



Efficiency Vermont

ANNUAL PLAN 2011

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

1.1. Introduction

This Annual Plan is submitted by the Vermont Energy Investment Corporation (VEIC) to the Vermont Public Service Board (the Board), pursuant to VEIC's contract with the Board for delivery of energy efficiency utility (EEU) services under the name Efficiency Vermont. The Plan for 2011 is the final planning year for the contract period established for 2009 to 2011. Efficiency Vermont provides technical assistance and financial incentives to help Vermont households and businesses reduce their energy costs with energy-efficient equipment and lighting. Efficiency Vermont also provides energy-efficient approaches to new construction and renovation in residential, commercial, and industrial buildings. The Plan covers activity for 2011 and describes:

- Resource acquisition strategies and approaches for achieving electric energy and demand savings throughout Vermont and in geographically targeted areas;
- Heating and Process Fuels initiatives directed at achieving energy savings and greenhouse gas reductions through greater efficiency of buildings and systems;
- Specific non-resource acquisition (NRA) activities initiated by Efficiency Vermont and relevant to planning, research and development, participation in the ISO Forward Capacity Market (FCM), and other activities not directly related to achieving energy savings and / or demand savings;
- Efficiency Vermont's budget for 2011;
- Estimated societal benefits and costs associated with successful Plan implementation for the contract period from 2009 – 2011.

1.2. Context of the Plan

This Plan addresses the objectives established by Board orders, as well as those contained in the scope of work described in the Contract for Personal Services as Energy Efficiency Utility (Efficiency Vermont contract), amended February 5, 2009. In addition, the Plan takes into account the Efficiency Vermont contract's budget for 2011 and performance targets for the contract period from 2009 through 2011.

Many of the themes and initiatives for the 2011 Plan are a continuation of recent successful initiatives. During a dynamic economic period, the real-time success of initiatives provides Efficiency Vermont with critical guidance in meeting its customers' needs. As with any plan, Efficiency Vermont will continually test assumptions and performance throughout 2011 to ensure that the desired goals of the plan are achieved.

Efficiency Vermont's budget for 2011 is:

Table 1. Efficiency Vermont budget 2011

Services and Initiatives	
Total <i>Electric EEU Funds</i>	\$32,689,600
Total <i>Heating and Process Fuels Funds</i>	<u>\$5,376,000</u>
Total Services and Initiatives	\$38,065,600
Support Services - <i>EEU Electric EEU Funds</i>	\$2,337,100
Operations Fee	<u>\$384,500</u>
Sub-Total Prior to Performance Based Fee	<u>\$40,787,200</u>

The three-year (2009-2011) contract savings goals for Efficiency Vermont are:

Table 2. Efficiency Vermont Performance Objectives and Goals for 2009-2011

Objective	2009-2011 Performance Goal
Total annual MWh savings	359,700
Total resource benefits ¹ (TRB) (2009 \$)	\$313,467,000
Total summer peak kW savings	51,200
Total winter peak kW savings	54,000
Summer peak kW savings in specific Geographic Targeting areas	8,100
Winter peak kW savings in specific Geographic Targeting areas	2,400
MWh savings for all measures except air conditioning, lighting, fuel switching, and snowmaking end uses	44,681

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

The end of VEIC's 2009 – 2011 contract period to operate Efficiency Vermont will coincide with the beginning period of an Order of Appointment from the Board to VEIC to serve as the state's Energy Efficiency Utility outside Burlington Electric Department's service territory. During the transition from the current contract period to the onset of the Order of Appointment, Efficiency Vermont's budgets and minimum performance requirements will reflect the budgets and minimum performance requirements in effect at the time of Appointment and as shown above.

2. Summary of Plan Goals

This document addresses activity for the budget period 2011. It incorporates feedback from key stakeholders: residential and business customers, the Department, employees, other national efficiency programs, and other parties who provided comments to help us improve our service delivery and offerings. Many of the strategies and themes outlined in the Plan are a continuation or an adaptation of 2010 successful initiatives; it is presented for public review and comment. This version of the Plan serves as a draft until the Board holds a workshop on it.

As 2011 progresses, we will modify the Plan, as appropriate, to address customers' needs and to fulfill the overall Quantifiable Performance Indicators (QPIs).

2.1. 2009 - 2011 Performance Objectives

Under the contract, Efficiency Vermont has three years to achieve the following goals by the end of 2011. Taken together, these goals combine overall annual savings with reductions in both summer and winter peak demand.

Under the three-year Efficiency Vermont contract, the aggregated performance goals are listed in Table 3:

Table 3. Efficiency Vermont Performance Objectives for 2009-2011²

Objective	2009-2011 Performance Goal
Total annual MWh savings	359,700
Total resource benefits (TRB) (2009 \$)	\$313,467,000
Total summer peak kW savings	51,200
Total winter peak kW savings	54,000
Summer peak kW savings in specific Geographic Targeting areas	8,100
Winter peak kW savings in specific Geographic Targeting area	2,400
MWh savings for all measures except air conditioning, lighting, fuel switching and snow making end uses	44,681

² Values in Table 1 are estimates based on the changes identified in Section 1.2 and will be finalized in an amendment to the Efficiency Vermont contract.

In addition to the performance goals, the following minimum performance requirements are to be met or exceeded by the end of the contract period, December 31, 2011:

Table 4. Minimum Performance Requirements

Minimum Performance Requirement	Standard to Be Met
Factor of gross electric benefits to spending	1.2
2009-2011 spending for residential customers	\$19,700,000
2009-2011 spending for low-income customers	\$6,307,000
Number of small business customers served	700
Total resource benefits received by each county in Vermont	Specific minimums for each county in Table 5

Table 5. Minimum Total Resource Benefit by County

Geographic Area	Required TRB per Geographic Area
Addison	\$4,251,387
Bennington	\$5,725,127
Caledonia	\$2,928,436
Chittenden	\$13,528,705
Essex/Orleans	\$3,051,759
Franklin	\$5,181,847
Grand Isle	\$359,531
Lamoille	\$2,691,770
Orange	\$2,442,011
Rutland	\$9,117,465
Washington	\$6,880,168
Windham	\$7,293,624
Windsor	\$7,056,592

These objectives are to be met within the context of Board-approved Efficiency Vermont budget of \$40.4 million for 2011.³

³ “Subtotal prior to performance-based fee” budget line.

