies to help bring purchases within financial reach.

### 2.1.3 Services for Retail Buyers of Efficient Products

To lower retail prices and ensure quality and availability for efficient appliances, lighting, electronics, and other products purchased for Vermont homes and businesses, Efficiency Vermont will engage in a range of ongoing activities, including:

- promotion of products that meet or exceed standards for efficiency set by the U.S. Department of Energy's ENERGY STAR program, the Consortium for Energy Efficiency, and/or TopTen USA;
- services to retailers and upstream players in the product supply chain, as discussed in Section 2.2.3 Equipment Manufacturers, Distributors, Suppliers, Retailers, and Installers;
- informational and promotional efforts to encourage the purchase of a range of efficient products, including lighting, appliances, dehumidifiers, pool pumps, heat pump water heaters, efficient dryers, advanced power strips, and electronics;
- an education campaign designed to help consumers understand how to select lighting products based on lumens rather than watts;
- provision of product price reductions, as discussed in Section 2.4.2 Product and Service Price Reductions.

**NEW!**

In 2014, Efficiency Vermont will launch a heat pump water heater promotion, providing consumer and upstream services designed to increase the adoption of this equipment in Vermont homes and businesses. More detailed discussion of Efficiency Vermont's 2014 focus on heat pump technologies can be found below, under the Section 2.1.4 subheading Heating, Ventilation, and Air Conditioning.

### 2.1.4 Services for Existing Businesses, Institutions, and Municipalities

The greatest opportunity for energy savings is found in Vermont's existing business facilities. This section of the Plan will discuss 2014 services targeting these facilities; information regarding services designed to incorporate efficient approaches into new construction can be found in Section 2.2.2 Designers and Builders of New Buildings.

## Small-Business Services

Efficiency Vermont will provide this vital segment of Vermont's economy with services designed to make saving energy as easy as possible, through:

- **Expert Guidance:** Through individualized phone consultation with designated small-business specialists, businesses will receive: Help to identify, analyze, and prioritize savings opportunities; guidance on financing options, including the Business Energy Loan, through Opportunities Credit Union; contractor quote reviews to ensure that businesses obtain the optimal technologies for their needs; and high-level project management support.
- **Thermal Shell Improvement Services:** Efficiency Vermont's Building Performance program will give small businesses and multifamily property owners access to a pool of certified Building Performance Institute contractors specially trained to improve the thermal efficiency of a class of commercial structures. This program, discussed in Section 2.2.1 Building Retrofit Contractors, offers financial incentives to participating facility owners.
- **Education and Information:** Efficiency Vermont will broaden its outreach to include all 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.



*Northshire Brewery of Bennington, VT, worked with Efficiency Vermont to structure a cash-flow-positive loan that paid for their energy efficiency improvements.*

## Large Commercial, Institutional, and Industrial Services

In service to the state's largest energy users—defined by their use of more than 500,000 kilowatt-hours of electricity per year—Efficiency Vermont will maintain its customized approach, including:



*Castleton State College and Efficiency Vermont hosted a Best Practices Exchange to share strategies for reducing energy use in ice arenas.*

- **Account Management:** Designated Efficiency Vermont staff will continue to work closely with individual businesses to deliver long-term, customized service; helping create portfolios of comprehensive energy savings opportunities, delivering technical and financial analyses, identifying opportunities for peak-demand use reduction, and providing guidance in developing energy-saving plans.

- **Customer Advisory Group:** Efficiency Vermont will host its annual gathering of leaders of large businesses and institutions with complex 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 direct feedback about their needs and priorities and about Efficiency Vermont communications and

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services; and 3) enable Efficiency Vermont to use feedback to better tailor approaches to meet customers' needs.

- **Best Practices Exchange:** Efficiency Vermont will hold forums around Vermont to enable firsthand information sharing with and among account-managed customers.
- **Communications and Promotions:** Efficiency Vermont will continue the pilot of a LinkedIn discussion group; publish a quarterly e-newsletter for this sector; and promote energy-saving efforts through press conferences, events, and media releases.

### Technology-Based Business Services

Efficiency Vermont will engage in efforts to increase the use of efficient commercial equipment with the potential to provide substantial benefits to a wide range of businesses, municipalities, and institutions. These benefits can 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 efforts in service to businesses and households that purchase efficient products at retail stores can be found in Section 2.1.3 Services for Retail Buyers of Efficiency Products.

In 2014, Efficiency Vermont will primarily target technologies that offer good opportunities for savings through energy efficiency upgrades. These will include lighting, refrigeration, industrial process equipment, and HVAC systems—including heat pump technologies, which will be promoted for both commercial and residential uses.

Efficiency Vermont will offer financial incentives for the purchase of recommended technologies. Discussion of financial services can be found in Section 2.4 Bring Efficiency within Reach.

### Lighting

Significant opportunities for savings through efficient commercial lighting exist throughout Vermont due to the broad applicability of this technology. To help Vermonters realize these opportunities, Efficiency Vermont will undertake the following activities:

- Provide technical guidance, education, and promotions to encourage the use of efficient equipment and approaches, including the use of:
  - lighting controls;
  - light-emitting diodes (LEDs);
  - customers' partnerships with lighting design professionals to maximize savings.
- Monitor and evaluate emerging lighting technologies for possible inclusion in services.
- Coordinate with the Illuminating Engineering Society of North America in the development of a Vermont chapter, to support efficiency education and training efforts.
- Promote quality lighting products and initiatives through partnerships with the Consortium for Energy Efficiency, DesignLights Consortium, ENERGY STAR, Northeast Energy Efficiency Partnerships (NEEP), and the U.S. Department of Energy. It will also participate as a member of:
  - the DesignLights Consortium technical committee, giving Vermont a voice in shaping the direction of national lighting decisions; this is a key opportunity for a state representing a small share of the U.S. lighting market;
  - the NEEP regional lighting program peer exchange, to help advise best-practice program design.

#### **NEW!**

Beginning in 2014, Efficiency Vermont will launch a Qualified Partner Network of lighting distributors, designers, and representatives to leverage their interactions with customers.

### *Heating, Ventilation, and Air Conditioning (HVAC)*

Efficiency Vermont's HVAC efforts will be designed to 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 optimization. These approaches enable each building's particular uses and configurations to be factored into system settings and operation.

#### **NEW!**

In 2014, increased emphasis will be placed on:

- expanding outreach to equipment manufacturers and distributors, regarding circulator pumps and heat pump technologies, to seek upstream opportunities;
- encouraging the replacement of commercial rooftop air-conditioning units with equipment built to new U.S. Department of Energy high-efficiency standards through collaboration with manufacturers to ensure the availability of units in Vermont;
- technical and financial support for certain efficient oil, propane, ground source/geothermal, wood pellet, and wood chip systems, as well as supporting combined efforts with Vermont Gas Systems for natural-gas system improvements.

#### **NEW!**

A priority in 2014—in both business and residential markets—will be the promotion of heat pump technologies. Notably, Efficiency Vermont will launch a heat pump water heater promotion, providing consumer and upstream services designed to increase the adoption of this equipment in Vermont. Owing to the potential of heat pump technologies to provide significant benefits to Vermont homes and businesses, Efficiency Vermont will continue efforts begun in 2013 to:

- consider the short- and long-term implications of heat pump technologies in Vermont by maintaining awareness of applications, best practices, regulations, and policies;
- evaluate technologies for Vermont application;
- identify opportunities across Vermont markets;
- define strategy for implementation, promotion, and education.

### *Refrigeration*

Electricity costs for refrigeration equipment make up a significant portion of operating expenses for many Vermont businesses, including convenience stores, groceries, restaurants, warehouses, certain industrial businesses, and a range of facilities with commercial kitchens. 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 support the installation of efficient refrigeration equipment, system-wide optimization of refrigeration equipment and controls. Efficiency Vermont will also financially support third-party audits in targeted grocery stores. Emphasis will be placed on upstream partnerships, as described above in the discussion of HVAC efforts.



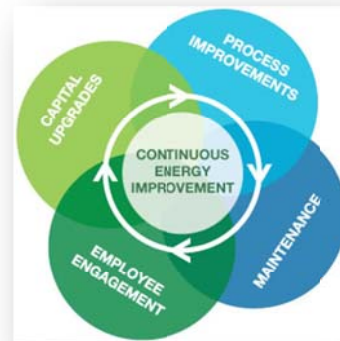
*Jolley Stores General Manager Shawn Bartlett and Sean Crumb, former Jolley Associates employee.*

### *Industrial Process Equipment*

For many industrial and manufacturing facilities, the energy costs for process equipment are far greater than those for lighting and other building systems. In addition to saving energy, facilities using efficient approaches and equipment often can increase production output and improve product quality. In 2014, Efficiency Vermont will deepen engagement with the water/wastewater market through third-party audits, and will work with Vermont manufacturers and 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, guidance on financial options, cost sharing of engineering audits and analyses, pilot technology testing, and site visits to locations that are using a proposed technology.

