

# **RHODE ISLAND ENERGY EFFICIENCY AND RESOURCE MANAGEMENT COUNCIL**

*Annual Report to the General Assembly | Required Under RIGL 42-140.1-5: April 2013*

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## LETTER FROM THE CHAIR

**To Governor Lincoln D. Chafee, Senate President M. Teresa Paiva-Weed, House Speaker Gordon D. Fox, and the Members of the General Assembly,**

On behalf of the Energy Efficiency and Resource Management Council (“EERMC” or “Council”) please accept this April 2013 Annual Report to the General Assembly, for the Council’s sixth year of operation. As required by R.I.G.L. § 42-140.1-5, this Annual Report includes a summary of the “activities of the Council, its assessment of energy issues, the status of system reliability, energy efficiency and conservation procurement and its recommendations regarding any improvements which might be necessary or desirable.”

2012 was a positive year in the fulfillment of our mission. Rhode Island was ranked among the top four states in the nation for energy efficiency policies and programs and among the top ten across a range of energy efficiency issues. This is a tribute to the General Assembly for adopting Least Cost Procurement in 2006 and setting the state on a path to a low cost, clean energy future. Least Cost Procurement is an economic strategy for reducing Rhode Island’s energy costs by investing in cost-effective energy efficiency that costs less than traditional energy supply. This strategy is “least cost” because energy efficiency costs approximately 4¢ per kilowatt-hour (kWh) while electric supply costs between 8¢ and 12¢ per kWh.

It is important to note that energy-saving investments made through Least Cost Procurement play a vital economic role for Rhode Island. For every \$1 spent on energy efficiency in 2013, Rhode Island receives electric and natural gas benefits of more than \$2. This return demonstrates that Least Cost Procurement programs are a powerful agent in resolving the state’s economic crisis: they reduce our energy bills, stimulate economic growth and job creation, stem the flow of our energy dollars out of state, and make Rhode Island more competitive by lowering business operating costs.

We hope this report underscores the important role of the EERMC in providing ratepayer participation and oversight for the economic and environmental well-being of the state.

The EERMC is grateful for your support in the past and looks forward to enjoying your continued support in the coming years. We are committed to working cooperatively with legislators and all of Rhode Island’s energy stakeholders to continue the state’s leadership position in the important national energy efficiency effort.

This 2013 Annual Report contains a summary of the activities of the EERMC over the past year including its role in:

- (1) The implementation of the 2012 Energy Efficiency Program Plan;
- (2) The development and approval of the 2013 Energy Efficiency and System Reliability Program Plans;
- (3) Developing new criteria and incentives to support clean, efficient, combined heat and power systems.
- (4) Launching several exciting initiatives, including the Rhode Island Public Energy Partnership.

The Annual Report also includes the Council’s assessment of energy issues and recommendations for improvements that will benefit the energy consumers of Rhode Island and the state’s economy.



As required, this Annual Report also discusses a number of policy issues and makes specific recommendations for legislative and institutional action in 2013. This year the EERMC strongly emphasizes the need for new financing strategies to help Rhode Island ratepayers get access to affordable capital to implement efficiency measures that will save them significant amounts of money. In addition the EERMC reflects significant input received from the public about making the efficiency performance of buildings more readily available for building users, owners and potential owners. See “Policy Recommendations” for our detailed recommendations.

This year marks the second implementation year of the 2012–2014 Energy Efficiency and System Reliability Procurement Plans. The reach and breadth of Rhode Island’s energy efficiency programs continues to grow and benefits to Rhode Islanders increase. Enabled by the least cost procurement legislation passed by the General Assembly, the 2013 Energy Efficiency Program Plan submitted by National Grid, reviewed and supported by the EERMC and the Division of Public Utilities and Carriers, TEC-RI, and ENE, and approved by the Commission on December 18, 2012 will serve many more customers than last year and achieve greater savings for each customer. Compared to approximately 211,000 electric and natural gas participants in 2012, the 2013 Energy Efficiency Program Plan will reach over 621,000 participants. New this year, over 200,000 Rhode Island households will be able to receive monthly personalized Home Energy Reports that provide energy saving advice and information. Expanding the programs to reach this number of participants and higher energy savings goals will be done in a manner that ensures quality delivery and is cost-effective and cost-efficient. The primary goal of the 2013 Energy Efficiency Program Plan is to create economic value and cost savings for Rhode Islanders through energy efficiency. To achieve this goal, the plan includes strategies to deliver on the following four themes: 1) creating energy efficiency opportunities for every Rhode Island customer, 2) making energy efficiency work for different types of customers, 3) using the latest innovations, technologies, and best practices from around the nation, and 4) creating economic benefits for Rhode Island through work force development and program participation. The efficiency programs carry out the General Assembly’s far-sighted, nation-leading 2006 mandate to ensure that it is Rhode Island policy to invest first in low-cost, clean efficiency resources (at 3–5¢ per lifetime kWh saved) before buying more expensive supply (8–12¢ per kWh).

The 2012 Energy Efficiency Procurement Plan is part of a larger 3-year “2012–2014 Energy Efficiency Procurement Plan,” that was approved by the PUC on December 21, 2011. The 3-year plan supports National Grid to significantly increase investments in energy efficiency measures for homeowners and businesses when they are cheaper than supply. The plan calls for steadily expanding the depth and breadth of Rhode Island’s energy efficiency programs to reach nation-leading energy savings goals. Successful implementation of the 3-year plan will generate well over \$785 million in net lifetime benefits for ratepayers, save 5,116,966 MWh and 13,263,671 MMBTU over the lifetime of the energy efficiency measures, and avoid 2,555,451 metric tons of carbon dioxide.

We look forward to continuing to work together to improve the affordability, efficiency, and economic benefits of Rhode Island’s energy system in the year to come.

Respectfully Submitted,

S. Paul Ryan, Chair  
Energy Efficiency and Resources Management Council  
April 15, 2013

# LETTER FROM THE COMMISSIONER

## Energy Efficiency and Resource Management Council 2013 Annual Report

The RI Office of Energy Resources (OER), in partnership with the Energy Efficiency and Resource Management Council (EERMC), is pleased to present the 2013 Annual Report to the General Assembly. As part of the OER's mission to lead Rhode Island to a secure, cost-effective, and sustainable energy future, we work closely with the EERMC, National Grid, the Public Utilities Commission and the Division of Public Utilities and Carriers to ensure effective implementation of the state's energy efficiency programs.

Rhode Island has made energy efficiency a centerpiece of our state's comprehensive approach to building a clean energy economy. This commitment to energy efficiency is embodied in the innovative Least Cost Procurement mandate, which drives investment in all cost-effective energy efficiency across sectors. The policy of Least Cost Procurement allows Rhode Island's efficiency programs to achieve an impressive breadth and depth of energy savings that reduce greenhouse gas emissions, save ratepayer dollars, lower business costs, and create jobs.

The results are clear: In 2012, every \$1 invested in energy efficiency generated over \$2 in benefits to Rhode Island homeowners, businesses, and institutions. The 2012 Energy Efficiency Program reached over 200,000 participants, saving 1.25 billion kWh of electricity and 3,263,490 MMBTUs of natural gas. Implementation of the program yielded economic benefits exceeding \$183 million and avoided the emission of nearly 800,000 metric tons of greenhouse gas emissions.

Thanks to Rhode Island's innovative efficiency policies and the ongoing commitment of the Chafee Administration and the General Assembly, the Ocean State consistently ranks among the nation's leaders in energy efficiency. In 2012, the American Council for an Energy Efficiency Economy (ACEEE) scored Rhode Island fourth in the country for energy efficiency policies and programs.

As Rhode Island's economy recovers, now is a better time than ever to build further on our impressive track record, increasing investment in cost-effective efficiency, while pursuing deeper savings. The 2012-2014 3-year plan sets Rhode Island on a path to achieve even more ambitious efficiency goals and reap the corresponding benefits. The 2013 Energy Efficiency Program is projected to deliver economic benefits \$231 million, add \$469 million to the Gross State Product and create 4,100 job-years of employment.

The OER thanks Governor Chafee, the General Assembly, the EERMC members, National Grid, and the EERMC consultant team for their partnership and dedication to making Rhode Island a national model for energy efficiency. We look forward to continuing our work together to achieve our vision for a secure, cost-effective, and sustainable energy system.

Marion S. Gold  
Commissioner, Rhode Island Office of Energy Resources  
Executive Director, Energy Efficiency and Resource Management Council



## VOTING COUNCIL MEMBERS

**Christopher Powell** — Large C&I Users,  
Brown University, Director of Sustainable  
Energy & Environment

**Dan Justynski** — Small C&I Users,  
Citizen's Bank, Head of Property Operations

**Dr. Abigail Anthony** — Environmental Issues  
Related to Energy, ENE , Rhode Island Director

**Joseph Newsome** — Low Income Users

**Joseph Cirillo** — Energy Design/Codes  
Former Building Commissioner

## EX-OFFICIO MEMBERS

**Michael McAteer**  
Director of Customer and Business Strategy,  
National Grid

**Jeremy Newberger**  
Manager, Energy Efficiency Policy  
and Evaluation, National Grid

**Dr. Marion Gold**  
Executive Director and Secretary,  
Commissioner, Office of Energy Resources

## WHO WE ARE AND WHAT WE DO

Created by the Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006 with the purpose of helping small and large businesses, homeowners and renters, and municipalities and governments, our mission is simple yet powerful: to maximize benefits to Rhode Island energy consumers through energy efficiency.

The Energy Efficiency and Resource Management Council (EERMC) had a very productive year pursuing its four primary purposes established in R.I. General Law § 42-140.1-3:

- “(1) Evaluate and make recommendations, including, but not limited to, plans and programs, with regard to the optimization of energy efficiency, energy conservation, energy resource development; and the development of a plan for least-cost procurement for Rhode Island; and*
- (2) Provide consistent, comprehensive, informed and publicly accountable stake-holder involvement in energy efficiency, energy conservation, and energy resource management; and*
- (3) Monitor and evaluate the effectiveness of programs to achieve energy efficiency, energy conservation, and diversification of energy resources; and*
- (4) Promote public understanding of energy issues and of ways in which energy efficiency, energy conservation, and energy resource diversification and management can be effectuated.”*

The EERMC is an appointed group of 11 members representing energy users who serve voluntarily and meet year-round. These members reflect a cross section of interests and backgrounds, providing representation for residential, commercial and industrial, low income customers; building codes and environmental interests. Ex-officio, non-voting members represent the electric and natural gas distribution utility, the Office of Energy Resources, and the home heating oil industry. The EERMC is assisted by consultants who are nationally recognized as experts in their fields. The current EERMC Consultant Team is co-led by the Vermont Energy Investment Corporation (VEIC) and Optimal Energy of Rhode Island.