3. Efficiency Vermont Delivery Services for 2011

There are three program options available for electrical efficiency delivery:

1. Efficiency Vermont standard services
2. Energy Savings Accounts (currently 1 customer)
3. Customer credit (0 customers)

3.1. Standard Services Overview

In general, Efficiency Vermont will continue using market approaches for installing efficiency measures when decisions regarding residential or commercial buildings or equipment would normally be made. We will also continue our emphasis on retrofit opportunities—that is, the early replacement or modification of building systems and equipment.

Efficiency Vermont plans to use the following major strategies to achieve the 2011 resource acquisition and targeting objectives established by the Board:

- **Account Management.** The success of this strategy in 2010 validated the input and guidance Efficiency Vermont initially received for it. For 2011, Efficiency Vermont will continue seeking customized solutions for the specific business needs of large and mid-sized businesses and institutions. Efficiency Vermont will proactively help identify efficiency opportunities that respond to corporate needs, and will work within customers' planning cycles to move opportunities forward. This strategy will leverage Efficiency Vermont incentives and the market resources of design professionals, vendors, and trade allies. This strategy includes both retrofit and market opportunities approaches.
- **Promoting New Lighting Technologies.** Efficiency Vermont's long-standing promotion of energy-efficient lighting products and technologies will continue as a 2011 strategy. Efficiency Vermont's successful promotion of the standard spiral compact fluorescent lamp (CFL) over the years has led to near-saturation of the market, and thus provides an opportunity to redirect resources in 2011. With the market success of the standard CFL, Efficiency Vermont will help expand retail sales of specialty CFLs to increase their presence in the market. The promotion of light-emitting diode (LED) products for businesses will continue to be offered from its initial launch at the end of 2010. In 2011 Efficiency Vermont plans to bring LED products to Vermont homes as well.
- **High-performance Partners.** Efficiency Vermont will continue to influence the availability of energy efficiency services and equipment by deepening relationships with wholesale suppliers, vendors, and other professionals operating upstream from end use customers. Efficiency Vermont will continue to seek a mix of efficient equipment buy-downs, promotional incentives, energy-efficient design incentives, and other mechanisms that lower initial-cost barriers for consumers and engage the business marketplace as allies to promote the benefits of energy-efficiency improvements. Types of equipment falling into this category include HVAC units, pumps, and lighting products.

This strategy emphasizes the market opportunities approach.

- **Community Energy Initiatives.** During 2011, Efficiency Vermont will help partners such as NeighborWorks Alliance of Vermont in Rutland County fulfill existing commitments to provide services across the state and in Geographically Targeted programs. In addition to fulfilling existing commitments, Efficiency Vermont will support expanding relationships with community and local business leaders, civic and religious organizations, and schools to turn public awareness of energy efficiency into action. These

opportunities will be evaluated to ensure the timing of delivery does not jeopardize the quality of offerings or sacrifice Efficiency Vermont’s ability to meet its performance objectives. This strategy includes both retrofit and market opportunities approaches.

- **Increased services and incentives for qualified customers in Geographic Targeting areas.** Efficiency Vermont will encourage deeper savings and higher participation in these areas by providing greater levels of technical assistance, financing assistance, or financial incentives, particularly with early replacement of HVAC equipment.

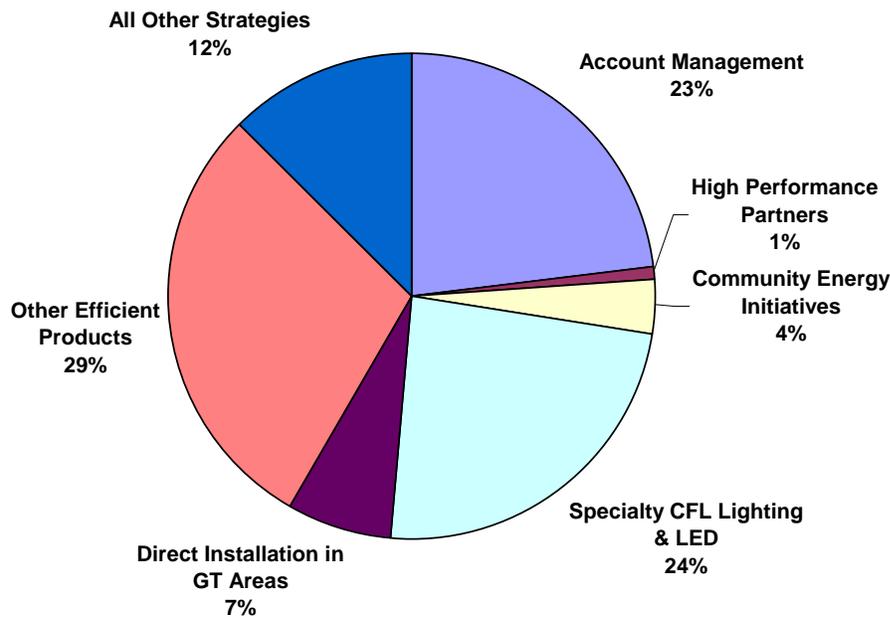


Figure 1. Estimated Projected share of 2009 - 2011 MWh savings, by strategy

In total, the above major strategies will contribute 59% of Efficiency Vermont’s performance targets. Other Efficient Products and All Other Strategies are projected to account for 41% of the annual MWh savings for 2009–2011.

3.2. Energy Savings Accounts

The Board has established an option for eligible Vermont business customers to self-administer energy efficiency through an Energy Savings Account (ESA). The ESA option allows Vermont businesses that pay an Energy Efficiency Charge (EEC) in excess of \$5,000 per year (or an average of \$5,000 per year across three years) to use a portion of their EEC to support energy efficiency projects in their facilities.

One eligible customer has chosen to enroll in this program during 2010.

3.3. Customer Credit

There are no customers currently participating in this program, which requires participating customers to self-manage 90% of their EEC funds for use in electric efficiency projects. If Customer Credit continues to have no participating customers during 2011, EEU reporting requirements related to this program might be subject to reconsideration.