**NEW!**

Notable in 2014 will be the launch of a continuous energy improvement (CEI) pilot for this market. CEI acquires sustained savings by engaging customers in long-term energy management planning rather than focusing solely on individual projects. One of the strengths of this approach is its success in capturing operational savings, making it a highly effective tool in increasing efficiencies related to industrial process equipment. In 2014, to provide industrial facilities with the information they need to commit to energy management as a priority, Efficiency Vermont will work closely with customers to conduct a comprehensive assessment of efficiency opportunities, develop an energy management plan, identify and address barriers to energy management, and develop a process to make efficiency a standard operational practice.



### Target Market Services

Efficiency Vermont has identified unique business markets that will benefit from targeted approaches because of their distinct needs and challenges. These markets are 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.

In 2014, 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. 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 it would by delivering services only at the individual project level. Efficiency Vermont will identify such market traits and match the most effective approaches and technologies to each market's particular needs. For example, two restaurant owners—one in St. Albans and another in Brattleboro—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.

#### 2.1.5 Services for Geographically Targeted Areas

Efficiency Vermont will implement equipment replacement services, retrofit services, and new construction 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. Efficiency Vermont will focus first on customers with the largest summer peak demand load, through individualized customer Account Management and customized peak demand reduction projects. Although primary focus will be on the commercial and industrial sector, some efforts will target residential applications with higher levels of summer peak demand savings, such as pool pump replacements. Activities in 2014 will also include an increased focus on non-account managed businesses as well as continued engagement with 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.

Although this plan is based on an expectation that Geographic Targeting services will continue in 2014 for both the St. Albans and Essex areas, designation of Geographic Targeting areas may always be modified by the Board, following recommendations from the Vermont System Planning Committee (VSPC). Should such changes be made, Efficiency Vermont will work with the Department and the Board to modify Geographic Targeting and statewide Quantifiable Performance Indicators,<sup>3</sup> and will plan a program ramp-down that minimizes negative impact to customers and partners.



*“We’ve had a great experience with Efficiency Vermont. They understand our holistic approach to plant operations, and our long-term business goals. They’ve helped us to improve our plant’s processes — knowledge we can then share company-wide.”*

Marc Ladd, Saint Albans Operations Manager,  
Barry Callebaut USA

## 2.1.6 Education and Information Services

### Customer Support

Through Efficiency Vermont’s toll-free call center, Vermonters will have easy access to expert information and guidance on a range of efficiency topics, including:

- Efficiency Vermont’s services;
- efficient technologies and approaches;
- tools empowering customers with information about their energy use;
- referrals to other resources such as Vermont’s weatherization services, the Renewable Energy Resource Center, and the Energy Code Assistance Center.

### Outreach and Education

Efficiency Vermont will undertake outreach activities designed to motivate and empower the general public to take efficiency actions. Efforts will aim to increase Vermonters’: 1) knowledge of energy efficiency and its benefits; 2) ability to improve the energy efficiency of their homes, workplaces,

<sup>3</sup> A complete list of the QPIs can be found in Section 4.3 in the Appendix.

schools, and communities; and 3) awareness of Efficiency Vermont as their resource for energy efficiency solutions.

Efforts will include the following:

**NEW!**

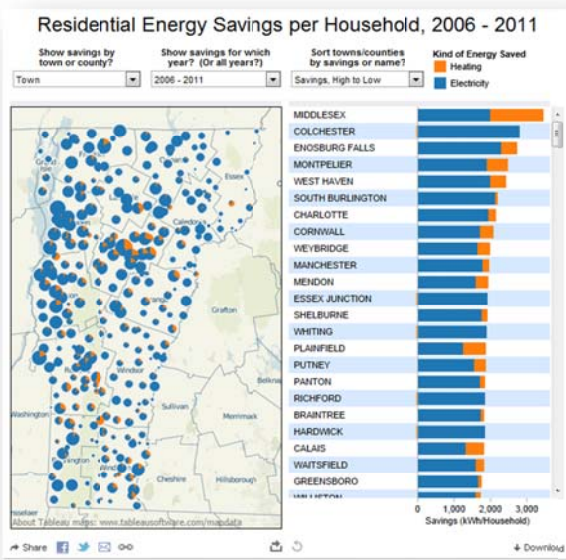
- Provision of information, efficiency-related news, and marketing promotions via print, broadcast, web-based, and social media
- The website [www.encyvermont.com](http://www.encyvermont.com)– increasing customer engagement through access to energy usage data, recommendations on efficiency actions, online access to rebates, information about efficient technologies and approaches, identification of qualified local service providers, listings of retailers selling efficient products, and information on a range of efficiency and energy topics
- In-depth discussion of energy issues and their relation to Efficiency Vermont’s work, through publication on [www.encyvermont.com](http://www.encyvermont.com) of:
  - Efficiency Vermont’s blog *Energy. Forward.*, providing timely discussion of efficiency activities under way throughout the state and presenting Efficiency Vermont research of value to Vermonters who want to deepen their involvement in their energy use;
  - a library of white papers developed by Efficiency Vermont, sharing the latest thinking, analysis, and cutting-edge research on the future of energy efficiency.
- Dissemination of information at home shows, community events, and trade shows
- Distribution of advice columns, energy-saving tips, and electronic newsletters that deliver information on energy efficiency and Efficiency Vermont’s services

## 2.1.7 Data-driven Services

Efficiency Vermont will engage in efforts designed to deepen its ability to help customers identify energy-saving opportunities through analysis of electricity usage and other data. Historically, Efficiency Vermont has served customers with analysis of

monthly electricity usage information and through targeted commercial sub-metering. As new technologies emerged, Efficiency Vermont began also to research and pilot expanded data-linked services utilizing sub-meters for small- and medium-sized businesses and Nest thermostats for residences. By 2014, owing to the installation of advanced meters by the majority of Vermont’s distribution utilities, more than 90% of the state’s homes and businesses will begin to provide utilities with electricity usage data in intervals as short as 15 minutes.

The realization of interval data’s potential as a driver for energy use reduction will rely on the provision of data analysis and customer guidance. When analyzed, interval data provide a rich new depth of insight to enable Vermonters to deepen their awareness of the impact of their actions on their energy costs and to take informed efficiency actions.



Using this interactive map, residents can see and compare household energy savings by town. View this map on the Efficiency Vermont Blog, Energy. Forward.: <http://encyvermont.com/Blog/post/13-03-25/Vermont-Energy-Savings-Interactive-Map.aspx>



In 2014, Efficiency Vermont staff will continue to provide expert data analysis as a standard and essential facet of services to customers across markets. Concurrently, Efficiency Vermont will undertake new endeavors designed to enable Vermonters to gain deeper insights about their usage and to make more knowledgeable decisions about energy use management. Activities will include those designed to strengthen service to customers in 2014 as well as efforts undertaken to lay the groundwork for future approaches to helping reduce Vermont's and Vermonters' energy burden. In 2014, Efficiency Vermont will do the following:

NEW!

- Implement an Energy Efficiency Data Analytics Platform to utilize interval data from utilities that have deployed advanced meters
- Offer customers access to usage data, analysis, and guidance through a secure portal on [www.energycanada.com](http://www.energycanada.com)
- Continue to exercise best-practices data stewardship to ensure customer privacy, security, and alignment with customer data usage preferences
- Develop new tools to enable increased automation of Efficiency Vermont's data analysis
- Engage in pilot efforts:
  - using interval data to measure savings associated with changes customers make in how they use energy;
  - expanding on research begun in 2012 regarding Nest thermostats (designed to save energy by learning and automating use patterns) to investigate the device's usefulness in measuring a building's thermal performance;
  - applying 2012–2013 industrial market sub-metering research to small commercial customers;
  - utilizing aggregate data in forecasting and trend analyses.

NEW!