The EERMC’s original purpose was to advise the state’s electric and natural gas distribution utility, National Grid, in both the development and implementation Least Cost Procurement and engage in policy and planning to advise the Governor, General Assembly, and Public Utilities Commission. The EERMC’s responsibilities were expanded in 2010 to evaluate the cost-effectiveness of annual and triennial energy efficiency procurement plans and report to the Public Utilities Commission. In 2012, the EERMC participated in several PUC dockets regarding the 2013 Energy Efficiency Program Plan and the 2013 System Reliability Program Plan.

# RHODE ISLAND ENERGY EFFICIENCY 2012 ACHIEVEMENTS AND HIGHLIGHTS



RHODE ISLAND  
AMONG THE  
**TOP 10**  
IN THE NATION FOR  
THE **5<sup>th</sup>** YEAR

Rhode Island is a nationally recognized leader in implementing high-quality energy efficiency programs. Since 2008, Rhode Island has risen in the rankings of the American Council for an Energy Efficient Economy (ACEEE). The state is now among the top states for energy efficiency. In the ACEEE's 2012 State Energy Efficiency Scorecard, Rhode Island ranked 7th in the nation in the overall scoring and #4 for energy efficiency programs and policies. The scoring system assigns credit for states' utility and public benefits programs and policies, transportation policies, building energy codes, combined heat and power policies, state government initiatives, and appliance and equipment efficiency standards. This top-tier ranking clearly indicates that Rhode Island's energy efficiency programs are national models to be emulated.

Energy efficiency, including insulating homes and businesses, replacing inefficient heating equipment and appliances, and upgrading lighting, cooling, and motors is bringing real savings to Rhode Islanders in the form of lower energy bills, boosting stronger local economies, creating jobs new jobs, and reduce air and climate pollution. Energy efficiency decreases demand for expensive energy and reduces greenhouse gas emissions from power generation. The energy-saving programs offered to Rhode Islanders play a vital economic role for the state. For every \$1 spent on energy efficiency in 2012, Rhode Island received

electric and natural gas system benefits valued at nearly \$2.50. This return on investment demonstrates that energy efficiency is a powerful economic tool: energy efficiency reduces consumers' energy bills, generates jobs, and lowers the cost of doing business in the state, helping Rhode Island businesses to remain competitive in a global economy. Together with other initiatives being taken across the state, Rhode Island's energy efficiency policies and programs are helping to realize the General Assembly's goal to make energy more affordable and cleaner for Rhode Islanders.

As we begin our work for 2013, we are eager to pursue opportunities to increase the effectiveness and scope of Rhode Island's energy efficiency investments. Over the coming year, we will strive to introduce innovations such as Home Energy Reports, a more coherent approach to serving multi-family buildings, new incentives for clean, efficient combined heat and power, and significant third-party financing for large commercial customers. Taken together, we think these innovations will help to maintain Rhode Island as a national leader.

In 2012, Rhode Island's electric energy efficiency programs served 200,000 participants, resulting in over 1.25 billion kWh saved at a cost of \$0.037 per kWh saved. These energy efficiency measures will create \$147 million in benefits for Rhode Islanders over the lifetime of the efficiency measures and avoid 630,000 metric tons of carbon dioxide emissions.

The natural gas energy efficiency programs served 11,372 participants in 2012, reducing natural gas consumption by 3,263,490MMBTUs at a cost of \$3.93 per MMBTU. These measures are creating \$36.5 million in economic savings over the lifetime of the efficiency measures. The natural gas energy efficiency measures will also avoid 163,000 metric tons of greenhouse gas emissions.

Preliminary year end results indicate that National Grid achieved 92% of its electric energy savings goals and 99% of the natural gas savings goals.

## 2012 ENERGY EFFICIENCY PROGRAM BY THE NUMBERS



### Total Participants

213,330



### Utility program cost

\$59.5 million



### Total economic benefits

\$183.55 million



### Cost per lifetime kWh saved

\$0.037



### Cost per lifetime MMBTU of natural gas saved

\$3.93



### Energy savings as a percent of 2009 consumption

1.7% (electric) and  
0.75% (natural gas)

## RESIDENTIAL ENERGY EFFICIENCY PROGRAMS

National Grid offers a variety of energy efficiency services and offerings for Rhode Island residents. The programs decrease household energy use and help customers save on their energy bills. The programs concentrate on creating efficient homes and promoting efficient products.

- EnergyWise offers single family customers free home energy assessments and information on their actual energy usage. Participants in this program receive recommendations and technical assistance as well as financial incentives to replace inefficient lighting fixtures, appliances, thermostats, and insulation levels with models that are more energy efficient.
- The Rhode Island Residential New Construction Program promotes the construction of high-performing energy efficient single family, multi-family, and income eligible homes, as well as the education of builders, tradespeople, designers, and code officials. The Program also offers incentives for energy efficient renovation work and deep energy retrofits.
- The ENERGY STAR® Appliances and Products Program is run in collaboration with other regional utilities to promote the purchase of high efficiency household appliances including kitchen appliances and electronics. Many of these appliances carry an ENERGY STAR® label. The program also offers refrigerator recycling which promotes more efficient refrigerators while removing non-efficient units from the market.
- The ENERGY STAR® Lighting Program is also run in collaboration with other regional utilities to provide discounts to customers for the purchase of ENERGY STAR® compact fluorescent lamps, fixtures and solid state lighting through instant rebates, retail store promotions, or mail order.
- The ENERGY STAR® HVAC Programs (Gas Heat Program and CoolSmart Program) promote the installation of high efficiency gas heating, cooling, and gas water heating systems via tiered rebate levels for more efficient models. The Program

provides substantial contractor training, and offers contractor incentives for the installation and testing of high efficiency systems. The Program also offers heating system rebates for electric customers who heat with either oil or propane.

- Multifamily Services provide coordination of energy efficiency offered through the existing portfolio of programs. Improvements began in 2012 and continue to ramp up in 2013 with new representatives dedicated to multifamily customers, including a single point-of-contact. Offerings are comprehensive, including incentives for heating and domestic hot water systems, cooling equipment, insulation, lighting and appliances.
- Income Eligible Services are delivered by local Community Action Program (CAP) agencies with oversight provided by a Lead Vendor. Three levels of home energy assessments are offered: (1) lighting and appliance focus, (2) heating and weatherization focus, and (3) comprehensive focus. Customers qualifying for LIHEAP are eligible and receive all services and equipment upgrades at no cost.

For more information, visit [www.nationalgridus.com/energyefficiencyservices](http://www.nationalgridus.com/energyefficiencyservices)

### 2012 Results

- 41,316 MWh saved annually
- 374,210 lifetime MWh saved
- 1,018,050 Therms saved annually
- 18,677,920 lifetime Therms saved
- 284,892 short tons of greenhouse gas emissions avoided
- 208,110 participants
- \$31.73 million in lifetime electric bill savings
- \$16.44 million in lifetime gas bill savings
- \$79.83 million in total economic benefits

## TWO WINNERS IN RHODE ISLAND'S OLDEST FRIDGE CONTEST

There were two winners of Rhode Island's Oldest Refrigerator contest, sponsored by National Grid in 2012. The owners of two 1939 General Electric refrigerators received gift cards good towards the purchase of ENERGY STAR® products, \$50 in case, and savings as much as \$150 a year each on future energy bills. The contest was sponsored by National Grid and Sears to highlight National Grid's ongoing, year-round offer that pays a \$50 incentive to people agreeing to have old refrigerators or freezers picked

up for recycling. Each customer can save up to \$150 a year on future electric bills after recycling an older unit. Older refrigerators and freezers can consume four-times more energy than newer models that are built to higher efficiency standards. There were more than 3,400 refrigerators and freezers picked up during the contest period. The savings from these appliances could power more than 230 Rhode Island households.

## INCOME ELIGIBLE SERVICES

National Grid helps reduce electricity and heating costs for income eligible customers. No co-payment fees are required to take advantage of energy savings through these offerings. The process includes:

- Customers contact their local community action program (CAP agency) to determine if they are eligible.
- An energy manager from a local CAP conducts an energy audit and determines potential energy and cost savings.
- Instant savings measures are installed during the energy audit, including: CFLs and LEDs, smart power strips, faucet aerators, low-flow shower heads,
- Heating system replacements and weatherization, such as air sealing and insulation, are installed during a follow up visit, if applicable.

Eligible efficiency items may include:

- ENERGY STAR® refrigerators
- ENERGY STAR® lighting
- Water saving measures
- Insulation and air sealing measures
- Heating system replacement

For more information, please visit: <https://www1.nationalgridus.com/EligibleRI-RI-RES>

### 2012 Results

- 3.403 annual MWh saved
- 33,773 lifetime MWh saved
- 15,864 short tons of greenhouse gas emissions avoided
- \$2.86 million in lifetime electric bill savings
- \$0.976 million in lifetime gas bill savings
- \$9.93 million in total economic benefits

## FEDERAL LOW-INCOME WEATHERIZATION AND FUEL ASSISTANCE PROGRAMS

The Low Income Home Energy Assistance Program (LIHEAP) Block Grant is funded through the Federal Department of Health and Human Services (HHS). The purpose of LIHEAP is to assist Rhode Island's low-income households in meeting the increasing cost of home energy and reduce the severity of an energy related crisis. Rhode Island's LIHEAP is administered by the RI Department of Human Services' Individual and Family support services division. LIHEAP intake and outreach is provided by local Community Action agencies.

Households are determined eligible for LIHEAP assistance according to the income guidelines established by RI DHS. The FY2012 LIHEAP guidelines were set at 60% of the Rhode Island median income. The FY2012 LIHEAP distributed \$23,175,687 and served approximately 32,000 Rhode Island households.

The Weatherization Assistance Program (WAP) enables low-income families to permanently reduce their energy bills by making their homes more energy efficient, while ensuring their health and safety. Funds are used to improve the energy performance of dwellings of income eligible families using the

most advanced technologies and testing protocols available in the housing industry. WAP promotes energy efficiency and helps income eligible families become more self-sufficient. The weatherization programs are funded through an annual appropriation from The U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) and The Department of Health and Human Services (LIHEAP).

Households are determined eligible for assistance according to the income guidelines established by RI DHS. The FY2012 LIHEAP guidelines were set at 60% of the Rhode Island median income. The FY2012

WAP distributed \$813,840 from the US Department of Energy, serving a projected 88 households.