4. Resource Acquisition Initiatives and Services for 2011

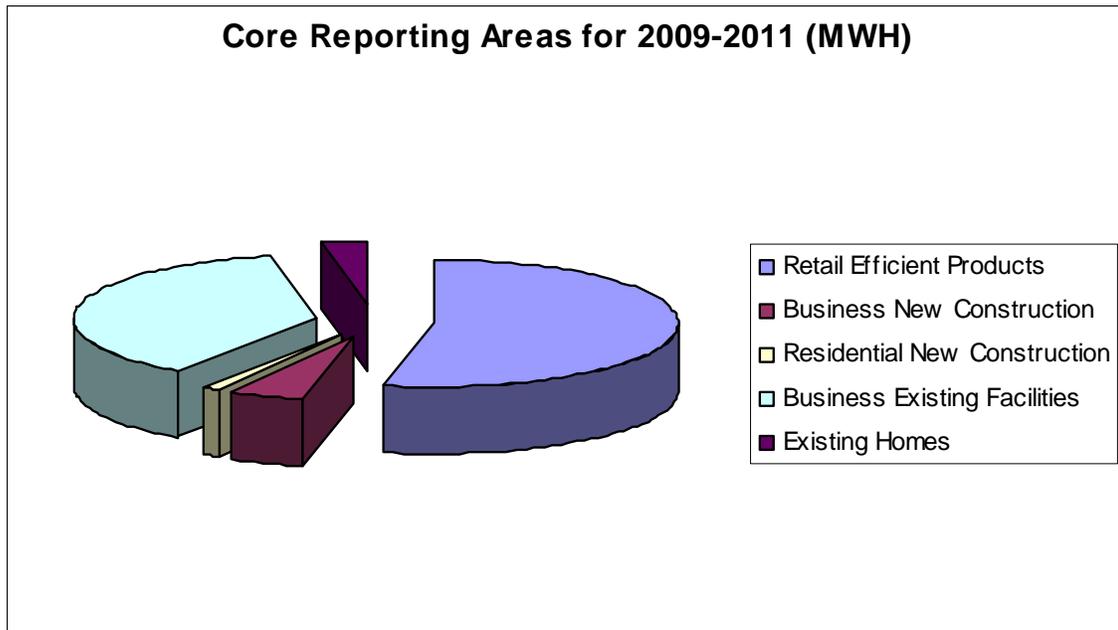
Efficiency Vermont will continue to serve all the markets within the core reporting categories identified in the Board Order in Docket 5980 and in its associated Memorandum of Understanding.

The five reporting categories that Efficiency Vermont's markets and initiatives support are:

1. Retail Efficient Products
 - CFLs and LED lighting
 - Appliances
2. Business New Construction
 - New construction across all of the targeted markets
3. Residential New Construction
4. Business Existing Facilities
 - All business markets
5. Existing Homes

Figure 2 presents relative projected annual MWh savings by each core reporting area for 2009 to 2011.

Figure 2 . Annual MWh savings contribution by core reporting area



4.1. Retail Efficient Products

4.1.1. Continuing approaches for 2011

Efficiency Vermont will continue to focus on providing incentives at the point of sale, and on upstream markdowns and buy-downs that reduce the retail cost of efficient products. This approach has proven to be an effective method for influencing buying decisions for energy-efficient products. Today, Efficiency Vermont has an established network of more than 440 retail partner stores and has continued to expand its network of retailers throughout this contract period.

Efficiency Vermont will continue to use the ENERGY STAR® brand as its cornerstone approach for raising consumer awareness and confidence in energy-efficient products, with special promotions of higher-performing ENERGY STAR appliances where possible. Specifically, we will continue to offer these approaches to reduce first-cost barriers. We will also continue to support the manufacturer–distributor–retailer supply chain in 2011 by providing:

- **Negotiated cooperative promotions** (NCPs, also referred to as “product buy-downs” or “markdowns”), in which manufacturers and retailers reduce the retail costs of efficient products for consumers. This practice will continue to be the primary mechanism for promoting efficient lighting products. NCPs provide both a highly effective means of overcoming the first-cost barrier for consumers and a greater role in product selection for Efficiency Vermont. NCPs also allow Efficiency Vermont to promote specialty CFLs and other lighting products that have a history of high-quality performance.
- **Instant rebate coupons** for energy-efficient lighting products not covered by NCPs in more retail locations statewide, as well as special coupons for residential and business customers in Geographic Targeting areas.
- **Mail-in rebates** for appliances that are at the upper end of efficiency within the ENERGY STAR qualifying product lines. The lines include room air conditioners, refrigerators / freezers, dehumidifiers, and clothes washers available in more than 100 retail locations statewide.
- **Broad consumer awareness / education**, which will continue to promote energy-efficient products to consumers and create a stronger market for efficient products sold through the retail network.
- **Targeted marketing and advertising campaigns:**
 - Cooperative advertising with retail partners;
 - Time-sensitive promotional incentives;
 - Special targeting for underserved portions of the market.
- **Active participation** in and support for national efforts to improve energy-efficient product quality, particularly CFLs.

4.1.2. Key changes for 2011

In 2011, Efficiency Vermont will enhance the offerings in the Retail Efficient Products market through the following initiatives:

- Greater emphasis and promotion of specialty CFLs over standard spiral CFLs, through our retail partner outlets;
- Introductory promotions of LED lighting to the residential market;
- Targeted promotions to small businesses across Vermont.

4.2. Business New Construction

4.2.1. Continuing approaches for 2011

Because they have been proven effective in the past and the market for these approaches continues to appear robust, Efficiency Vermont will continue to offer both customized services and streamlined approaches to encourage and support energy-efficient design in commercial new construction projects. We will work closely with design professionals to incorporate comprehensive energy efficiency and will continue the following mechanisms for overcoming barriers to efficiency in new construction:

- **Comprehensive attention** to electric and non-electric end uses such as space heating, water heating, building shell, ventilation, and non-electric processes.
- **Use of the Core Performance method** providing streamlined approaches for designers and builders of commercial property.
- **Monitoring of new construction activity to ensure optimal early project enrollment**, when opportunities to influence design are most dynamic, and to provide a valuable, balanced service to designers and end users.
- **Technical assistance to design professionals**, supplementing their knowledge of energy-efficient practices and technologies through workshops; meetings; distribution of the High Performance Design Guide, Building Owner's Guide, Commissioning Guide, and Core Performance Guide—Vermont Edition; and opportunities for Continuing Education credits at the annual Better Buildings by Design conference.
- **Financial incentives** to reduce the incremental costs associated with using energy-efficient technologies.
- **Opportunities to share best practices** by sponsoring events at completed project sites. These opportunities allow beneficial dissemination of reliable knowledge and practice about different efficiency measures.