## 2.2 COLLABORATE WITH PARTNERS THROUGHOUT VERMONT

Efficiency Vermont's ongoing partnerships with Vermont's efficiency service and product providers will be key to the achievement of market transformation and energy savings goals. These partnerships have a profound impact on Vermonters' ability to lower energy use in their homes and places of business. Services to these partners will include coordinated planning, program creation, information exchange, training, financial incentives, and cooperative advertising. These efforts will be designed to give Vermonters access to a valuable network of knowledgeable local providers, while also benefiting these providers.

### 2.2.1 Building Retrofit Contractors

A long-standing priority of Efficiency Vermont has been to build and support a network of skilled Vermont contractors trained to improve the energy efficiency of Vermont's homes and business facilities. In 2014, Efficiency Vermont will broaden the scope of these efforts. This expansion will be undertaken to: 1) increase customers' access to a wider range of efficiency service providers; 2) deepen the comprehensiveness of efficiency work in homes and businesses; 3) further leverage existing professional relationships between contractors and their customers; 4)



*Weatherization and Renovation of Montpelier (W.A.R.M. LLC) receives a Home Performance with ENERGY STAR honor award for their efficiency improvements completed on the Kelley home in Montpelier, VT.*

motivate contractors in a broader range of fields to incorporate efficiency into their business approaches; and 5) enable a more comprehensive network of contractors to strengthen their bottom line, increase their value to clients, and maintain their competitive edge by including efficiency in their service offerings.

In 2014, Efficiency Vermont's services to building retrofit contractors will include the following:

- Efficiency Vermont will continue to support the Building Performance Institute (BPI) in training Vermont contractors to identify and address a range of energy efficiency issues in buildings. With this training, contractors become certified to deliver retrofit efficiency services to residences—through Efficiency Vermont's Home Performance with ENERGY STAR program—and/or to small businesses and rental properties through Efficiency Vermont's Building Performance program. Efficiency Vermont will provide certified contractors with ongoing technical and marketing support as well as customer financial incentives for projects completed by participating contractors. Efficiency Vermont also will recognize and publicize exceptional achievement by these contractors through Efficiency Vermont's annual Best of the Best awards for efficient retrofit projects.
- Services will expand to include:
  - residential heating contractors and fuel dealers who have received Energy Efficiency Gold certification (through, respectively, the National Oil Heat Research Alliance and the Vermont Fuel Education Center), to make it easier for customers to address a comprehensive range of efficiency opportunities;
  - commercial lighting, HVAC, and refrigeration contractors, who will receive training and promotional support through Efficiency Vermont.
- As in past years, Efficiency Vermont will provide a broad range of contractors with education through workshops, webinars, information provided through trade associations and Efficiency Vermont's annual Better Buildings by Design conference.
- Efficiency Vermont will work to make the customer experience simple. Regardless of contractor type, customers will be able to easily find qualified service providers and available services through [www.encyvermont.com](http://www.encyvermont.com).

**NEW!**

## 2.2.2 Designers and Builders of New Buildings

Efficiency Vermont's efforts to support the creation of efficient new buildings will focus primarily on the professionals to whom property owners turn for the design and construction of commercial 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 interact directly with certain building owners as key members of project teams, particularly in regard to construction undertaken by institutions, by government agencies, and by large businesses with multiple buildings.



### 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:

- 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
- Ongoing partnerships with national and regional organizations, such as the New Buildings Institute, to promote high performance in new commercial construction
- The leveraging of customer interest in green building, energy performance, and green rating systems such as Leadership in Energy and Environmental Design (LEED)
- Post-occupancy operations and energy performance tracking
- Post-construction building owner engagement to identify ongoing and future savings opportunities for existing and new buildings
- Assistance in the design of buildings capable of achieving net-zero energy use<sup>4</sup>
- In addition to acquiring savings, this effort will aim to increase interest in building to this standard by raising awareness and providing education.

**NEW!**

## 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 rating 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 national ENERGY STAR Home certifications and meet elevated criteria for thermal and electrical efficiency and water management.
3. High-performance Homes: Homes reach a high level of energy efficiency that makes them well-suited to achieve net-zero energy use with the incorporation of renewables.

**NEW!**

In support of the range of efficiency aims that Vermonters seek in their new homes, Efficiency Vermont will offer technical advice and rating services in alignment with ENERGY STAR, LEED, green, and passive-house standards. To advance efficiency in the marketplace, Efficiency Vermont will provide information to builders, appraisers, lenders, and real estate agents through engagement with the Home Builders and Remodelers Associations of Vermont, the Vermont Green Home Alliance, media placements, and Efficiency Vermont's *Builder Partner Update*. Outreach efforts will continue with building supply houses, municipalities, and those electric utilities that have not historically provided project leads.

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<sup>4</sup> 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.

## Education and Information

### *Better Buildings by Design Conference*

Efficiency Vermont will present the Better Buildings by Design conference, with a 2014 theme of “[Net Zero by 2030](#).”<sup>5</sup> This two-day annual gathering is the region’s premier design and construction conference, serving as a key resource on innovations in energy efficiency, superior building performance, and best practices in design, construction, and renovation for both residential and commercial buildings. The event is expected to draw 1,000-plus of the region’s top construction and design professionals, real estate agents, and equipment installation and service contractors. Nationally renowned speakers and workshop leaders will present more than 40 sessions on building envelope, integrated design, lighting, and mechanical systems. More than 50 exhibitors will provide attendees with information on the latest energy-efficient products and services. The keynote address will be delivered by San Francisco architect Eric Corey Freed, known for his work in the tradition of organic architecture first developed by Frank Lloyd Wright.



*Eric Corey Freed, Keynote  
2014 Better Buildings by Design*

## Codes and Standards Support

To help Vermonters comply with State energy codes for new construction and renovation projects, Efficiency Vermont will:

- staff the Energy Code Assistance Center toll-free phone lines;
- provide technical assistance, materials, guidance, and training;
- work with other stakeholders in efforts to update residential and commercial codes and to develop a new “stretch code” that exceeds Vermont’s base energy code for new construction. This code was authorized in 2013 under Vermont’s Act 89 as a method of increasing the energy efficiency of new buildings.

**NEW!**

Vermonters served through these efforts may include homeowners, architects, engineers, construction and renovation contractors, building supply proprietors, realtors, banking professionals, title attorneys, appraisers, and municipal officials as well as members of regional planning commissions and professional organizations.

### 2.2.3 Equipment Manufacturers, Distributors, Suppliers, Retailers, and Installers

The ability of Vermonters to take energy saving actions relies on the commitment and knowledge of individuals and companies at each stage of the product supply chain. In 2014, Efficiency Vermont will build upon relationships with manufacturers, distributors, suppliers, retailers, installers, and service technicians through:

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



<sup>5</sup> [http://efficiencyvermont.com/for\\_our\\_partners/bbd/overview.aspx](http://efficiencyvermont.com/for_our_partners/bbd/overview.aspx)

- 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;
- training and support for installers, to encourage the adoption of new, efficient technologies and approaches;
- promotional work focusing on targeted products, including efficient electronics and LEDs.

## 2.2.4 Professional and Trade Associations

In 2014, Efficiency Vermont will leverage existing professional connections by maintaining relationships with Vermont organizations representing a wide range of constituents. By sharing information via organizations' existing communication vehicles, events, and promotional campaigns, Efficiency Vermont will reach business customers, through trusted channels, with messaging targeting their particular priorities and objectives.

Efficiency Vermont will work in partnership with the:

American Institute of Architects–Vermont Chapter  
American Society of Heating, Refrigerating, and Air-Conditioning Engineers  
Building Performance Professionals Association of Vermont  
Building Safety Association of Vermont  
Construction Specifications Institute  
Green Mountain Water Environment Association  
Home Builders and Remodelers Associations of Vermont  
University of Vermont Extension  
Vermont Alliance of Independent Country Stores  
Vermont Apartment Owners Association  
Vermont Association of Hospitals and Health Systems  
Vermont Convention Bureau  
Vermont Fuel Dealers Association  
Vermont Green Building Network  
Vermont Green Home Alliance  
Vermont Grocers Association  
Vermont Hospitality Council  
Vermont Inn and Bed & Breakfast Association  
Vermont Rental Property Owners Association  
Vermont Retailers Association  
Vermont Rural Water Association  
Vermont Ski Areas Association  
Vermont Superintendents Association

## 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. To motivate efficiency actions and the utilization of such services as Home Performance with ENERGY STAR, Efficiency Vermont will partner with communities to increase the impact of groups engaging in efficiency efforts. Assistance



*Weybridge Energy Committee celebrates their successful completion of the Vermont Home Energy Challenge goal.  
Photo credit: Gioia Kuss*

**NEW!**

may include planning guidance, promotions, educational materials, and volunteer training. Efficiency Vermont's community-based efforts will also include work with nonprofit organizations. For example, Efficiency Vermont will launch the Community Energy Partnership Grant Program in 2014. This one-year effort will enable nonprofit organizations serving low-income Vermonters to provide energy-saving products and assistance to their clients.