The program also distributed \$3,400,000 from the US Department of Health and Human Services, serving approximately 2,720 households.\*\*

*\*\*All these households are leveraged with National Grid Demand Side Management funds. The average cost per unit for WAP measures is approximately \$2,400. This average cost does not include electric base load measures or the cost to replace a heating system that my go into a home.*

## SMALL BUSINESS ENERGY EFFICIENCY PROGRAM

This award winning program was designed for customers with less than 200 kW average monthly electrical demand.

National Grid helps small businesses save energy by providing:

- A free on-site energy assessment that identifies potential energy savings for both electricity and gas.
- A customized report that details energy-efficient recommendations.
- An installation that is completed at the customer's convenience.
- Removal and recycling of old fluorescent lamps and ballasts.
- National Grid pays up 70% of installation and equipment costs.
- Customers can finance their share of the project over 24 months on their electric bill, interest free.

**Eligible Projects include, but are not limited to, the following offerings:**

- High performance T8 lamps and electronic ballasts
- High performance fluorescent reflector kits
- High efficiency LED or fluorescent fixtures (indoor and outdoor)
- Upgrades of halogen directional (PAR/MR type) and incandescent general (BR/A type) lamps to LED technology
- Occupancy sensors and controls
- Energy Management Systems
- Walk-in cooler/refrigeration controls and LED case lighting upgrades
- Pre-rinse spray valves
- Stream traps
- Pipe insulation
- Time dependent opportunities such as replacing roof top HVAC units and heating systems
- Site-specific custom measures

### 2012 Results

- 19,008 annual MWh saved
- 209,164 lifetime MWh saved
- 48,527 annual Therms saved
- 337,068 lifetime Therms saved
- 100,216 short tons of greenhouse gas emissions avoided
- 1867 participants
- \$22.98 million in lifetime electric bill savings

## LARGE COMMERCIAL AND INDUSTRIAL PROGRAM

National Grid offers two programs for large commercial and industrial customers that use more than 200kW. Each program includes financial incentives to reduce the incremental cost barriers to investing in energy efficiency. Select projects may qualify for zero interest financing. National Grid further reduces barriers to efficiency by offering technical assistance from dozens of highly qualified firms at a partial or complete discount to the customer in order to identify and analyze opportunities for energy efficiency. The programs are integrated to offer customers assistance with gas and electric projects at the same time.

- The Commercial New Construction program encourages energy efficiency in new construction, renovations, remodeling, planned replacement of aging equipment and replacement of failed equipment through financial incentives and technical assistance to developers, manufacturers, vendors, customers and design professionals. The program also includes a Combined Heat and Power initiative, an innovative upstream lighting initiative, training for trade allies, promotion of building codes and standards, and many more services and initiatives.
- The Large Commercial Retrofit Program encourages the replacement of existing equipment and systems with energy efficient alternatives when the customer is not otherwise planning any investments in the equipment and systems. The program also offers whole building assessments and retro-commissioning, industrial process improvement assessments, commercial and municipal Benchmarking Services, gas energy assessments, a Building Operator Certification initiative, in addition to many more programs and services.

### 2012 Results

- 78,305 annual MWh saved
- 447,758 lifetime MWh saved
- 123,153 annual MMBtu
- 1,399,084 lifetime MMBtu of Natural Gas saved
- 2,495 participants
- 292,055 short tons of greenhouse gas emissions avoided
- \$94.14 million in estimated lifetime electric bill savings
- \$11.8 million in estimated lifetime gas bill savings

## REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)

The Regional Greenhouse Gas Initiative (RGGI) is a market-based cap and trade program designed to reduce carbon dioxide emissions from electric power plants in the northeastern and mid-Atlantic states. RGGI is the first binding system in the United States to cap and reduce greenhouse gas emissions over time. Under RGGI, utilities with over 25 megawatts (MW) of fossil-fuel burning generating capacity must purchase emissions allowances for every ton of greenhouse gas emitted. Utilities that reduce emissions will require fewer allowances and utilities with low emissions may sell surplus allowances to utilities less able to meet emission reduction targets. RGGI thus harnesses the market's capacity to search out cheap emissions reductions and rewards climate-friendly innovation in the electric power sector

Since RGGI's launch, emissions have declined significantly as electric generation from natural gas and renewables has displaced carbon-intensive generation from coal and oil, and as investments in energy efficiency have reduced demand for power. Declining emissions have been accompanied by a drop in electricity prices, which are down 10% across the region since RGGI took effect in 2009.

In February, 2013, states participating in RGGI (Connecticut, Rhode Island, New Hampshire, Vermont, New York, Vermont, Maine, Massachusetts, and Delaware) announced their intention to lower the program's greenhouse gas pollution cap by 45%, a move that will lower greenhouse gas emissions from current levels. The changes were announced in the release of a new RGGI Model Rule, which contains a number of changes to the program. The RGGI emissions cap will be reduced from 165 million tons to the 2012 emissions level of 91 million tons, and will decline 2.5% annually from 2014–2020. The states also announced a number of other changes including a new mechanism to reduce price volatility, a new program to offset emissions by increasing carbon sequestration in forests, and other changes.

The new Model Rule will be implemented through state-specific regulatory or legislative processes, with changes taking effect at the start of 2014.

A recent report by the Analysis Group, "The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States," analysis of RGGI's first two and a half years shows that the program raised over \$952 million for participating states, which was reinvested in energy efficiency and other programs generating over \$1.6 billion in economic benefits for the region. The report also finds that reinvesting RGGI allowance revenue in cost-effective energy efficiency is the most economically beneficial use of RGGI funds:

"[F]rom a strictly economic perspective, some uses of proceeds clearly deliver economic returns more readily and substantially than others. For example, RGGI-funded expenditures on energy efficiency depress regional electricity demand, power prices, and consumer payments for electricity. This benefits all consumers through downward pressure on wholesale prices, even as it particularly benefits those consumers that actually take advantage of such programs, implement energy efficiency measures, and lower both their overall energy usage and monthly energy bills. These savings stay in the pockets of electricity users directly. But there are also positive macroeconomic impacts as well: the lower energy costs flow through the economy as...increased consumer disposable income (fewer dollars spent on energy bills), lower payments to out-of-state energy suppliers, and increased local spending or savings. Consequently, there are multiple ways that investments in energy efficiency lead to positive economic impacts; this reinvestment thus stands out as the most economically beneficial use of RGGI dollars."

The full report from The Analysis Group is available from: <http://www.analysisgroup.com/RGGI.aspx>.

# REPORT ON RGGI-FUNDED ENERGY EFFICIENCY

In March 2010, the energy efficiency programs received \$3,950,152 of RGGI auction proceeds. The funds were immediately used to implement energy efficiency programs for residential, commercial & industrial, and low income customers. The RGGI proceeds represented 14.7% of all energy efficiency funding in 2010, resulting in 115,540 MWh of lifetime energy savings from 22,098 participants.

In December 2010, National Grid received \$2,633,434 of RGGI auction proceeds as part of the Innovative Energy Efficiency Programs and Partnerships that was approved by the Office of Energy Resources, the Energy Efficiency and Resource Management Council, and the Department of Environmental Management. National Grid began implementing its Innovative Programs in 2011, including a Small Business Revolving Loan Fund and a Heat Loan program for residential customers. The Small Business Revolving Loan Fund offers on-bill repayment for the customer's share of a project's costs, either over 24 months interest free or lump sum payment with a 15% discount, resulting in most customers' projects have a positive cash flow when they choose the 24 month option. The residential Heat Loan program provides 0% interest loans for weatherization and high efficiency heating systems. The primary goal of the Heat Loan is to provide affordable financing for residents who do not qualify for low income heating assistance but cannot manage the upfront costs of efficiency measures on their own. There are currently five lenders participating in the program.

In January, 2012 the energy efficiency programs also received \$4,059,555 of RGGI auction proceeds. The funds will be used to provide financing opportunities for the commercial and industrial (C&I) sector. The C&I Revolving Loan Fund was approved in 2010 by the Office of Energy Resources and Department of Administration under the 2009 RGGI Allocation Plan. Approximately half of the revenue allocated to the least cost procurement programs will be used for large C&I customers and half for small businesses.

## Small Business Revolving Loan Fund

The RGGI funds received in 2012 for small business were added to the Small Business Revolving Loan Fund that was established previously. As the funds revolve they are lent back out again and repaid via on-bill repayment.

- 673 small business loans
- Average loan amount, \$2,314 (average total project cost, \$14,250)
- Energy efficiency loans for coolers, lighting controls, occupancy sensors, lighting systems, Vendor Misers
- Projects made possible from loans will create 6,808 annual MWh and 83,844 lifetime MWh in savings
- Total dollar amount of loans, \$1,557,865

## Large Business Revolving Loan Fund

In 2012, the Large Business Revolving Loan Fund used RGGI funds to finance \$1,061,000 to 31 projects. Additionally, National Grid financed \$1.8 million from other funding sources to the Large Business Revolving Loan Fund.

- 31 large business loans
- Average loan amount, \$34,400 (average total project cost, \$56,400)
- Energy efficiency loans for lighting, variable frequency drives, custom projects, and HVAC
- Total dollar amount of loans, \$1,061,756

**Table 1. Summary of RGGI-Funded Energy Efficiency Initiatives**

<b>AUCTIONS</b>	<b>AUCTION YEAR</b>	<b>NET PROCEEDS*</b>	<b>ENERGY EFFICIENCY FUNDING</b>	<b>STATUS</b>	<b>ENERGY EFFICIENCY INCENTIVES</b>
1-5	2008-2009	\$6,581,188	\$3,950,152	Received March 2010	Rebates & incentives for all energy efficiency programs
			\$2,633,434	Received Dec. 2010	Heat Loan Small Business Revolving Loan New Homes Tier III Pilot Deep Energy Retrofit Pilot
6-10	2009-2010	\$5,043,347	\$4,034,678	Received Jan. 2012	Small Business Revolving Loan Large Commercial Revolving Loan
11-14	2011	\$2,621,091	\$2,096,873	Received by Office of Energy Resources, 2012	Undetermined

\*Net administrative allocation of the lesser of \$300,000 or 5% annually.

**Table 2: The annual revenues collected in 2012 for National Grid’s energy efficiency programs from the residential, municipal, and commercial & industrial sectors are as follows:**

	<b>ELECTRIC (\$)</b>	<b>GAS (\$)</b>
Residential	18,342,478	6,209,684
Commercial & Industrial	25,649,681	6,747,884
Municipal	726,727	191,186
<b>TOTAL</b>	<b>44,718,885</b>	<b>13,148,754</b>

National Grid’s energy efficiency programs treat Municipal customers as a subset of the Commercial & Industrial population. The Municipal contributions above are, therefore, estimates based on total revenues from the Commercial & Industrial sector. Please also note that differences between this sector funding and utility program costs are due to collection and application of other funds.