4.2.2. Key changes for 2011

To achieve the increased Performance Goals for this market, Efficiency Vermont will generally retain the existing strategies adopted in 2010, while also adding:

- **Increased promotional activity and technical assistance** to small to mid-sized design / build firms and other design professionals to introduce historically non-participating firms to the benefits and services provided by Efficiency Vermont.

- **Commercial Building Energy Code information.** Efficiency Vermont will educate and inform design professionals, municipalities, and contractors about the state's new Commercial Building Code standards, as opportunities appear.

4.3. Residential New Construction

4.3.1. Continuing approaches for 2011

Efficiency Vermont will continue to promote Vermont ENERGY STAR Homes as a standard of quality and performance in Residential New Construction. We will also continue to work with our building partners to:

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

4.3.2. Key changes for 2011

Efficiency Vermont will offer significant new services to Vermont builders of single-family homes and multifamily buildings in 2011, in response to changes in Vermont's energy code and the federal ENERGY STAR Homes program. There will be no charge to builders for their participation in these services, which include:

- **Base Service – Energy Code Plus:**
 - In 2011, an updated Vermont Residential Building Energy Code will go into effect, reflecting the state's compliance with the 2009 International Energy Conservation Code.
 - Efficiency Vermont's Energy Code Plus service will provide builders with expert technical assistance to meet or exceed all Vermont Residential Building Energy Code requirements.
 - Incentives for meeting the Energy Code Plus level of service, including offering a Home Energy Rating Certificate to qualified buildings, Residential Building Energy Standards Certificate, and the opportunity for financial incentives.
- **Higher Efficiency Service – ENERGY STAR Homes:**
 - In 2011, a new federal ENERGY STAR Homes specification goes into effect. The ENERGY STAR Version 3 specification expands on the current Version 2 requirements to provide increased energy efficiency, durability, and comfort to

homeowners. The new version provides detailed new criteria addressing high-quality insulation and air sealing details, efficient lights and appliances, HVAC design and installation, and building durability.

- Efficiency Vermont will support Vermont builders in achieving the ENERGY STAR Homes label by offering technical assistance and home energy ratings. Builders participating in the ENERGY STAR service will have more opportunities for incentives based on the Home Energy Rating Score, and will also receive a Home Energy Rating Certificate, Residential Building Energy Standards Certificate, and ENERGY STAR Home label, when qualifications are met.
- In 2011, Efficiency Vermont will provide extensive training to builders and design professionals to assist with the transition to the updated Vermont Residential Building Energy Code and the new ENERGY STAR Homes requirements.
- **Multifamily Comprehensive Track:**
 - In 2011, Efficiency Vermont will launch a revised Multifamily Checklist, which has long been the backbone of the multifamily new construction and major renovation service. The revision will be based on the updated Vermont Residential Building Energy Code and the ENERGY STAR Version 3 specification, and will include two incentive and performance levels encouraging design and development of advanced performance buildings.

4.4. Business Existing Facilities

4.4.1. Continuing approaches for 2011

In the Existing Facilities sector, Efficiency Vermont will continue to employ the following strategies for achieving energy savings.⁴

- **Key Account Management to large commercial customers.** The Key Account Management service will build on the successful Account Management model to further support the unique needs of our large commercial customers (defined as individual users of more than 500 MWh annually, these customers' consumption represents approximately 80% of statewide business-sector energy use). Key Account Management staff will bring additional value to these customers through high levels of skill in areas such as finance and business, as well as the advanced technical expertise required to address complex projects and challenges. The main emphasis, however, is to partner with customers to create a portfolio of opportunities that can be incorporated into their planning processes and to serve their energy needs. Key Account Managers will continue to increase their contribution to Efficiency Vermont's overall savings in 2011.
- **Prescriptive measures.** Prescriptive measures are defined as standardized efficiency measures with fixed financial incentives. Prescriptive measures include lighting, motors, unitary HVAC equipment, economizers, vending machine controls, LED traffic signals, small

⁴ In addition to these basic strategies in existing business markets, Efficiency Vermont will continue to implement initiatives for overcoming barriers to specific markets, such as colleges and universities, commercial leased space, convenience stores, data centers / communications, farms, grocery stores, hospitals / health-care organizations, K-12 schools, large commercial and industrial customers, lodging, restaurants, retail store chains, ski areas, state buildings, and water / wastewater facilities.

refrigeration systems, and transformers. Typically prescriptive measures and rebates provide an easier method for Efficiency Vermont's partner design firms to identify and advance opportunities, and for Efficiency Vermont to achieve savings at lower costs than custom measures.

- **High-performance partners.** Upstream High Performance Partners in the supply chain ensure that efficiency equipment and energy efficiency services are readily available to end use customers. These efforts include incentives, outreach, education, and training in the promotion of new energy-efficient technologies. Efficiency Vermont works with manufacturers and suppliers to ensure product availability and to reduce lead times for ordering efficient products. Two major markets targeted by this strategy are lighting and HVAC and Refrigeration (HVAC/R) markets. For commercial lighting, Efficiency Vermont provides incentives to wholesalers and distributors to stock and sell advanced lighting products such as halogen infrared lamps, reduced-wattage T-8 fluorescent lamps, and high-performance T-8 fluorescent lamps. Similarly, in HVAC/R markets, we promote stocking of high-efficiency air-conditioning equipment, economizer controls, water source heat pumps, and furnaces with efficient fan motors. This approach will continue in 2011.
- **General information and assistance.** This strategy provides for support to business customers, with industry-specific technical briefs, The Commissioning Guide, facility walk-throughs for qualified business customers, and distribution of energy savings calculators for motors and other electrical equipment. Efficiency Vermont recognizes its unique position as a source of objective information and assistance to customers.
- **Increased services and incentives for qualified customers in Geographic Targeting areas.** This strategy encourages deeper savings and higher participation in Geographically Targeted areas by providing greater levels of technical assistance, financing assistance, and / or financial incentives, particularly in early replacement of HVAC equipment.
- **An emphasis on non-lighting end uses.** Efficiency Vermont will promote efficiency in end uses other than lighting for existing businesses. The end uses with the greatest potential are air conditioning, refrigeration, motors and drives, and processes that rely on compressed air. Throughout the entire contract period of 2009–2011, Efficiency Vermont has sought to increase savings in these end uses by 15%, compared to 2008 performance over the previous 2005 – 2008 contract period.
- **Lighting programs.** Despite emphasizing non-lighting programs, Efficiency Vermont acknowledges and continues to promote various lighting initiatives as a valid and reliable method for reducing electrical demand and for bringing significant value to customers. Although the Lighting Plus program will decrease and expire in 2010 (with carry on work into 2011), Efficiency Vermont will continue to promote and support aggressive lighting programs across Vermont. These programs include newLIGHT, which provides substantial customer rebates for the replacement of T-12 fluorescent and HID lighting equipment, and the new LED campaign to replace less efficient commercial spot lighting with commercial screw-base lamps.
- **Exploring new energy efficiency technologies that are relevant for the business sector.** These technologies include thermal storage cooling, energy-efficient refrigeration condenser-only replacement strategies, LED and other solid-state lighting, and specialized pumping and aeration technologies.