## **2.3 STRENGTHEN VERMONT'S ENERGY FUTURE**

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

### **2.3.1 Support for Vermont's Energy Goals**

In ongoing support of state energy policy goals set out in statute, as well as the State's 2011 Comprehensive Energy Plan, Efficiency Vermont will provide energy, financial, and economic information and analysis to policy makers, State agencies, utilities, and other key stakeholders. These efforts will be made 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 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 Coordination with Distribution Utilities**

Efficiency Vermont will collaborate with Vermont's distribution utilities to ensure consistency in the implementation of efficiency services, marketing, promotions, and specific initiatives, such as those related to the utilization of advanced meter data for the benefit of our shared customers. Efficiency Vermont will also maintain its coordination with Green Mountain Power Corporation (GMP) in implementation of services through the GMP Community Energy and Efficiency Development Fund, created when GMP and Central Vermont Public Service merged. Beginning in 2014, Efficiency Vermont will work cooperatively with Burlington Electric Department and Vermont Gas Systems to implement a cost sharing agreement for services to shared customers.

### **2.3.3 Demand Resources Plan and Demand Resources Plan Proceeding**

The Demand Resources 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 thermal energy and process fuels, by calendar year, for a 10-year period (2012–2021).

The Demand Resources Plan Proceeding (DRPP) is conducted by the Board in cooperation with a variety of stakeholders, including the Vermont System Planning Committee, Vermont Energy Investment Corporation (VEIC), and the Department, and it includes public comment and public workshop components. The primary purpose of the DRPP is to establish 20-year energy efficiency savings goals and budgets for Efficiency Vermont.

VEIC will work with the Department to develop the DRP for the 2015–2034 period, due for completion in June 2014. Also of importance will be the review and updating, if necessary, of forecasting tools, methodologies, and cost-effectiveness assumptions.

### 2.3.4 Electric Transmission System Reliability

On behalf of Efficiency Vermont, VEIC will participate as a voting member of the Vermont System Planning Committee (VSPC). This body seeks to collaboratively address reliability issues in Vermont's electric transmission system. Created by Board order, the VSPC 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 participate in the following subcommittees: Forecasting, Geographic Targeting, and Public Participation. In 2014, VEIC will also participate in preliminary planning for non-transmission alternatives analysis.

### 2.3.5 ISO New England Forward Capacity Market Participation

To ensure that the electric grid has sufficient capacity to meet peak demands at the lowest possible cost, the Independent System Operator for New England (ISO-NE) allows demand-side resources to be bid on a wholesale Forward Capacity Market (FCM)<sup>6</sup> 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 represent the interests of Vermont electric ratepayers through participation in the ISO-NE FCM. This activity will include: 1) the establishment of future FCM commitments through bidding forecasted savings into FCM auctions; 2) submission of bids and claims for capacity savings as they occur, resulting in payments made to VEIC and transferred to Vermont's electric Energy Efficiency Fund for future investment in thermal energy and process fuel initiatives; 3) reporting to ISO-NE and Vermont stakeholders; 4) associated administrative, operational, and fiscal activities; and 5) 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 2014 is expected to be approximately \$4,470,000.



VEIC will engage in activities related to the annual measurement and verification (M&V) of its performance, a requirement of its NEPOOL participation in the FCM. The process expands on other Efficiency Vermont M&V activities by including a sampling plan for custom business projects that directs four activities: 1) measurement and verification implementation; 2) measurement review; 3) measurement and verification finalization; and 4) equipment calibration.

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<sup>6</sup> Read Efficiency Vermont's perspective on the Forward Capacity Market on our blog, *Energy. Forward.*: [http://efficiencyvermont.com/Blog/post/13-05-20/Paying\\_it\\_Forward\\_Energy\\_Efficiency\\_in\\_New\\_England.aspx](http://efficiencyvermont.com/Blog/post/13-05-20/Paying_it_Forward_Energy_Efficiency_in_New_England.aspx)

In 2014, VEIC will also support the development of policies, market analyses, and participation strategies in response to the new FCM market structure and the removal of Vermont Yankee as a capacity provider in the region.

### 2.3.6 State, Regional, and National Partnerships

In service to Vermonters and in support of the State's energy goals, Efficiency Vermont will leverage the expertise and resources of entities engaged in a range of energy and efficiency endeavors within and outside the state. In Vermont, such partners will include the High Meadows Fund, the Vermont Housing and Conservation Board, and the Regulatory Assistance Project. On a regional and national level, Efficiency Vermont will maintain partnerships with such organizations and efforts as the American Council for an Energy-Efficient Economy, the Consortium for Energy Efficiency, ENERGY STAR, the New Buildings Institute, Northeast Energy Efficiency Partnerships, and TopTen USA, and, working to share information on best practices and to establish uniform product eligibility criteria and program designs.

### 2.3.7 Applied Research and Development (R&D)

Building on the successful R&D recruitment and deployment model of the previous two years, Efficiency Vermont will 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 and other resource support to maximize the positive impact of these projects on Vermonters. As key drivers of innovation, these activities are critical to Efficiency Vermont's long-term success in providing high-quality services in an industry undergoing continuous technological and consumer preference changes.

Efficiency Vermont will plan activities, in collaboration with others, with an aim of advancing innovative and sound product and service design over time. For example, aspects of 2013 R&D efforts regarding Advanced Metering Infrastructure deployment were critical to the development of 2014 data-driven services, as described in Section 2.1.7 Data-driven Services. 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 complete list of projects selected for 2014 is provided in Section 4.5 in the Appendix.



*Efficiency Vermont interactive Meter Loan program designed to engage customers in understanding their energy use at home. Visit the website to learn more: <http://www.encyvermont.com/meterloan>.*



## 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 Vermonters and their ability to make energy efficiency investments.

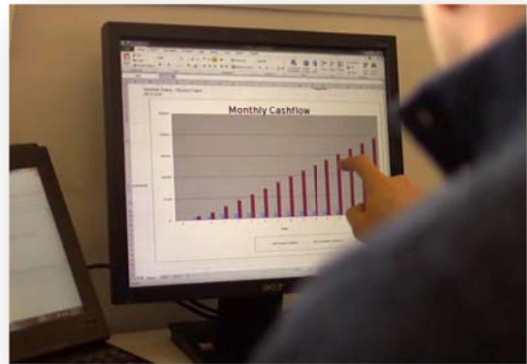
### 2.4.1 Financing for Energy Efficiency Projects

Efficiency Vermont will 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.

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 2014, Efficiency Vermont's efforts will include technical and financial analysis, promotions, and informational support for customers. Efficiency Vermont will engage with the following:

**NEW!**

- Business Energy Loan with Opportunities Credit Union: Increasing businesses' opportunities to finance efficiency projects by factoring energy savings into loan qualification calculations.
- Energy Loan Guarantee Program: Large-project financing for businesses through Vermont banks and credit unions. Efficiency Vermont, in partnership with the Department, obtained funding to establish a loan loss reserve through a U.S. Department of Energy grant to the State Energy Program. The Vermont Economic Development Authority will provide a guarantee of 75% of loans.
- 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 municipalities to make energy-saving upgrades, in facilities such as K-12 schools, 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.



*Efficiency Vermont Energy Consultant works with customer to review monthly cash flow.*

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 provide financial analysis and business project financing summary tools to help customers understand the financial aspects of efficiency projects, make financing decisions, and engage in financing processes.

## 2.4.2 Product and Service Price Reductions

To motivate Vermonters to make energy-efficient choices in the marketplace, Efficiency Vermont will target specific products and services for purchase price reductions. Primary mechanisms will be: 1) negotiated cooperative promotions that provide incentives to manufacturers and retailers—both independent and chain—to lower the retail price of products; and 2) purchaser 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 energy efficiency projects through Home Performance with ENERGY STAR contractors.



*Efficiency Vermont helped King Arthur Flour select energy efficient products and technology when they built their new retail store and Baking Education Center in Norwich, VT.*

## 2.4.3 Fund Leveraging

Efficiency Vermont will engage in activities designed to acquire public and private funding for Vermonters undertaking efficiency projects in their homes and businesses. This approach multiplies the impact of ratepayer dollars by using a modest amount of Efficiency Vermont funds to draw new funding without additional ratepayer investment. Examples include distribution utility resources for electric and/or Thermal Energy and Process Fuel (TEPF) services, government and foundation grants, and efficient equipment distributor contributions to purchase-price reductions.