## NATIONAL GRID ENERGY EFFICIENCY JOBS STUDY

National Grid hired the New England Clean Energy Council (NECEC) Institute to conduct a study of the job impacts from National Grid’s energy efficiency programs in 2012. The study quantifies the number of workers or full time equivalent (FTE) employees in all aspects of energy efficiency in 2012, from independent contractors and plumbers to rebate processors and engineers. WAP/LIHEAP FTEs are mostly employed by the CAP agencies that deliver low income efficiency services. The study illustrates some of the economic impacts that energy efficiency has contributed to the state, including the businesses that participate in the programs. A complete list of all vendors participating in energy efficiency is included in this report on page 40.

The study’s findings were determined through interviews with certain vendors and a detailed review of all energy efficiency measures installed in homes, apartment buildings, businesses and industries throughout the state in 2012. NECEC Institute calculated the direct labor hours for each installation based on industry standards and discussions with contractor experts.

One FTE equals 1,575 work hours, or the total of one person working 7.5 hours a day for the 210 work days in an average year. This means that the number of actual workers spending at least some of their time on Rhode Island energy efficiency programs is far greater than the 528 FTEs identified.

The study fulfills General Law 39-2-1.2, which was enacted by the General Assembly in 2012. The study is available at [www.nationalgridus.com/EnergyEfficiencyReports.asp](http://www.nationalgridus.com/EnergyEfficiencyReports.asp). The study will benefit those who work in workforce development, training or those interested in the state’s green jobs.

**Table 3: Full-Time Equivalent (FTE) Employment Supported by Energy Efficiency Programs in Rhode Island in 2012**

<b>PROGRAMS</b>	<b>TOTAL FTES</b>
<b>Electric Programs</b>	
Commercial and Industrial	185.48
Residential Low-Income	20.51
Residential Non-Low Income	98.35
<b>Gas Programs</b>	
Commercial and Industrial	65.38
Residential Low-Income	14.97
Residential Non-Low Income	85.42
<b>National Grid EE Staffing</b>	35.50
<b>WAP/LIHEAP Low Income Programs</b>	23.10
<b>Total all 2012 Rhode Island FTEs</b>	<b>528.71</b>

## INCENTIVES BY TOWN

**Table 4. National Grid Natural Gas and Electric Energy Efficiency Incentives Provided to Residential, Commercial, and Industrial Customers in 2012, by Municipality**

Barrington	\$625,056.27	Newport	\$1,047,419.81
Bristol	\$848,838.75	North Kingstown	\$1,538,856.08
Burrillville	\$95,555.87	North Providence	\$452,859.34
Central Falls	\$332,519.23	North Smithfield	\$404,126.70
Charlestown	\$158,484.69	Pawtucket	\$2,548,616.26
Coventry	\$852,827.96	Portsmouth	\$478,970.47
Cranston	\$3,505,288.93	Providence	\$9,231,504.12
Cumberland	\$1,663,192.84	Richmond	\$574,769.08
East Greenwich	\$1,328,126.67	Scituate	\$219,721.82
East Providence	\$2,339,489.49	Smithfield	\$811,911.70
Exeter	\$96,933.88	South Kingstown	\$437,332.15
Foster	\$64,192.53	Tiverton	\$218,251.92
Glocester	\$121,889.50	Warren	\$294,304.72
Hopkinton	\$121,440.63	Warwick	\$4,004,461.45
Jamestown	\$91,049.76	West Greenwich	\$258,233.39
Johnston	\$1,949,732.36	West Warwick	\$914,409.56
Lincoln	\$1,146,376.46	Westerly	\$915,894.97
Little Compton	\$48,723.13	Woonsocket	\$1,327,372.87
Middletown	\$636,856.50	GRAND TOTAL	\$43,191,586.21
Narragansett	\$1,485,994.36		

# ENERGY EFFICIENCY IN RHODE ISLAND: AN ENGINE FOR ECONOMIC GROWTH

The benefits that Rhode Island will see gains from our investments in energy efficiency are large and urgently needed. ENE (Environment Northeast) conducted an independent study titled “Energy Efficiency: Engine of Economic Growth” to quantify the macroeconomic impacts of investing in all cost-effective energy efficiency and the results show significant benefits for Rhode Island.

## 2013 Energy Efficiency Program

- **Economic Benefits:** \$231 million
- **Participants:** 621,494
- **Gross State Product Impact:** \$469 million
- **Job-Years Created:** 4,100

Lower energy bills mean that people will have more money in their pockets to spend on other things, such as dining out or shopping in local businesses. This also keeps more money in the local economy rather than shipping it out of state for imported fuels. Every dollar invested in cost-effective energy efficiency will boost Rhode Island’s Gross State Product (GSP) by \$5.40 to \$7.60, and every \$1 million dollars invested will create approximately 50 new job-years of employment (one full-time job for a period of one year). Based on the macroeconomic multipliers, electric and natural gas efficiency programs in the 2012 Energy Efficiency Procurement Plan will add over \$301 million to Rhode Island’s Gross State Product and create more than 2,682 job-years of employment. When fully implemented, the 2012–2014 Energy Efficiency Procurement Plan will reach have over 1.4 million participants customer interactions, deliver \$785 million in net economic benefits, boost Gross State Product by approximately \$1.53 billion, and create 13,800 job-years of employment.<sup>1</sup>

The “Energy Efficiency: Engine of Economic Growth” report shows that increasing efficiency program investments to levels needed to capture all cost-effective electric efficiency<sup>2,3</sup> over 15 years (\$1.1 billion) would increase Rhode Island’s economic activity by \$8.7 billion (2008 dollars), as consumers spend energy bill savings in the wider economy. \$5.7 billion of the total increase in economic activity would contribute to the GSP, while \$4.9 billion would be returned to workers through increased real household income and employment equivalent to 51,000 job years. Over 15 years, increased natural

gas efficiency (\$408 million invested) would increase state economic activity by \$3.5 billion, boost GSP by \$2.3 billion, and increase household income by \$2.0 billion while creating 20,000 new job years of employment. A program designed to invest in all cost-effective efficiency measures (\$379 million) for unregulated fuels such as home heating oil and propane would increase state economic activity over 15 years by \$4.4 billion, boosting GSP by \$2.9 billion, and increasing real household income by \$2.2 billion while creating 25,000 job years of new employment.<sup>4</sup>

The effectiveness of efficiency investments can be evaluated by considering economic benefits relative to efficiency program dollars invested. The following table shows the direct and indirect economic benefits that Rhode Island could realize with increased efficiency investments in electric, natural gas, and unregulated fuels.

These benefits of efficiency derive from changes in the economy that occur as a result of increased spending on energy efficiency measures and decreased spending on energy. The majority of these impacts (77–90%) result from the energy savings realized by households and businesses. Lower energy bills cause other forms of consumer spending (such as dining out or other discretionary purchasing) to increase. Lower energy bills reduce the cost of doing business in Rhode Island, bolstering the competitiveness of Rhode Island employers and promoting additional growth.

<sup>1</sup> If one assumes that the average job duration is 8 to 10 years, the job-year results from the ENE report are consistent with the Energy Efficiency Jobs Study results described on the previous page of this report

<sup>2</sup> ENE (Environment Northeast), “Economic Efficiency: Engine for Economic Growth,” October, 2009. See: [http://www.env-ne.org/public/resources/pdf/ENE\\_EnergyEfficiencyEngineofEconomicGrowth\\_FINAL.pdf](http://www.env-ne.org/public/resources/pdf/ENE_EnergyEfficiencyEngineofEconomicGrowth_FINAL.pdf)

<sup>3</sup> “All cost-effective energy efficiency” is equivalent to “economic potential” as defined in the Opportunity Report, Phase II.

<sup>4</sup> These economic benefits result from 15 years of spending on energy efficiency measures continuing through the life of the measures installed. The economic benefits are spread over that period, but are not evenly distributed with most of the benefits occurring in the early years.

**Table 5. Summary of Rhode Island Economic Impacts**

	<b>ELECTRIC</b>	<b>NATURAL GAS</b>	<b>UNREGULATED FUELS</b>
<b>Total Efficiency Program Costs (\$Billions)*</b>	1.1	0.41	0.38
<b>Increase in GSP (\$Billions)</b>	5.7	2.3	2.9
Maximum annual GSP Increase (\$ Millions)	336	140	160
Percent of GSP Increase Resulting from Efficiency Spending	12%	11%	10%
Percent of GSP Increase Resulting from Energy Savings	88%	89%	90%
Dollars of GSP Increase per \$1 of Program Spending	5.4	5.7	7.6
<b>Increase in Employment (Job Years)</b>	51,000	20,000	25,000
Maximum annual Employment Increase (Jobs)	3,000	1,200	1,400
Percent of Employment Increase from Efficiency Spending	16%	15%	12%
Percent of Employment Increase from Energy Savings	84%	85%	88%
Job-Years per \$Million of Program Spending	49	48	65

Note: 2008 is the dollar year basis for all figures unless otherwise indicated.

\* The "Energy Efficiency: Engine for Economic Growth" and Opportunity Report, Phase II both assume an approximate investment of \$70 million per year.

# NATURAL GAS OPPORTUNITY REPORT

The General Assembly designed the 2006 Comprehensive Energy Act to maximize ratepayers' economic savings by placing a clear requirement on the distribution utility to procure all energy efficiency that is lower cost than supply. To help determine the quantity of cost-effective efficiency resources and the cost-savings to Rhode Island ratepayers, the General Assembly charged the EERMC with producing an Opportunity Report that would identify the magnitude of low cost efficiency resources existing in Rhode Island homes, businesses. The EERMC commissions, directs, and manages studies to meet these goals. The studies are used by National Grid in developing its Least Cost Procurement and System Reliability Plans, and by the EERMC proposing long-term energy savings goals consistent with the objectives and mandate of the 2006 Comprehensive Energy Act and the PUC's Standards for Energy Efficiency and System Reliability Procurement.

In 2011, the EERMC, at the suggestion of National Grid, requested assistance in developing information to inform natural gas and, to a lesser extent, deliverable fuel, energy efficiency program planning for 2013 and 2014. This report was conducted by VEIC and Optimal Energy and was completed in July, 2012.

The findings in the report are based on interviews with knowledgeable and informed individuals with experience in gas and fossil fuel technologies and energy efficiency measures, research using currently available data sources and literature, and the professional knowledge and experiences of the project team.