4.4.2. Key changes for 2011

- **Investigating process and lean manufacturing techniques to achieve savings.** Efficiency Vermont will also focus on the intersection of lean manufacturing techniques and efficiency. Continuing 2010 efforts into 2011, Efficiency Vermont will explore promoting and validating these electrical savings.
- **Direct installation.** Efficiency Vermont will discontinue the Lighting Plus direct installation program in 2010 (with carry over work into 2011). The program was targeted to commercial customers in Geographic Targeting areas. Since its launch in 2007, Lighting Plus has been successful in achieving important energy and peak demand savings in Geographic Targeting areas. After more than three years of intensive effort, the market of interested customers for cost-effective installations is approaching saturation. Efficiency Vermont will conclude the program in the first quarter of 2011.
- **Building performance for small business.** Efficiency Vermont began offering incentives in 2010 to owners of small businesses and mixed-use buildings for improving the thermal energy efficiency and comfort of their buildings. Energy audits and improvements must be performed by a contractor certified by the Building Performance Institute (BPI). In 2011, Efficiency Vermont will build this service by increasing the contractor pool and by offering contractor training and customer marketing. Building Performance Institute training is supported by revenues from heating and process fuels (HPF) savings claimed as environmental credits through the Regional Greenhouse Gas Initiative, and through the regional grid's Forward Capacity Market (see Section 5). Contractors will refer customers to Efficiency Vermont business services when the contractors identify major electrical efficiency opportunities.

4.5. Existing Homes

4.5.1. Continuing approaches for 2011

Efficiency Vermont will build upon its successful strategies to serve the different submarkets within the Existing Homes market. It will also support the requirements of the Efficiency Vermont contract for achieving goals for geographic equity, residential spending, and services to low-income households. Additionally, Efficiency Vermont will continue to provide comprehensive services for Heating and Process Fuels (HPF) efficiency to existing homes. HPF services are further described in Section 5.

The major approaches in the Existing Homes market are:

- **Home Performance with ENERGY STAR.** Efficiency Vermont will continue to build the network of certified contractors and increase the number of Vermont homes investing in energy efficiency improvements. This initiative will comprehensively address both electric savings and heating and process fuel savings opportunities for a broad spectrum of residential customers. Home Performance with ENERGY STAR is supported by a combination of HPF funds, the Green Mountain Power Energy Efficiency Fund (GMP EEF), and EEU funds for electrical measures. Through this service, we will:
 - Provide contractor training and certification;
 - Leverage the building contractors' network to push comprehensive energy upgrades;

- Offer financial incentives to customers who present cost-effective improvement opportunities;
 - Provide statewide program promotion and marketing and advertising support for qualified contractors;
 - Reimburse contractor costs for direct installation of electrical and thermal measures completed during the project.
- **Multifamily residential dwellings.** Our multifamily service will be a combination of six major approaches designed to encourage comprehensive treatment of both market rate and subsidized housing, and to leverage substantial investment in energy efficiency by property owners:
 - Building performance. Beginning in 2010, Efficiency Vermont began offering incentives to assist owners of residential rental property and mixed-use buildings in improving thermal energy efficiency and the comfort of their buildings. Energy audits and improvements must be performed by a participating BPI-certified contractor. In 2011, Efficiency Vermont will build this service by increasing the contractor pool and offering contractor training and customer marketing. Building Performance is supported by HPF revenues. Contractors will also provide referrals to Efficiency Vermont business services when major electrical efficiency opportunities are identified.
 - Vermont Fuel Efficiency Partnership (VFEP). Efficiency Vermont continues to partner with the Central Vermont Community Action Council (CVCAC), the state's Weatherization Assistance Program (WAP), the Vermont Housing and Conservation Board (VHCB), and the Vermont Housing Finance Agency (VHFA) to achieve deeper energy savings of at least 25% per project in qualifying multifamily residences statewide. Using collaborative approaches and enhanced efficiency services with all of its partners, Efficiency Vermont specifically supports VFEP through a combination of HPF funding for thermal measures and EEU funding for electrical measures.
 - Standard Rebate Form. The Multifamily Rebate form will be revised for 2011 to provide an educational component written directly to the property owner. The program will continue to recognize the split-incentive character of multifamily properties by offering aggressive incentive levels for refrigerators, ventilation systems, water conservation devices, and compact fluorescent lighting.
 - Affordable housing partners. Efficiency Vermont continues to support its nonprofit affordable housing partners through an initiative to preserve Vermont's affordable multifamily housing stock. Through the entire 10-year initiative, funded by a 2009 grant from the John D. and Catherine T. MacArthur Foundation, the goal is to protect 3,500 of VHCB's 7,000 vulnerable apartments. Efficiency Vermont's planning work supports the development of:
 - Recommendations for standardized efficient mechanical systems.
 - The "Roadmap to Perpetually Affordable Multifamily Housing," detailing deep energy efficiency standards to meet the unique needs of Vermont's public-asset housing stock and to ensure long-term affordable housing viability.
 - Association partnerships: Efficiency Vermont will continue to partner with Apartment Owner Associations across Vermont, providing event support and regular newsletter articles encouraging efficiency upgrades in multifamily housing.