## 2.5 PURSUE EXCELLENCE IN SERVICE DELIVERY

To bring maximum benefits to Vermonters, Efficiency Vermont will 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 optimal delivery of services.

### 2.5.1 Information Technology and Strategic Technology Services

In continuation of a structural improvement launched in 2013, Efficiency Vermont will implement its information technology services through two divisions, operating in close coordination:

- Information Technology Services: supporting Efficiency Vermont core operations through the management of information and associated technologies
- Strategic Technology Services: developing, maintaining, and integrating data software in service to customers, internal operations, and interactions with external partners.

Efforts will be focused to:

- ensure the security of confidential customer data and the highest levels of data quality;
- support optimal delivery of services to customers as well as the delivery of operational reporting and regulatory claims to utilities, the Department, and ISO New England;
- enable the accurate collection, tracking, processing, and reporting of the entire life cycle of projects and market-based activities;
- identify opportunities to integrate tools and systems, find new efficiencies, improve ease of use, and leverage systems and application program interfaces.

Planned efforts for 2014:

**NEW!**

- Support to ensure optimal effectiveness of two applications launched in 2013:
  - the online rebate center, enabling business customers to apply for prescriptive rebates through [www.encyvermont.com](http://www.encyvermont.com)
  - the web-based Technical Reference Manual, launched to enable simplified coordination with the Department and to acquire greater internal efficiencies
- Improvement of reporting and reduction of administrative costs through deeper integration between energy tracking and financial tracking systems

## 2.5.2 Quality Management

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

- The Efficiency Vermont Administrative Quantifiable Performance Indicator (QPI) plan, established with the Board for 2012–2014, requiring continual assessment of operations and service delivery. The Administrative QPI plan establishes performance indicators under two main categories:
  - Management Span of Control, intended to optimize administrative efficiencies while ensuring market impact and effectiveness
  - Key Process Improvements, utilizing a methodology for process improvement, providing value to customers. Activities will be reported 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 to the Department. In 2014, Efficiency Vermont will conduct its triennial business-customer satisfaction survey in collaboration with independent, third-party research professionals and 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 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 the Department, including:
  - Monthly summaries of electric efficiency performance

## Efficiency Vermont Annual Plan 2014

- Quarterly reports summarizing electric and TEPF efficiency performance, detailing budget variances, and providing implementation highlights
- Annual Savings Claim and a highlights brochure, submitted in the spring
- Annual Report, submitted in the fall after the completion of the savings verification process

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

- Maintaining and updating the Technical Reference Manual (TRM), 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. As discussed in Section 2.5.1 Information Technology and Strategic Technology Services, a web-based TRM launched in 2013 will continue to be available in 2014, enabling simplified coordination with the Department as well as greater internal efficiencies.
- 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 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 Board has specified that the funding sources for Efficiency Vermont's electric efficiency and TEPF services be separate and distinct. Electric services will be funded through the Energy Efficiency Charge, whereas TEPF 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 ensure that, from the customer's perspective, the provision of services will be seamless, regardless of the funding source.

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

In 2014, the majority of TEPF funding will be directed in support of thermal improvements in homes and small businesses as well as residential and commercial heating system upgrades.



## 4. APPENDIX

### 4.1 EFFICIENCY VERMONT BUDGETS

Budget numbers throughout Section 4.1 represent spending projections for 2014. In particular, the TEPF 2014 budget is based upon a April 16, 2013 filing: *VEIC Updated Estimates of Thermal Energy and Process Fuels Revenue and Budget 2012-2014*. VEIC will file its final 2012 - 2014 TEPF Budget and QPI Goal update in April 2014.

#### 4.1.1 2014 Resource Acquisition and Non-Resource Acquisition Budget Summary

<b>Resource Acquisition</b>	
Total <i>Electric EEU Funds</i> <sup>1</sup>	\$36,056,300
Customer Credit <sup>2</sup>	\$1,144,300
Total <i>Thermal Energy and Process Fuels Funds</i>	<u>\$4,778,500</u>
<b>Total Resource Acquisition Budget</b>	<b>\$41,979,100</b>
<b>Non-Resource Acquisition</b>	
Total <i>Electric EEU Funds</i>	\$3,666,700
Total <i>Thermal Energy and Process Fuels Funds</i>	<u>\$670,700</u>
<b>Total Non-Resource Acquisition Budget</b>	<b>\$4,337,400</b>
Operations Fee (1.71%)	<u>\$792,000</u>
<b>Sub-Total Prior to Performance Based Fee</b>	<b><u>\$47,108,500</u></b>