The report identifies and characterizes 19 technology-based energy efficiency opportunities, several of which have total market potentials in excess of 100,000 MMBTU each. The following table shows a sample of technologies and strategies identified in the report. The full Natural Gas Opportunity Report for Rhode Island can be found at [www.riermc.ri.gov](http://www.riermc.ri.gov).

**Table 6. Natural Gas Opportunity Report, selected technologies and strategies**

OPPORTUNITY	ESTIMATED TOTAL OPPORTUNITY (MMBTU)	ESTIMATED COST (\$/ANNUAL MMBTU)	SAMPLE PENETRATIONS TO REACH 2013 GOAL INCREASE	ANNUAL SAVINGS (MMBTU)
Process Steam Retrofits	361,000	9	2.5%	9,025
DCV for Kitchen Exhaust	288,199	26	2.5%	7,205
Commercial Laundry	~200,000	22	2.5%	5,000
Upstream Heating & Kitchen Program	~100,000/year	Not estimated	20%	20,000
Large Multifamily Building Initiative	493,000	Not estimated	2.5%	12,325
Additional Direct Install Measures	4,140	Not estimated	20%	828

# 2012–2014 ENERGY EFFICIENCY PROCUREMENT PLAN

The 2012 and 2013 Energy Efficiency Procurement Plans are part of a larger 3-year “2012–2014 Energy Efficiency Procurement Plan,” that was approved by the PUC on December 21, 2011. The 3-year plan supports National Grid to significantly increase investments in energy efficiency measures for homeowners and businesses when they are cheaper than supply. The plan calls for steadily expanding the depth and breadth of Rhode Island’s energy efficiency programs to reach nation-leading energy savings goals.

On July 25, 2011 the RI PUC issued a written order approving aggressive energy savings targets of 2.5% and 1.2% of 2009 electric and natural gas load, respectively, by 2014. These savings goals were developed and proposed by the EERMC in conjunction with National Grid, the Division of Public Utilities and Carriers, ENE (Environment Northeast), and The Energy Council of Rhode Island (TEC-RI). The development of these targets relied, in part, on an in-depth study commissioned by the EERMC and conducted by KEMA, Inc. which identified the potential savings from cost-effective energy efficiency in Rhode Island. The 2012–2014 Energy Efficiency Procurement Plan, approved by the PUC in December 2011, will attain these goals by delivering cost-effective energy efficiency to Rhode Islanders on a large scale. In order to meet the 2012–2014 energy savings targets, National Grid will focus on four key strategies:

- 1. Energy efficiency programs for every Rhode Islander:** Reaching every Rhode Islander by overcoming the traditional barriers that prevent homes and businesses from participating in energy efficiency.
- 2. Reaching customers where they live and work:** Making it easy for Rhode Islanders to participate in the energy efficiency programs and finding new ways to reach customers.
- 3. Innovation and new technologies:** Testing new products and technologies to determine which technologies are beneficial and cost-effective for Rhode Island customers.
- 4. Energy efficiency as a driver of economic growth:** Rhode Island’s energy efficiency programs are creating value for the state through job creation and lower customers’ energy bills. National Grid will continue job-training programs, create opportunities for qualified contractors and providers, and expand the number of qualified providers in the state.

The 2012–2014 Energy Efficiency Procurement Plan will reach have over 1.4 million customer interactions, deliver \$785 million in net economic benefits, boost Gross State Product by approximately \$1.53 billion, and create 13,800 job-years of employment. Tables 4 and 5 include the electric and natural gas program metrics for the 2012–2014 Energy Efficiency Procurement Plan.

**Table 7. 2012–2014 Energy Efficiency Procurement Plan summary, electric**

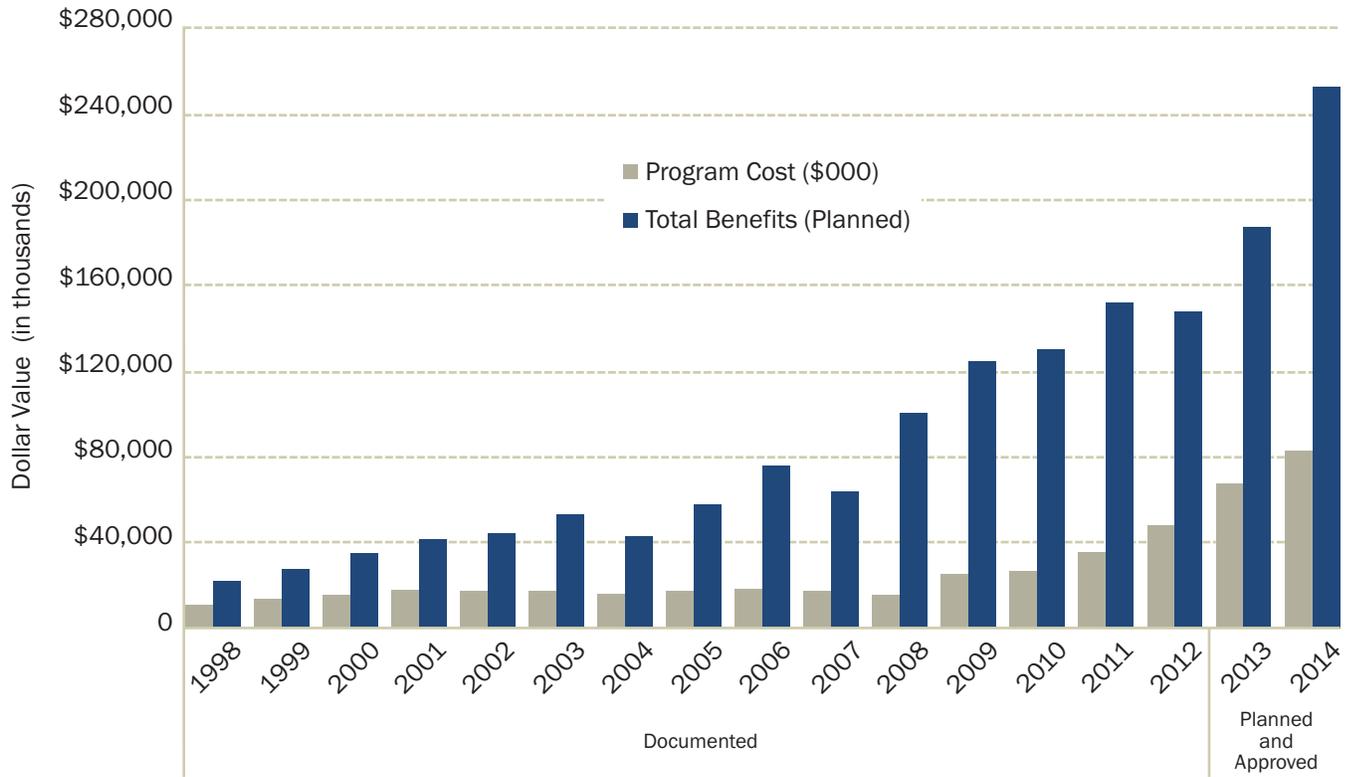
ELECTRIC PROGRAMS	2012 (DOCUMENTED)	2013 (PLANNED)	2014 (PLANNED)
Annual MWh savings	117,980	158,820	189,068
Lifetime MWh savings	1,255,066	1,582,496	1,960,550
Savings as a percent of 2009 electric load	1.7%	2.1%	2.5%
Total benefits	\$147,030,000	\$185,139,000	\$251,198,316
Total spending	\$46,710,300	\$66,305,800	\$88,236,598
Participants	202,885	476,345	560,730

**Table 8. 2012–2014 Energy Efficiency Procurement Plan summary, natural gas\***

NATURAL GAS PROGRAMS	2012 (DOCUMENTED)	2013 (PLANNED)	2014 (PLANNED)
Annual MMBtu savings	227,989	287,775	355,917
Lifetime MMBtu savings	3,263,490	3,830,689	5,526,209
Savings as a percent of 2009 gas load	0.75%	0.8%	1.0%
Total benefits	\$36,510,000	\$46,758,000	\$56,214,055
Total spending	\$12,838,500	\$18,320,000	\$22,602,890
Participants	11,372	145,150	21,671

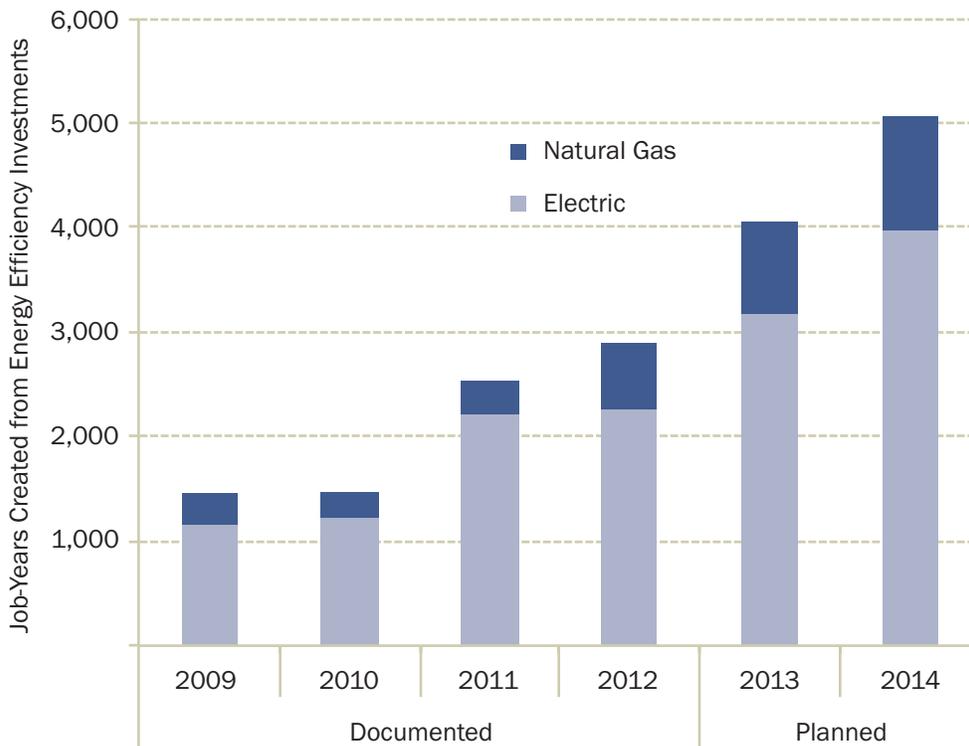
\*This participant estimate is from the 2012-2014 Three Year Plan and does not include participants from Home Energy Reports, a new program in 2013 that will continue through 2014. The anticipated participation for 2014 is now 158,146.