- Low-income energy efficiency partnership. This relationship relates to weatherization agencies for low-income renters. Please see the next bulleted section.
- **Low-income single-family residential customers.** In this ongoing initiative, Efficiency Vermont will continue its relationship with the five community-based weatherization agencies to provide maximally cost-effective electric efficiency measures, at low or no cost to participants. These measures include:
 - Direct installation of energy-efficient lighting and water conservation products, and advanced power strips;
 - Replacement of inefficient refrigerators, freezers, and clothes washers with ENERGY STAR models;
 - Conversion of electric water and space heating equipment to less-costly natural gas systems, where available. This measure provides added value because of its consumer and societal benefits.
- **Information for residential customers.** Efficiency Vermont maintains a reputation for providing trusted energy efficiency expertise to all Vermonters via its toll-free phone, e-mail, and website. Because the most frequent residential inquiry concerns the causes of high energy bills, we will continue to provide information and tools to help people analyze and lower electricity usage, including:
 - Simple, plug-in energy consumption meters loaned at no cost to the customer;
 - A home energy use survey with telephone technical assistance;
 - Online software that enables residents to conduct their own home energy evaluations;
 - The www.encyvermont.com website, providing extensive information, guidance, tips, links, and resources, including listings of providers of energy-efficient products and services throughout the state;
 - Useful printed information for residential energy consumers to help them understand and reduce their energy consumption;
 - A designated, specially trained technical customer support representative who answers more in-depth and technical questions by phone and e-mail;
 - Our “Ask the Home Team” advice column, placed in 40 newspapers and other media statewide, featuring the technical customer service representative who answers Vermonters’ questions about residential energy use.

4.5.2. Key changes for 2011

- **Strengthening the market for comprehensive home energy efficiency improvements.** Efficiency Vermont will continue to increase the number of homes participating in Home Performance with ENERGY STAR, as well as the comprehensiveness of the projects, through the following approaches:
 - Increased customer incentive levels to drive participation and deeper energy savings;
 - Enhancements to Home Energy Reporting Online (HERO), a web-based, streamlined reporting tool for contractors;
 - Increased statewide advertising and direct marketing to targeted customers, with an emphasis on customer testimonials;

- Improved contractor technical and sales capabilities through enhanced marketing support and training.

4.6 Financing Initiatives

Even prior to the economic slowdown that occurred in late 2008, Efficiency Vermont had identified the lack of effective financing vehicles as a significant barrier to investments in energy efficiency. The continued slow pace of economic recovery and lack of capital in the marketplace have further limited the opportunities for investment in energy efficiency measures.

During 2011, Efficiency Vermont will continue to develop integrated financial mechanisms that will increase market penetration and ratepayer participation. These initiatives will help Efficiency Vermont obtain higher levels of energy savings per ratepayer dollar, through a combination of more completed measures and reduced incentives per project across the reporting areas described in this section.

Specific and continued objectives for 2011 are:

- Continuing to provide a single Efficiency Vermont point of contact related to financing options for external stakeholders, including banks, credit unions, public-sector lenders, and other financial partners;
- Developing streamlined financing products for other initiatives in 2011 similar to the Lighting Plus initiative that expired in 2010;
- Maintaining and strengthening contacts with all existing financial partners, as well as establishing potential new relationships;
- Supporting and refining existing financial analysis tools and presentation materials that assist Efficiency Vermont operations;
- Continued participation in discussions with realtors, appraisers, lenders, builders, and other interested parties to develop methods for representing the value of energy efficiency investments into the marketplace.

In addition, Efficiency Vermont will carry out its legislatively directed responsibilities related to the Clean Energy Assessment District (CEAD) financing mechanism. In 2009, the Legislature enacted the CEAD mechanism, which individual communities may now adopt. It is Vermont's version of Property Assessed Clean Energy (PACE), a mechanism under which homeowners or businesses finance energy efficiency or renewable energy improvements through their municipality, and repay that obligation as an assessment on their property.

Efficiency Vermont will continue to support CEAD in 2011, and to look for opportunities that allow the financing mechanism to succeed. Current federal rulings have stalled the advancement of the mechanism in regions that have not yet established PACE structures.

4.7 Marketing Initiatives

Throughout 2011, Efficiency Vermont will continue to define and target critical markets such as large industrial businesses or farms that comprise reporting categories, and that might also cut across them. In addition to supporting our various market initiatives through traditional direct mailing and advertising, Efficiency Vermont plans to use the following general approaches for 2011:

- **Clearly identify the target audience** of all campaigns;
- **Understand specific barriers** to energy efficiency measures and incorporate response strategies into messages;
- **Engage trusted messengers** to recruit opinion leaders in the community to support energy efficiency initiatives, and to encourage peer-to-peer conversations within the community;
- **Provide messages about energy efficiency benefits** in terms of home comfort, energy savings, cost savings, and community participation;
- **Use effective customer success stories** to convey benefits of efficiency measures and associated programs;
- **Ensure that contractors understand and market programs to customers;**
- **Collect data** and measure the effectiveness of different marketing and outreach approaches and incorporate into continued approaches.

New for 2011:

- **Re-design of the Efficiency Vermont web site.** Efficiency Vermont will launch a redesigned website in early 2011, responding to ratepayers' needs for objective energy advice;
- **Monitor the true cost of initiatives,** including all direct and indirect costs, incentives, marketing materials, advertising costs, etc., to benchmark and compare effectiveness of delivering various programs.

5. Heating and Process Fuels Activities

In 2009 and 2010, Efficiency Vermont launched several initiatives to address HPF efficiency. These initiatives were funded by revenues from electrical demand capacity provided to the regional transmission organization, ISO New England, via its Forward Capacity Market (FCM), and from environmental credits obtained from the Regional Greenhouse Gas Initiative (RGGI) auction proceeds. In 2011, Efficiency Vermont will offer the following HPF efficiency services to Vermont residents and businesses:

- **Home Performance with ENERGY STAR.** Efficiency Vermont continues to build this core service to deliver HPF savings to residential customers through a network of certified contractors installing comprehensive home energy improvements. Efficiency Vermont provides contractor training, quality assurance, marketing assistance for contractors, and customer incentives. In 2011, incentives and marketing efforts will ramp up, as described in Section 4.5.2, to drive increased customer participation.
- **Building performance.** In 2010, Efficiency Vermont began offering incentives to assist owners of small businesses, residential rental properties, and mixed-use buildings in improving the energy efficiency, health and safety, and comfort of their buildings. The incentives are contingent upon the energy audits and improvements being performed and completed by a participating BPI-certified contractor. In 2011, Efficiency Vermont will build this service by increasing the contractor pool and offering contractor training and customer marketing.
- **Vermont Fuel Efficiency Partnership (VFEP).** Efficiency Vermont continues to partner with the CVCAC, the Weatherization Assistance Programs (WAP), the Vermont Housing and Conservation Board (VHCB), and the Vermont Housing Finance Agency (VHFA) to achieve deeper energy savings of at least 25% per project in qualifying multifamily residences statewide through collaborative approaches and enhanced efficiency services. Efficiency Vermont supports VFEP through a combination of HPF funding for thermal measures and EEU funding for electrical measures.
- **Commercial Heating System Efficiency.** Efficiency Vermont will continue offering incentives to commercial customers for energy-efficient selections of oil and propane boilers and furnaces in commercial buildings up to 10,000 square feet. Incentives are based on the size of the equipment.
- **Dairy Farm Heat Recovery.** Efficiency Vermont began offering incentives in 2010 to assist dairy farms in installing Heat Recovery Units (HRU) that pre-heat fossil fuel hot water systems. In 2011, Efficiency Vermont will build this service by offering a contractor incentive and by increasing marketing efforts to farmers.

Efficiency Vermont might offer additional efficiency services in 2011 to meet HPF performance goals. Measures under consideration include solar hot water and outdoor wood boiler replacement.

6. Highlights of Non-Resource Acquisition Objectives

The budget for the Non-Resource Acquisition activities is detailed in Section 7 of the Plan. The following section highlights major objectives.

6.1. Better Buildings by Design Conference

Efficiency Vermont annually presents a comprehensive conference on high-performance residential and commercial construction. The 2011 Better Buildings by Design conference, scheduled for February 9 and 10, is expected to continue the success of previous conferences and will incorporate relevant feedback from prior attendees on conference content, logistics, and other features of this annual event. This gathering of the region's top construction and design professionals (who affect how buildings are built in Vermont) is viewed as a key information resource on innovations in energy efficiency; superior building performance; and best practices in design, construction and renovation. The 2011 conference will include nationally renowned speakers and workshop leaders with more than 40 presentations on building envelope, integrated design, lighting, and mechanical systems. In addition to speakers and workshop leaders, the conference anticipates providing exceptional visibility to more than 50 exhibits of energy-efficient products and service providers. The event is again expected to draw more than 1,000 building and design professionals.

The conference is also a key component for positioning Efficiency Vermont as a trusted technical resource and supporter of existing market actors on whom it relies to drive energy efficiency in this market.

6.2. Research and Development Activities

Efficiency Vermont allocates a small portion of its annual budget to research and development (R&D) activities that advance the design and range of offerings it provides. These R&D activities are critical for Efficiency Vermont in its effort to provide high-quality services in an industry that sees continuous technology change and development, and to provide such services to influence and accommodate the changing preference of customers. Efficiency Vermont evaluates opportunities competing for the limited R&D resources against the following criteria:

- The opportunity addresses a fundamental need for Efficiency Vermont;
- The opportunity represents an activity unique to Vermont—that is, it cannot leverage national or regional R&D programs;
- Local organizations are willing to partner and leverage the R&D opportunity;
- The activity appears to have significant value to Efficiency Vermont within a five-year horizon;
- The R&D opportunity benefits significantly from being evaluated within the smaller scale of Vermont—capitalizing on population size and characteristics, and the geographic territory of Vermont—with a view to scaling the R&D outcomes to a broader demographic.

6.3. New England Regional Capacity Market

The wholesale Forward Capacity Market (FCM) operated by the Independent System Operator for New England (ISO New England) allows demand resources such as energy efficiency to be bid to supply peak capacity reductions. ISO New England was the first such operator to allow demand resources to be bid into the FCM on a similar basis as are supply resources such as generation. VEIC is a Market Participant, and in its role of providing the state's Energy Efficiency Utility services, VEIC will continue to represent the interests of Vermont ratepayers in the ISO New England FCM. VEIC will continue to file monthly reports to ISO New England of capacity savings from Efficiency Vermont investments and receive payment from the operator for these savings claims. VEIC has prepared and submitted bids to provide Efficiency Vermont capacity savings as a demand resource in four sequential FCM auctions, and has made commitments to provide capacity reductions beginning in June 2010 and continuing through May 2017. In cooperation with the Board, the Department of Public Service, and Burlington Electric Department, VEIC developed and is implementing required measurement and verification plans for capacity savings claims. In addition, VEIC will continue to investigate more cost-effective ways to measure and verify Efficiency Vermont's FCM savings claims, while continuing to perform all necessary administrative and fiscal activities associated with these responsibilities.

VEIC will continue to participate in ISO New England's rule-making processes regarding the establishment and operation of the FCM and other responsibilities as a NEPOOL Market Participant.

6.4. Energy Code Support

Efficiency Vermont will continue to provide information to contractors and other interested parties to support the Residential Energy Code. These services include a toll-free hotline, technical assistance, information about the code, and certification of homes that meet the Residential Energy Code. Efficiency Vermont will also continue to support the Commercial Energy Code by providing technical input to design professionals and commercial customers, in support of the adoption of Commercial Guidelines.

With an updated Residential Building Energy Code scheduled to become effective January 1, 2011, Efficiency Vermont will provide information to contractors and municipalities so that they might fully understand the changes encompassed by the new code.

6.5. Regional and National Partnerships

Through ongoing collaboration with entities both outside and within the state, Efficiency Vermont will continue to bring state, regional, and national resources to Vermont while ensuring that greater consistency within energy efficiency resources and service delivery is available to Vermonters. Key partners for 2011 will be:

- Northeast Energy Efficiency Partnerships (NEEP): Participation with regional lighting and HVAC initiatives
- Lighting for Tomorrow (Consortium for Energy Efficiency / American Lighting Association / U.S. Department of Energy): Annual competition for the next generation of CFL fixtures and LED technology
- Product Stewardship Institute: End-of-product-life issues, with Chittenden Solid Waste District; mercury-free lighting alternatives; and disposal

- Consortium for Energy Efficiency: CEE's efficiency program administrators from across the United States and Canada work together on common approaches for advancing efficiency. By joining forces, the individual efficiency programs of CEE are available among its members, while also allowing partnerships with other industries, trade associations, and government agencies. By working together at CEE, administrators leverage the effect of their funding dollars and exchange information on effective practices. Both of these strategies lead to achieving greater energy efficiency for the public good.
- The ENERGY STAR program of the U.S. Environmental Protection Agency and the U.S. Department of Energy: CFL awareness campaign.
- New Buildings Institute: NBI assesses technologies, promotes design approaches, and helps guide policies and programs that will significantly improve the energy efficiency of commercial buildings. It is considered a valued resource to Efficiency Vermont.
- Building Performance Institute (BPI): Assists Efficiency Vermont in developing national standards and offering credentials for residential energy efficiency retrofit work. It provides training through a network of affiliate organizations, individual certifications, company accreditations, and quality assurance programs.