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

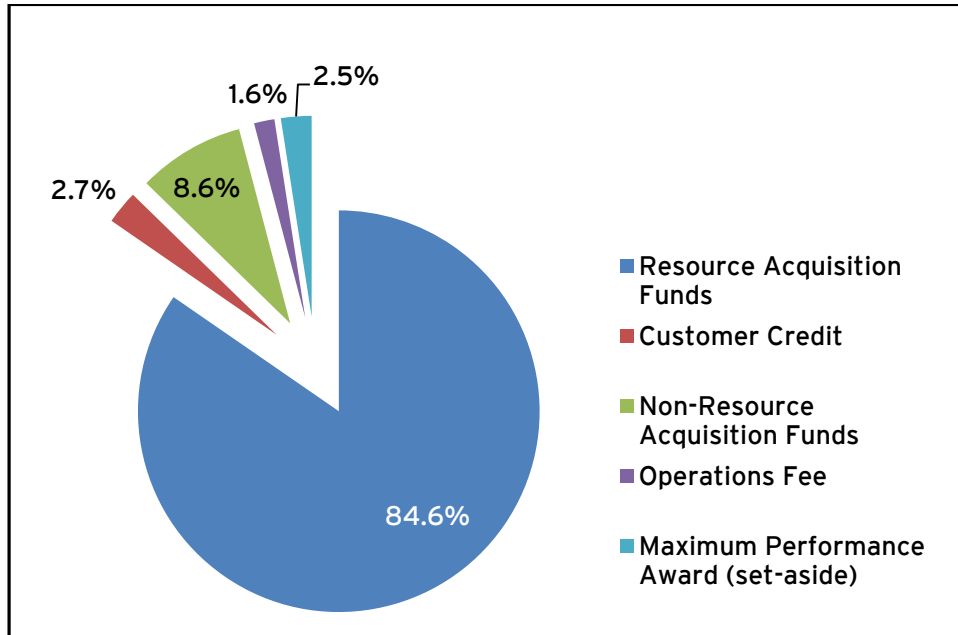
[2] Estimated Customer Credit budgets

## 4.1.2 2014 Budget by Market and Initiative

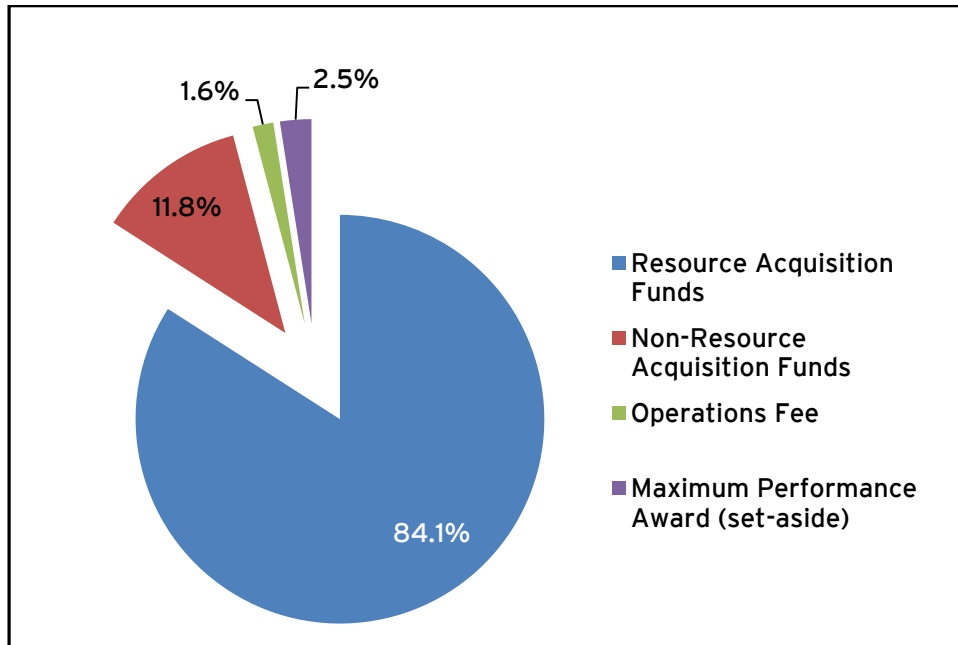
<b><u>RESOURCE ACQUISITION</u></b>	
<b><u>Electric Efficiency</u></b>	
<b><u>Business Sector</u></b>	
Business Existing Facilities	\$ 21,699,800
Customer Credit	\$ 1,144,300
<b><u>Business New Construction</u></b>	<b>\$ 2,811,100</b>
<b>Sub-Total Business Sector</b>	<b>\$ 25,655,200</b>
<b><u>Residential Sector</u></b>	
Efficient Products	\$ 6,843,600
Existing Homes	\$ 3,174,300
<b><u>Residential New Construction</u></b>	<b>\$ 1,527,500</b>
<b>Sub-Total Residential Sector</b>	<b>\$ 11,545,400</b>
<b>Total Electric Efficiency</b>	<b>\$ 37,200,600</b>
<b><u>Thermal Energy and Process Fuels Efficiency</u></b>	
Business Sector	\$ 1,194,700
<b><u>Residential Sector</u></b>	<b>\$ 3,583,800</b>
<b>Total Thermal Energy and Process Fuels Efficiency</b>	<b>\$ 4,778,500</b>
<b>TOTAL RESOURCE ACQUISITION ACTIVITIES</b>	<b>\$ 41,979,100</b>
<b><u>NON-RESOURCE ACQUISITION</u></b>	
Education and Training	\$ 677,500
Applied Research and Development	\$ 637,300
Planning and Reporting	\$ 434,500
Evaluation, Measurement and Verification	\$ 804,700
Policy and Public Affairs	\$ 596,500
Information Technology	\$ 887,300
General Administration	\$ 299,600
<b>TOTAL NON-RESOURCE ACQUISITION</b>	<b>\$ 4,337,400</b>
Smart Grid (2011 Carryover)	\$ 50,000
Operations Fee	\$ 793,300
<b>Sub-Total Prior to Performance-Based Fee</b>	<b>\$ 47,159,800</b>
Maximum Performance Award (set-aside)	\$ 1,187,310
<b>TOTAL BUDGET INCLUDING PERFORMANCE-BASED FEE</b>	<b>\$ 48,347,110</b>



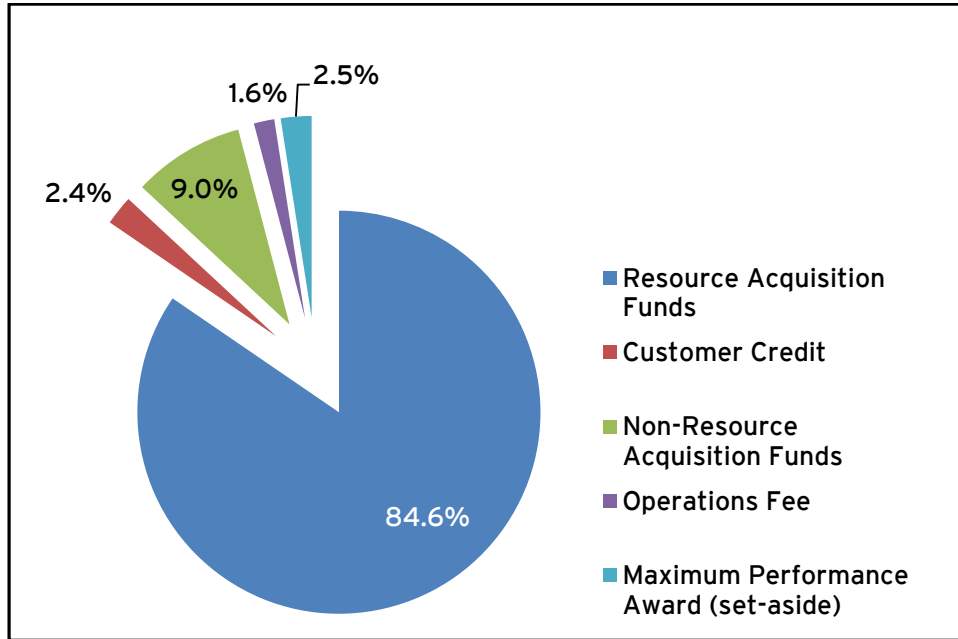
### 4.1.3 2014 Electric Efficiency Budget