**Figure 1. Rhode Island Energy Efficiency Program Costs and Benefits, 1998–2014**



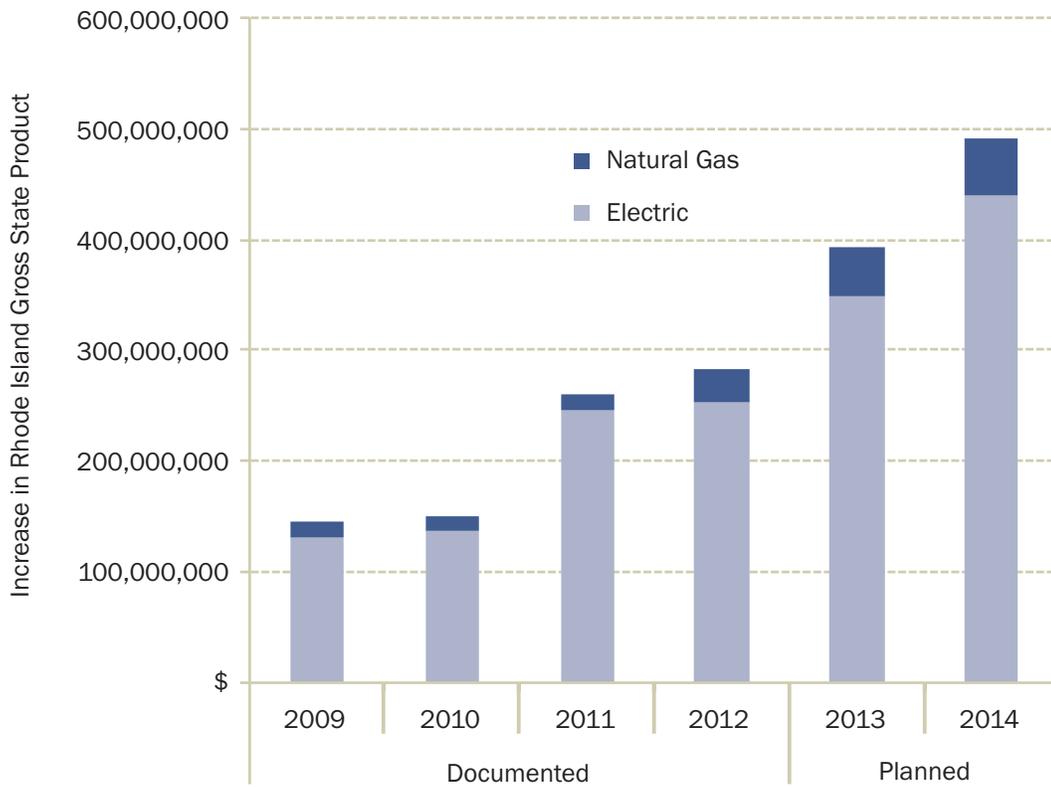
Source: National Grid

**Figure 2. Job-Years Created from Energy Efficiency Investments**



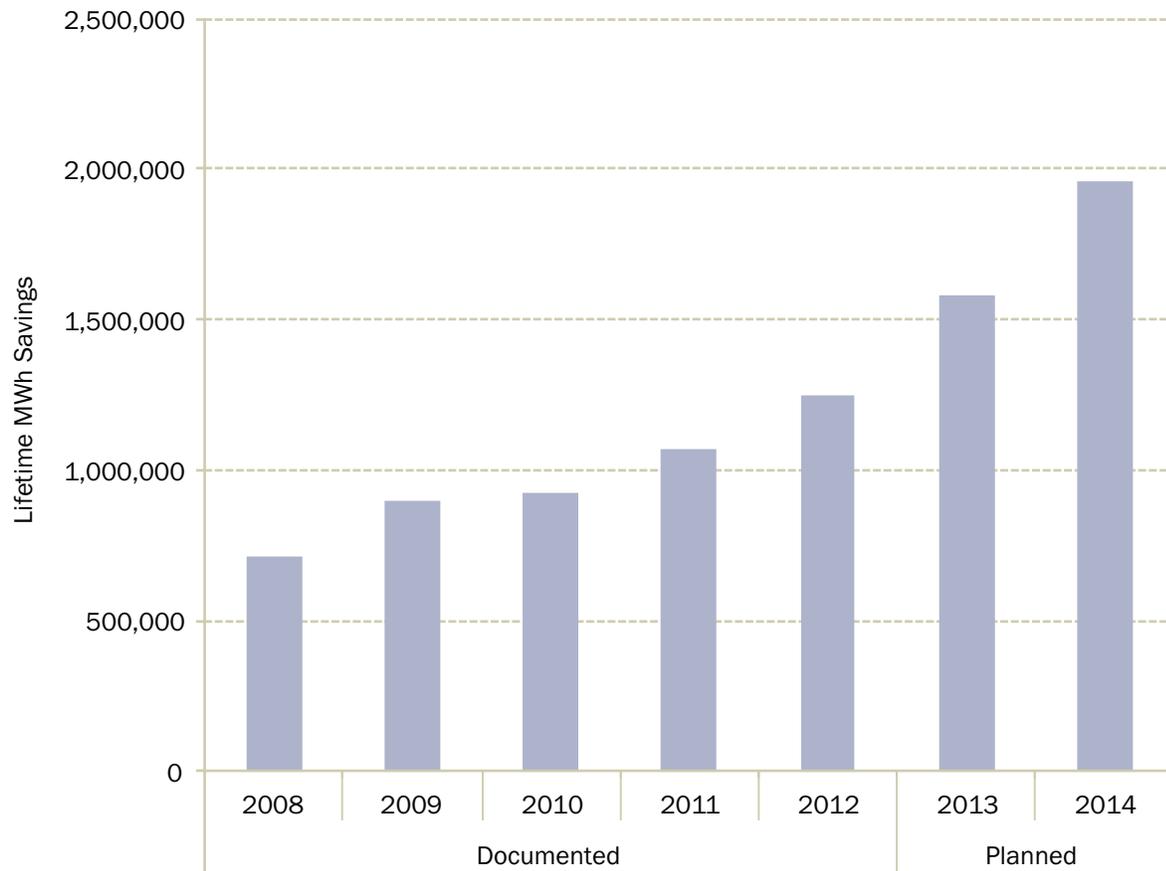
Source: ENE (Environment Northeast), 2009. Energy Efficiency: Engine of Economic Growth.

**Figure 3. Impact on RI's Gross State Product from Investing in Cost-Effective Energy Efficiency**



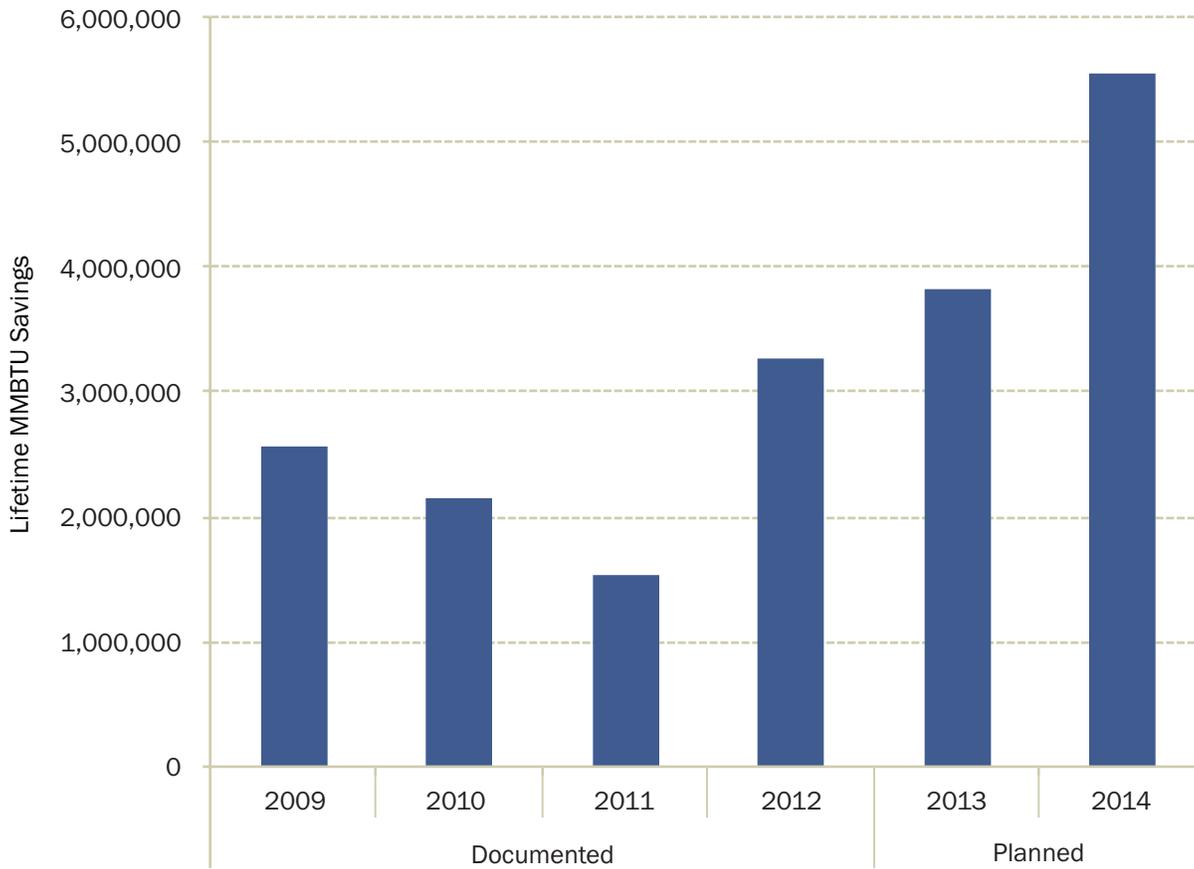
Source: ENE (Environment Northeast), 2009. Energy Efficiency: Engine of Economic Growth.