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

- The Compressed Air Challenge;
- Incentives for ENERGY STAR-qualified equipment and services;
- Building operator certification training;
- Affiliation with the BPI to train and proctor certification for residential retrofit contractors.

6.6. Demand Resource Plan (DRP) and Proceeding (DRPP)

The Demand Resource Plan (DRP) provides a set of: (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 twenty-year period, and (3) a set of year-by-year values for savings from and budgets for heating and process fuels by calendar year for a ten-year period. The plan is created through a Board proceeding every three years and may be modified as needed by the Board.

The Demand Resources Plan Proceeding (DRPP) is the process conducted by the Board that will, at a minimum, result in the adoption of a DRP, Efficiency Vermont Quantifiable Performance Indicators, identification of geographic areas to be targeted by energy efficiency (if any), identification of budgets and activities for non-resource acquisition activities, identification of services related to advanced metering infrastructure, and determination of efficiency evaluation budgets.

The first DRPP was initiated in the fall of 2010 and is expected to conclude by the summer of 2011.

6.7. Forecast 20

Forecast 20 is a twenty-year estimate of demand-side management savings to be provided through the delivery of services and initiatives under the EEU structure. The forecast excludes services and initiatives that might be provided by Vermont electric distribution utilities in the fulfillment of their obligations for energy efficiency services. Forecast 20 will be completed following the Board's selection of a DRP. It will incorporate the approved budgets and savings goals, as well as any approved, overarching policy objectives to be met through demand-side management during the forecast period (that is, class or geographic equity, geographic targeting, etc.). Forecast 20 will include an estimate of the demand-side management expenditures and benefits for each of Vermont's load zones and for each customer class within each of the load zones. VEIC will provide the Board with the final report and accompanying electronic worksheets, following a workshop presentation to all interested parties of the first draft of the Forecast 20.

6.8. Smart Grid

In May 2010, the Board authorized Efficiency Vermont to use approximately \$1.26 million in EEU uncommitted carryover funds from the contract period ending in 2008. The carryover funds are to support work related to Vermont's Smart Grid Investment Grant. In 2011, the following uses are anticipated for those funds:

- Collaboration with Vermont Electric Cooperative on a study of consumer behavior designed to determine how various Smart Grid-enabled strategies affect energy efficiency. These strategies might include in-home displays, web-based feedback, and proactive customer service "coaching." Results of this study will help Efficiency Vermont, the Board, and the Department of Public Service assess issues of cost-effectiveness and savings attribution related to Smart Grid and behavioral measures.
- Implementation of a U.S. Department of Energy Weatherization Innovation Pilot Program grant to assess the potential efficiency and financial benefits of implementing Smart Grid technology in low-income homes. This study will explore the hypothesis that low-income households might, contrary to conventional wisdom, have the potential to reap disproportionately high benefits for Smart Grid technology, due to a higher level of price sensitivity.
- General support and inter-utility coordination for Smart Grid-related implementation activities in Vermont. This support might include efficiency-related technical advice in the selection of a Smart Grid customer website interface; coordination with distribution utilities in providing Smart Grid usage data to the EEU; and participation in various eEnergy Vermont working groups to ensure that potential DSM benefits of the Smart Grid investment are being realized.

7. Budget

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

	<u>Actual Year</u> 2009	<u>Estimate Year</u> 2010	<u>Estimate Year</u> 2011	<u>Three-Year</u> <u>Budget</u>
<u>Services and Initiatives Supported by:</u>				
<u>Contractor Electric EEU Funds</u>				
Business Sector	\$15,695,749	\$20,286,800	\$22,826,100	\$58,808,649
Residential Sector	\$8,123,413	\$10,819,900	\$9,863,500	\$28,806,813
Total <i>Electric EEU Funds</i> Services and Initiatives	\$23,819,162	\$31,106,700	\$32,689,600	\$87,615,462
<u>Services and Initiatives Supported by:</u>				
<u>Contractor Unregulated Heating and Process Fuel Funds</u>				
Business Sector	\$7,096	\$680,700	\$1,424,900	\$2,112,696
Residential Sector	\$528,045	\$2,030,400	\$3,951,100	\$6,509,545
Total <i>Unregulated Heating and Process Fuel Funds</i> Services and Initiatives	\$535,141	\$2,711,100	\$5,376,000	\$8,622,241
TOTAL SERVICES AND INITIATIVES	\$24,354,303	\$33,817,800	\$38,065,600	\$96,237,703
<u>Contractor Electric EEU Funds Supporting Services</u>				
General Administration	\$109,422	\$245,500	\$258,800	\$613,722
ISO-NE Regional Capacity Participation	\$279,450	\$412,000	\$374,900	\$1,066,350
Forecast 20	\$156,917	\$0	\$22,500	\$179,417
Demand Resource Planning Process	nap	\$159,600	\$117,600	\$277,200
Smart-Grid Customer Applications	nap	\$56,600	\$811,300	\$867,900
Information Technology	\$820,346	\$736,000	\$752,000	\$2,308,346
Total Supporting Services	\$1,366,134	\$1,609,700	\$2,337,100	\$5,312,934
Operations Fee	\$208,167	\$300,600	\$384,500	\$893,267
Sub-Total Prior to Performance-Based Fee	\$25,928,604	\$35,728,100	\$40,787,200	\$102,443,904
Performance-Based Fee	\$794,000	\$888,000	\$1,015,000	\$2,697,000
TOTAL ESTIMATED COSTS INCLUDING PERFORMANCE-BASED FEE	\$26,722,604	\$36,616,100	\$41,802,200	\$105,140,904