### 4.1.4 2014 Thermal Efficiency Budget

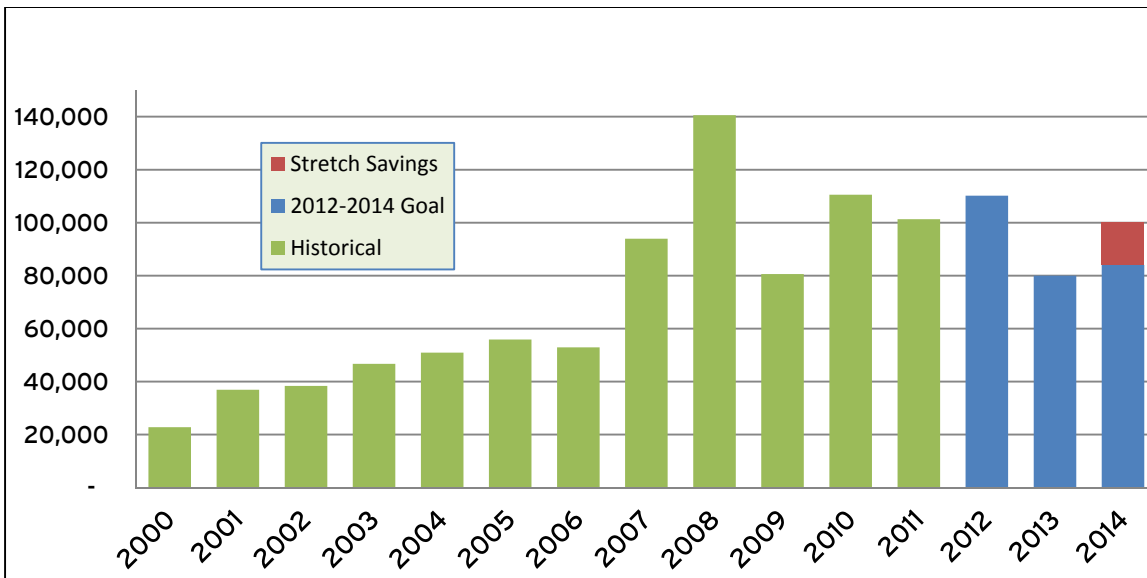


### 4.1.5 2014 Combined Efficiency Budget



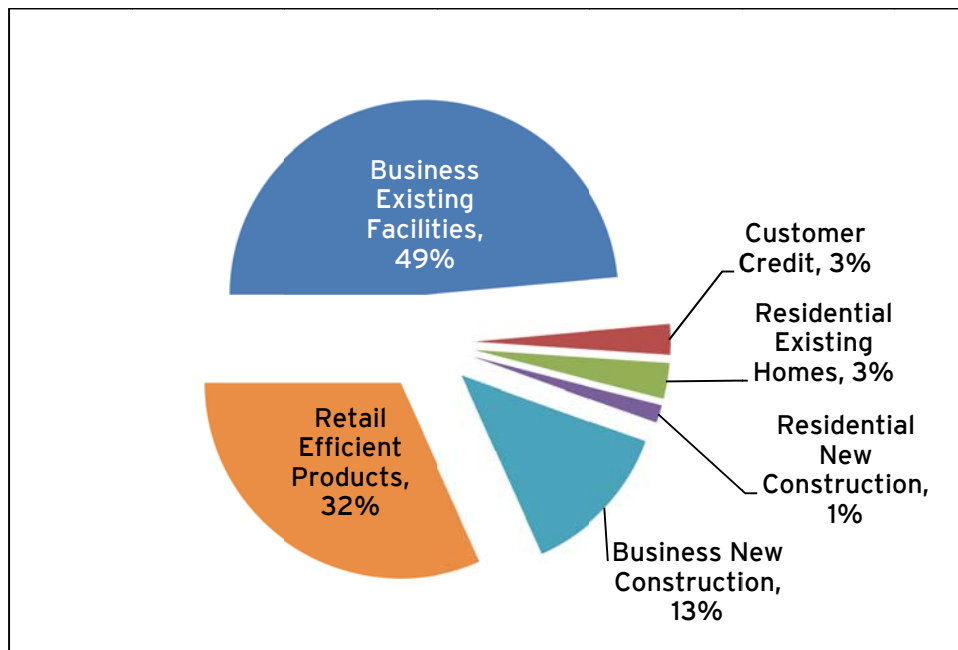
## 4.2 EFFICIENCY VERMONT SAVINGS HISTORY AND 2012-2014 FORECAST

### 4.2.1 Annual Electric Savings in MWh

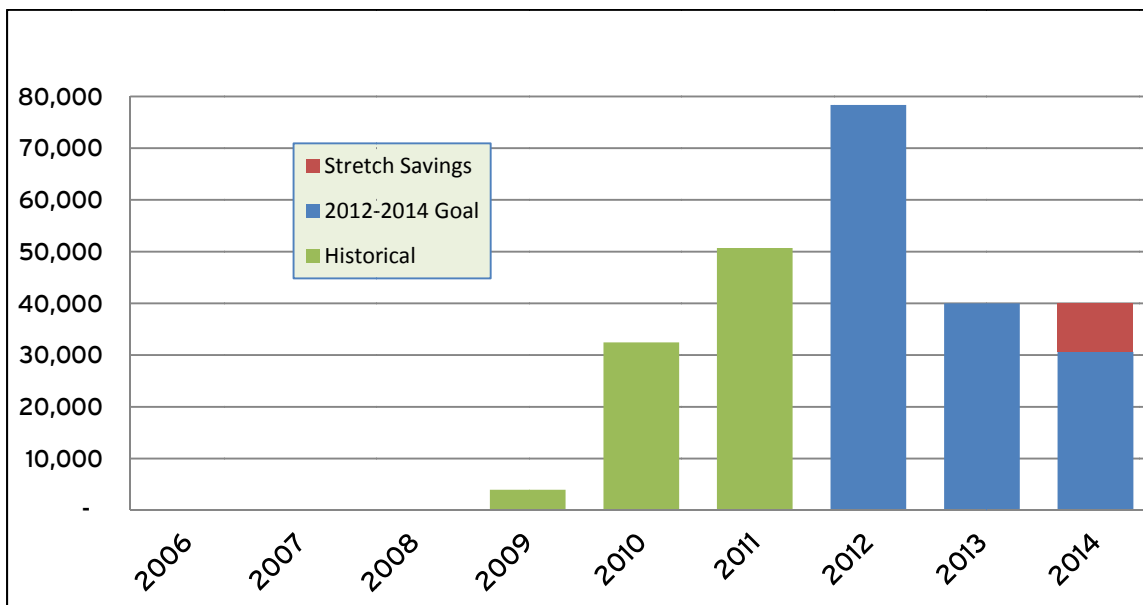


Note: Efficiency Vermont 2012-2014 MWh target at 100% is 274,000. Stretch Savings depicted in the chart represents Efficiency Vermont exceeding the three year MWh performance target.

### 4.2.2 Annual Electric Savings in MWh by Major Market for 2012-2014



### 4.2.3 Annual Thermal Energy & Process Fuels Savings in MMBtu



Note: Efficiency Vermont 2012-2014 MMBtu target at 100% is 149,000. Stretch Savings depicted in the chart represents Efficiency Vermont exceeding the three year MMBtu performance target.

### 4.3 QUANTIFIABLE PERFORMANCE INDICATORS

Quantifiable Performance Indicators 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 Vermonter 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 Electric Efficiency Performance Goals and Minimum Requirements 2012-2014

QPI#	Title	Performance Indicator / Milestone	Target
1	Electricity Savings	Annual incremental net MWh savings	274,000
2	Total Resource Benefits	Present worth of lifetime electric, fossil, and water benefits	\$315,710,000
3	Statewide Summer Peak Demand Savings	Cumulative net summer peak demand (kW) savings	41,920
4.a.	Summer Peak Demand Savings in Geographic Areas	Cumulative net summer net peak demand savings in the St Albans area	1,800
4.b.		Cumulative net summer net peak demand savings in the Chittenden area	1,570
5	Business Comprehensiveness	Custom, business retrofit or equipment replacement projects with multiple end-uses	378
6	Market Transformation Residential	Vermont 1-4 unit residential new construction program participation in 2014 as % of total 1-4 unit building permits in 2013	40%
7	Market Transformation Business	Instances where an energy efficiency measure supply chain partner is attached to completed business project	7,360

MPR#	Title	Minimum Requirement	Minimum
8	Minimum Electric Benefits	Total electric benefits divided by total costs	1.2
9	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Total residential sector spending	\$22,000,000
10	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Total low-income single and multifamily services spending	\$7,500,000
11	Threshold (or minimum acceptable) Level of Participation by Small Business Customers	Number of total non-residential premises with annual electric use of 40,000 kWh/yr or less that acquire kwh savings	1,950
12	Geographic Equity	TRB for each geographic area is greater than values shown on Geo-Equity Table	14
13	Administrative Efficiency - Management Span of Control	Staff-to-Supervisor FTE ratio > 8.5:1	8.5
14	Administrative Efficiency - Key Process Improvements	Meet all pre-determined milestones on schedule	5
15	Service Quality	Achieve 92 or more metric points	92

### 4.3.2 Geographic Equity

#### 2012-2014 Electric Minimum TRB per Geographic Area (QPI #12)

Geographic Area <sup>1</sup>	Required TRB per Geographic Area <sup>2</sup>
Addison	\$8,473,457
Bennington	\$8,542,687
Caledonia	\$7,185,374
Chittenden	\$29,546,914
Essex/Orleans	\$7,717,769
Franklin	\$16,148,322
Grand Isle	\$1,604,009
Lamoille	\$5,632,070
Orange	\$6,658,830
Rutland	\$14,184,508
Washington	\$13,699,893
Windham	\$10,243,229
Windsor	\$13,040,738
<b>Total</b>	<b>\$142,677,800</b>

<sup>1</sup> All geographic names above refer to Vermont Counties.

<sup>2</sup> Required TRB targets have been adjusted for Customer Credit

### 4.3.3 Thermal Energy and Process Fuels Performance Goals and Minimum Requirements 2012-2014

QPI#	Title	Performance Indicator / Milestone	Target
1	Thermal & Mechanical Energy Efficiency Savings	Annual incremental net MMBtu savings	149,000
2	Residential Single Family Comprehensiveness	a. Average air leakage reduction per project	34%
		b. Percent of projects with square feet of insulation added equivalent to at least 50% of the home's finished square feet of floor area	44%
		c. Percent of projects with both shell measures and heating system measures installed	16%

MPR#	Title	Minimum Requirement	Minimum
3	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Residential sector spending as % of total spending	62.5%
4	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Low-income single- and multi-family spending as % of total spending	17.0%

## 4.4 CONSIDERATION OF RECOMMENDATIONS OF THE THERMAL EFFICIENCY TASK FORCE REPORT

Pursuant to the August 14, 2013 Vermont Public Service Board (Board) order in EEU-2013-03; *ORDER RE: IMPLEMENTATION OF ACT 89 AND NOTICE OF WORKSHOP*, Efficiency Vermont presents these considerations of recommendations of the Thermal Efficiency Task Force (TETF).

The *TETF Report* included dozens of recommendations in the following categories:

- Cross-cutting
- Energy service providers
- Residential single-family
- Multifamily
- Commercial and industrial
- Renewable energy
- Financing
- Public funding
- Planning and measurement

This appendix does not address these recommendations exhaustively. Rather, it focuses on a smaller subset of recommendations that are germane to Efficiency Vermont's scope of work. It is important to note that these recommendations were made in conjunction with a budget recommendation to the Legislature that ultimately was not funded. As a result, Efficiency Vermont has been selective in seeking high-impact recommendations that can be pursued within the context of limited existing budgets. It is also worth noting that a number of recommendations were codified in Act 89 and are being addressed separately by the Board (e.g., the creation of a statewide information clearinghouse).

Efficiency Vermont was an active participant in the TETF process and strongly supported the vision of a delivery system for thermal efficiency that is easy to use and that provides a high level of benefits in the areas of energy savings, environmental impacts, and economic development. These principles have guided Efficiency Vermont's thermal efficiency work since our commencement of efforts in this area in 2009. The findings of the *TETF Report* reinforce this approach while providing pathways for its further development.