**Figure 4. Lifetime Electric Savings, 2008–2014**



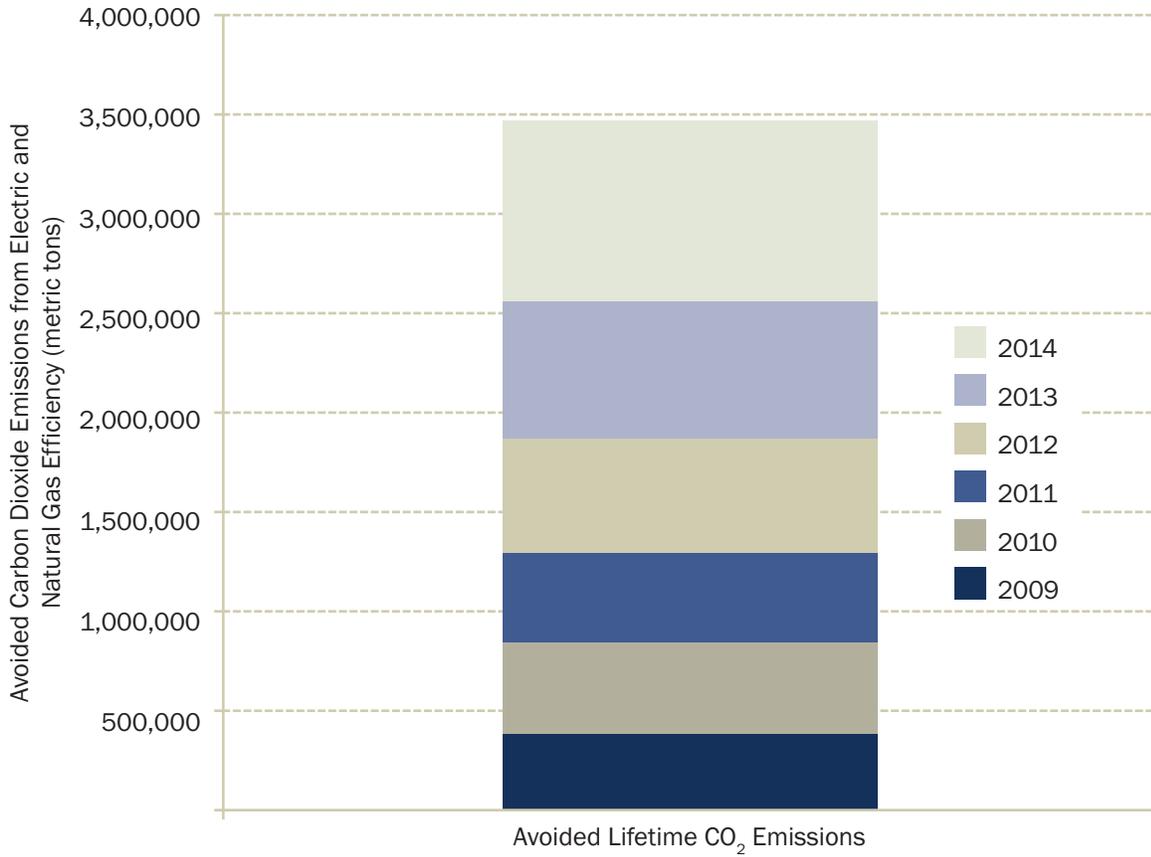
Sources: 2008 Year-End Report Docket Nos. 3790 & 3892, 2009 Year-End Report Docket No. 4000, 2010 Energy Efficiency Procurement Plan Docket No. 4116, 2010 Year End Report, RI PUC Docket No. 4116, 2011 Year End Report, RI PUC Docket No. 4209, 2012 Energy Efficiency Program Plan, RI PUC Docket No. 4295, Preliminary Quarter 4 results from 2012, 2013 Energy Efficiency Program Plan, RI PUC Docket 4366, 2012-2014 Energy Efficiency Procurement Plan, RI PUC Docket No. 4284

**Figure 5. Lifetime Natural Gas Savings, 2009–2014**



Sources: 2008 Year-End Report Docket Nos. 3790 & 3892, 2009 Year-End Report Docket No. 4000, 2010 Energy Efficiency Procurement Plan Docket No. 4116, 2010 Year End Report, RI PUC Docket No. 4116, 2011 Year End Report, RI PUC Docket No. 4209, 2012 Energy Efficiency Program Plan, RI PUC Docket No. 4295, Preliminary Quarter 4 results from 2012, 2013 Energy Efficiency Program Plan, RI PUC Docket 4366, 2012-2014 Energy Efficiency Procurement Plan, RI PUC Docket No. 4284

**Figure 6. Lifetime Greenhouse Gas Emissions Avoided from Energy Efficiency**



Sources: 2008 Year-End Report Docket Nos. 3790 & 3892, 2009 Year-End Report Docket No. 4000, 2010 Energy Efficiency Procurement Plan Docket No. 4116 and Preliminary Results from National Grid, 2011, 2011 Energy Efficiency Procurement Plan Docket No. 4209, National Grid 2012 Q4 Results, 2013 Energy Efficiency Program Plan Docket 4366, Energy Savings Targets Docket No. 4202, ISO-NE System Emissions Rate, 2011, US EPA natural gas emissions rates.

# ISO NEW ENGLAND 2013 ENERGY EFFICIENCY FORECAST

The need to incorporate the ambitious efficiency investment levels and energy savings goals being pursued by states such as Massachusetts, Rhode Island and Vermont in the regional grid operator's electricity demand forecasting and transmission planning has been a growing issue in the region. To prompt quicker action on this issue, in early 2012, the New England states and other stakeholders formally requested that ISO New England consider the impact of growing energy efficiency investments in the region.<sup>5</sup> The request stemmed largely from the fact that many New England states are aggressively increasing their energy savings goals by expanding funding for cost-effective energy efficiency programs. Specifically, stakeholders sought (i) the development of a long-term energy efficiency forecast for the region and (ii) full consideration of that forecast in the transmission planning process. Including accurate state energy efficiency goals in regional demand forecasts and long-term transmission planning is critical because dramatically increasing investments in energy efficiency can have a huge impact on sizing the transmission system properly and forecasting generation requirements.

ISO-NE established the Energy Efficiency Forecast Working Group (EEFWG) to provide on-going input into the ISO's annual energy efficiency forecast process. The EEFWG provides input on energy efficiency forecast assumptions, data inputs, model validation, and feedback on the results. Participants include state regulators, program administrators, advocates, and other stakeholders.

The energy efficiency forecast estimates reductions in energy and demand from state regulated utility energy efficiency programs in New England. The forecast model that ISO-NE uses is based on averaged, historic, production costs for energy efficiency measures (dollars per MWh saved), historic peak-to-energy (MW/MWh) ratios, and projected budgets of state-regulated energy efficiency programs, as well as ISO-NE's assumptions about future program modifications. Because forecast state program data exists in many cases only for up to three years, ISO-NE made several assumptions to extrapolate that data to their ten year forecast horizon.

The results of the 2013 Energy Efficiency Forecast shows that Rhode Island's 2022 electricity consumption (GWh) and demand (MW) will be approximately 17% and 12% lower than originally forecast, respectively. Due to Rhode Island's investment in all cost-effective energy efficiency, ISO-NE forecasts that the state will realize negative annual growth in electricity consumption from 2016–2022.

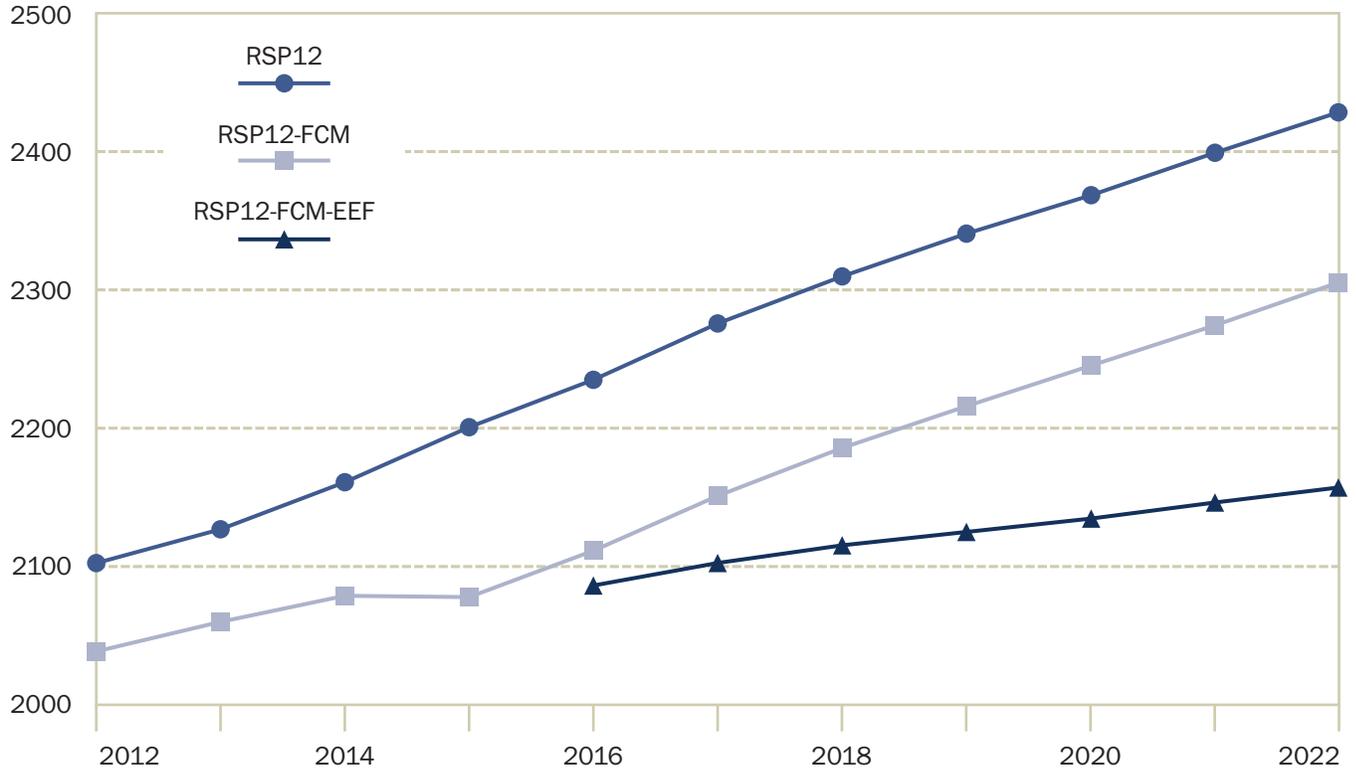
The figures that follow, from ISO-NE, show that projected electric demand (represented in circles and squares) falls to the triangle line reflecting the impact of including energy efficiency investments. The 2013 ISO-NE Energy Efficiency Forecast is available from: [http://www.iso-ne.com/committees/comm\\_wkgrps/othr/engry\\_effncy\\_frcst/2013frcst/iso\\_ne\\_final\\_ee\\_forecast\\_2016\\_2022.pdf](http://www.iso-ne.com/committees/comm_wkgrps/othr/engry_effncy_frcst/2013frcst/iso_ne_final_ee_forecast_2016_2022.pdf).