A consistent theme of a number of TETF recommendations is the need to focus on consumer education and marketing to help Vermonters understand the value of energy efficiency as an investment (see, for instance, sections 2.2.2 and 2.2.5 of the *TETF Report*). As noted elsewhere in this Annual Plan, Efficiency Vermont will undertake an initiative for 2014, in conjunction with a number of entities, to deploy a standardized energy rating label and score for homes. This effort, and the outreach that will be associated with it, will be a significant step forward in the Vermont marketplace for offering a simple and accessible way for Vermonters to understand the energy performance of their homes.

The *TETF Report* also emphasized the need for increased collaboration among the diverse array of the state's energy service providers, including fuel dealers, certified Building Performance contractors, and Vermont's Weatherization Program. Efficiency Vermont will seek to address that recommendation with a new initiative being launched in collaboration with Green Mountain Power and the Vermont Fuel Dealers Association (VFDA) to increase cross-promotion and marketing efforts between Efficiency Vermont's Building Performance network and the state's heating and cooling contractors. This will include a new certification for heating and cooling contractors who meet a high standard for energy efficiency expertise. This effort follows a successful initial series of joint trainings organized by Efficiency Vermont and the VFDA in 2012.

Owing to limited budget resources for thermal efficiency, the *TETF Report* returned to the topic of financing often. Efficiency Vermont has historically invested effort in identifying customers' financing options, including but not limited to efforts funded by the financing-related NRA budget allocations approved by the Board. Efforts to be undertaken in 2014 will include: continued support for Property Assessed Clean Energy (PACE); collaboration with the Vermont State Treasurer and other stakeholders on options for leveraging public funds; continued work with the Vermont Economic Development Authority on financing products for commercial customers, and work with banks and credit unions on the design and promotion of energy related loan products and services. Efficiency Vermont agrees with the *TETF Report's* fundamental premise that there will never be sufficient public subsidy to pay for the entirety of the thermal efficiency investment that is desired and is cost-effective. Financing (and customer contributions) will always need to be part of the equation.

As part of its scope, the *TETF Report* provides recommendations related to renewable thermal energy generation. Most of these recommendations fall outside Efficiency Vermont's current scope. Efficiency Vermont's current activity in this area is limited to provision of incentives for biomass heating systems. A TETF recommendation that Efficiency Vermont sees as particularly worth considering is the evaluation of the State cost-effectiveness screening tool as it currently applies to renewables. The Board has previously held proceedings on the screening tool to determine the degree to which all relevant costs and benefits (non-energy benefits, carbon externalities, etc.) are being accounted for. A closer examination of this issue in the context of renewables would support State policy goals for taking a holistic approach to consumer energy issues where possible.

Efficiency Vermont would be pleased to discuss any specific TETF recommendations that the Board wishes to examine in more detail.

## 4.5 APPLIED RESEARCH AND DEVELOPMENT

Efficiency Vermont will engage in a range of projects in 2014 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.

**User-friendly energy management for affordable-housing operators** - Few building owners and operators have time or inclination to sort through data each month to determine if their buildings are performing as designed. In partnership with Housing Vermont, Efficiency Vermont will develop analytics using open-source data to enable building staff to determine, with a simple glance, if all systems are running optimally. This will be introduced to Housing Vermont's staff through a field trial comparing results among buildings they manage.

**Real-time electricity use data acquisition systems** - As commercial and industrial customers increasingly focus on Continuous Energy Improvement approaches to drive down energy and operation costs at their facilities, the need for real-time energy data dashboards becomes increasingly important. This project will focus on testing different customer data acquisition systems that integrate with utility meters to provide real-time usage data for three large commercial or industrial customers.

**The new generation of energy modeling software** - Energy modeling software is currently used on only a small number of commercial new construction projects in Vermont. It, however, offers a significant benefit to architects and engineers in helping to quantify the potential energy and cost savings of various efficiency improvement options in the earliest design stages. This project will investigate the latest generation of modeling software options and test the top five of these on several projects to determine which software provides the best results in terms of design guidance, ease of use, and accuracy.

**Integrating energy usage and weather data into ArcGIS** - ArcGIS is a geographic information system that uses maps and other geographic information for a range of analytical applications. This project will integrate local weather data and energy use profiles to investigate the potential of this technology to identify buildings with energy consumption that lie outside the normal range. If successful this approach could provide guidance for future customer outreach and engagement strategies based on energy usage profiles in targeted areas of the state.

**Ammonia refrigeration systems; defining high-performance** – Large ammonia-based refrigeration systems are in use at several industrial facilities in Vermont. These systems are often the largest energy users in a facility. The goal of this project is to develop a metric-based dashboard for monitoring the energy performance of ammonia-based refrigeration systems and generating benchmarking data to define “high-performance”. This dashboard will help ensure that a customer’s system is operating at peak efficiency and that any efficiency gains are maintained over time.

**U.S. Department of Energy (DOE) Wireless Metering Challenge** – This project will be undertaken in support of the DOE’s Wireless Metering Challenge to U.S. manufacturers to build a wireless sub-meter that costs \$100 or less. Efficiency Vermont will compare the performance of three sub-meters in a variety of applications in six Vermont locations.

**Path to Net Zero Energy Homes** - This project will focus on developing and applying solutions to achieving comprehensive deep energy retrofits and net-zero in at least 10 existing homes across Vermont. The goal is to create a roadmap to inform program enhancements for a larger statewide approach toward achieving energy savings of 50% or greater in the residential market.

**Low-cost remote metering for residential solar thermal heating systems** - The goal of this project is to identify and evaluate reliable, low-cost remote metering solutions for monitoring the performance of solar thermal systems. In partnership with solar contractors and other stakeholders in the industry, meters will be installed in existing solar thermal homes and monitored to ensure long-term performance of these systems, validate energy savings estimates, and establish metrics informing “pay-for-performance” financing options for solar thermal.

**Energy Efficiency Data Analytics Platform** - In continuation of work undertaken in the implementation of Efficiency Vermont’s Energy Efficiency Data Platform, this project will further develop an integrated data storage and analytics platform and a set of analytical tools. The aim of these efforts will be to increase the ability of Efficiency Vermont staff and customers to utilize AMI and other interval data to identify and verify savings opportunities. This platform will allow Efficiency Vermont to develop and implement streamlined processes to deliver recommendations and savings estimates and to verify results for customers more effectively. In addition, robust access to statewide usage and other data with analytical capabilities will allow Efficiency Vermont to perform deeper market analysis for planning and verification purposes while ensuring that confidentiality, privacy, and security principles and requirements are met.



## 4.6 EFFICIENCY VERMONT 2014 EVALUATION PLANS

**Residential New Construction** - Efficiency Vermont will survey home builders and home owners who are not participating in residential new construction services, in an effort gain better understanding of what they see as barriers to participation. Using the collected information, Efficiency Vermont will adapt outreach and marketing approaches to encourage higher levels of participation. Surveys are planned to be conducted by phone and through email.

**Smart Thermostats** - To obtain reliable evidence of energy savings acquired through smart thermostat use, Efficiency Vermont will conduct randomized controlled usage trials that will be designed to overcome barriers to accuracy. With multiple third parties, Efficiency Vermont will gather information through: fuel records; site visits to (as applicable) install data loggers and thermostats and to verify site characteristics such square footage and heating system type; weather, thermostat and logger data; email surveys; comparisons between treatment and control group energy consumption, and exploration of differing results' causes, such as setback behavior.

**Effectiveness of Marketing Campaigns** - Evaluations (both pre- and post-campaign) will be undertaken to assess the effectiveness of marketing campaigns in relation to established success metrics. Consumer testing, including online panels, phone survey, and potentially focus groups, will be conducted to inform campaign messaging, creative, and tactics. Efficiency Vermont will use best practices for digital campaign evaluation, including online surveys and standard benchmarks.

**Public Awareness of Efficiency Vermont** - This annual 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.

**Pilot Initiatives** - Efficiency Vermont will launch the following pilot initiatives that will undergo post-measurement and verification to determine associated energy savings. These activities will lead to new measure characterizations being added to the Efficiency Vermont Technical Reference Manual.

- **High Performance Circulator Pumps Pilot**: Post-measurement and verification to determine measure characterization savings
- **Cold Climate Heat Pump Pilot**: Monitoring and metering of approximately 10 projects. Data will be used to verify estimated savings claims and will form the basis for any changes to savings claims estimates.
- **Continuous Energy Improvement Behavioral Pilot**: Determining energy savings calculation methodologies and the feasibility of this approach for commercial and industrial customers.







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