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<sup>5</sup> New England States Committee on Electricity. 2011. Comments on Draft RSP 2011 and Comments on Draft Data Request Form Version 1. Available from [http://www.nescoe.com/uploads/RSP\\_11\\_NESCOE\\_Comments\\_Final.pdf](http://www.nescoe.com/uploads/RSP_11_NESCOE_Comments_Final.pdf) and [http://www.nescoe.com/uploads/NESCOE\\_Comments\\_EE\\_Data\\_Request\\_8.23.11.pdf](http://www.nescoe.com/uploads/NESCOE_Comments_EE_Data_Request_8.23.11.pdf).

**Figure 7. ISO-NE Energy Efficiency Forecast for Summer Peak Demand (MW)**

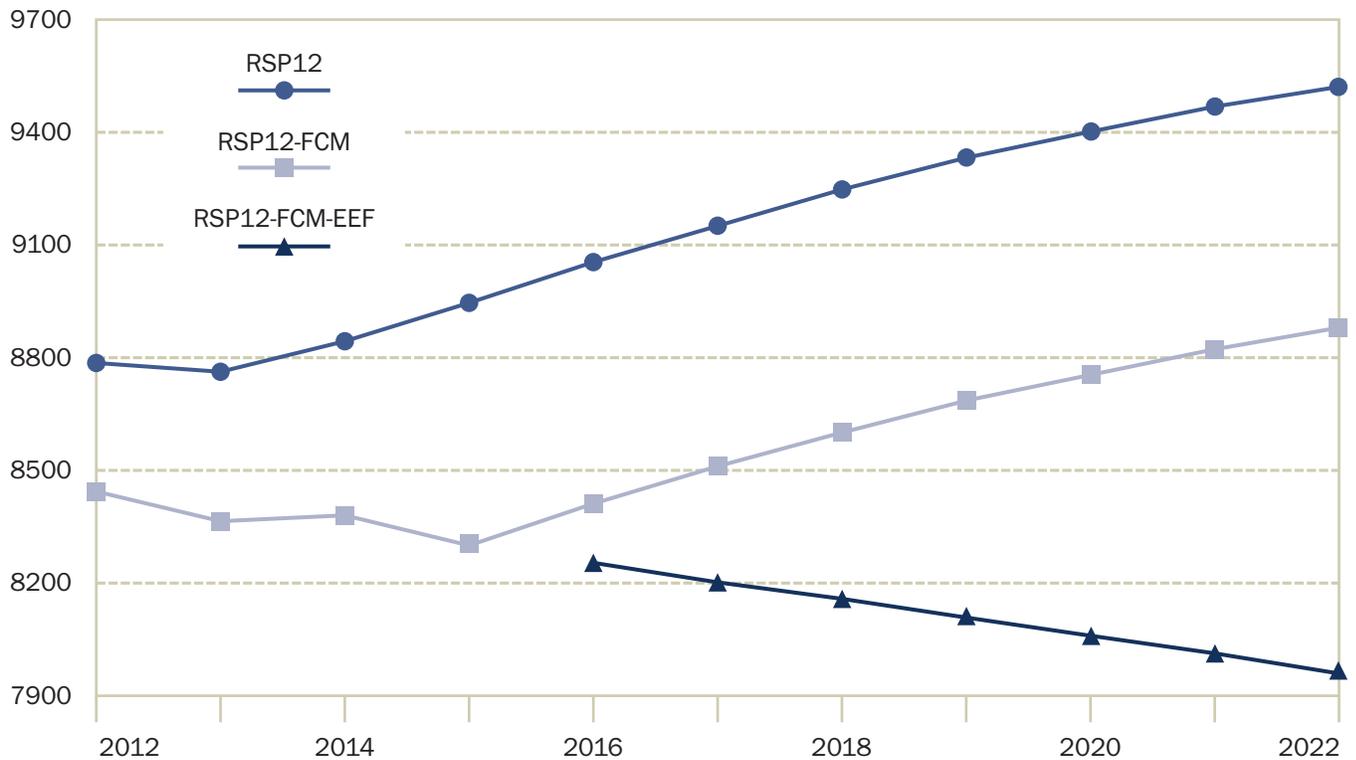
RI Summer Peak: RSP12 90/10 Forecast (MW)



Source: ISO-NE, 2013.

**Figure 8. ISO-NE Energy Efficiency Forecast for Annual Electricity Consumption (GWh)**

RI Annual Energy: RSP12 Forecast (GWh)



Source: ISO-NE, 2013.

## RHODE ISLAND PUBLIC ENERGY PARTNERSHIP

In October 2012, the Rhode Island Office of Energy Resources (OER) was awarded a 3-year competitive grant from the U.S. Department of Energy to establish the Rhode Island Public Energy Partnership (RIPEP). RIPEP is a collaborative effort among OER, National Grid, the EERMC, the University of Rhode Island, and other key state and municipal agencies with the goals of achieving deep energy savings in state and municipal facilities and building a sustained, effective infrastructure for ongoing savings.

The primary objectives of RIPEP are to (1) create a comprehensive inventory of energy consumption in the public sector; (2) implement energy efficiency measures in approximately 100 facilities and attain an average of 20% energy reduction; and (3) identify and mitigate barriers to efficiency improvements in the public sector. Initial priority will be given to water supply facilities, schools, and state buildings, followed by other municipal facilities.

The goal of this effort is explicitly to build a long-term working partnership that does not simply focus on one-time programs, analyses, and expenditures, but rather recognizes that efficiency is an ongoing part of cost-effective maintenance, improvement, and investment in high-quality buildings and facilities. As such, ongoing relationships among facilities managers, budget and finance personnel, elected and appointed officials, and National Grid are needed so that strategic investments in efficiency can continually be made over time as new opportunities arise and new technologies become viable. National Grid has developed this kind of “account management” relationship with certain large commercial and institutional customers, but it has not yet done so in its state and municipal facilities market.

The RIPEP project will give a priority to sustained, efficient management and operation of the water facilities so that savings are maintained and increased over time. The EERMC and National Grid will work with regulators to develop protocols that allow the utility to recognize savings from operational efficiency gains and from less conventional savings strategies such as leak detection and elimination. Experience gained in this effort will be applied to new segments of the public facilities market as RIPEP proceeds to address them.

RIPEP is ideally suited to providing a holistic approach to energy efficiency in public facilities because National Grid is both the electric and gas utility in Rhode Island, and is mandated to provide all cost-effective efficiency services in both the electric and gas sectors. National Grid is already well down the path of providing its efficiency services for gas and electric customers in a single, integrated set of program services. Further developing this integrated approach in the public facilities sector will both offer more comprehensive services to public facilities, and further add to the value of the partnership model being developed in Rhode Island, as an example for other jurisdictions.

RIPEP will build on National Grid’s already successful “on-bill financing” service for small commercial customers by adapting it for municipal facilities, and potentially for state facilities. As RIPEP evolves, past and current work by municipalities and state facilities with energy service companies (ESCOs) will be incorporated into and supported by the existing utility programs, so that deeper levels of savings can be attained and verified over time.

# RHODE ISLAND ENERGY EFFICIENCY FORUM

## Hosted by National Grid

On September 11, 2012, National Grid convened a “Rhode Island Energy Efficiency Forum” at the Crowne Plaza in Warwick. The goal of the workshop was to gather feedback from customers, organizations, leaders, and businesses about their experiences with energy efficiency in Rhode Island, as well as listen to their suggestions and ideas. More than 145 participants attended the workshop, which was facilitated by Rhode Island-based Lighthouse Consulting Group.

The goals for the forum included:

- Inform and educate consumers and stakeholders about energy efficiency in Rhode Island and inspire them to get involved.
- Create a forum that allows for honest and open feedback.
- Give consumers an opportunity to have a direct and immediate impact on energy efficiency in Rhode Island.
- Put stakeholders and consumers into direct contact with National Grid energy efficiency staff.

Opening remarks were by Tim Horan (President of National Grid in Rhode Island), Michael McAteer (National Grid and EERMC), Dan Justynski

(Citizen’s Bank and EERMC), and Christopher Powell (Brown University and EERMC). The speakers provided background on the policy framework for energy efficiency in Rhode Island, shared their experience of how energy efficiency translates into real cost savings, and introduced plans for 2013. For the rest of the day, participants provided written and oral feedback about energy efficiency for homes, businesses, and communities.

The recommendations from participants were used to improve energy efficiency services for Rhode Island in 2013 and future years. Recommendations included more broad-based marketing and marketing through local channels, streamlining customer service, increased energy efficiency education, workforce development, and policies for energy disclosure at time of sale. The full report from the Rhode Island Energy Efficiency Forum is available at [www.riermc.ri.gov](http://www.riermc.ri.gov).

# 2013 ENERGY EFFICIENCY PROGRAM PLAN HIGHLIGHTS



## Residential

- **Home Energy Reports:** In 2013, Home Energy Reports will be mailed to more than 200,000 customers. These reports will provide energy usage information with electric and natural gas savings tips and promote energy savings measures available through RI's energy efficiency programs. All customers will be provided easy opt-out options.
- **Improved Multifamily Initiative:** National Grid has developed a tailored approach for multifamily properties and has designated a primary point of contact to manage and coordinate energy efficiency services for multifamily buildings.
- **Home Performance Contractors Pilot:** Home Performance Contractors (HPC) are contractors that provide both energy assessments and weatherization services to customers. The benefit of an HPC for the customer is that there is interaction with the same vendor through both the initial assessment and any follow up energy saving work. Sustainable Energy Solutions has been selected for the initial HPC pilot in Rhode Island.
- **Heat Loan offers 0% financing and expands:** The Heat Loan offers 0% interest loans for weatherization and high efficiency heating systems to residential customers. Residential customers who live in one to four unit single family homes are eligible for loans of \$2,000 to \$25,000 with terms up to 7 years. The Capital Good Fund joined as a Heat Loan provider in 2012 and will focus on moderate income customers who may have difficulty acquiring loans through other providers.
- **Improving the customer experience:** In 2013, National Grid will offer a single phone number for all residential energy efficiency programs and offerings. Customers can now sign up for home energy assessments on-line, and potentially will be able to schedule assessments online in 2013.



## Commercial & Industrial

- **Market sector approach:** A 2012 study commissioned by National Grid provided insight on tailoring energy efficiency for different market sectors. In 2013, specific value propositions and offerings will be developed for the grocery sector, municipal & school buildings, data centers, manufacturers, the hospitality industry, and multifamily housing.
- **Reduction in the number of transactions:** In 2013, National Grid will work towards reducing the number of transactions required to complete an application for energy efficiency projects. There are several simple changes that significantly reduce paperwork for customers.
- **Upstream Lighting plus HVAC:** In 2012, commercial customers were able to buy MR-16, PAR20, PAR30/BR30, and PAR38/BR40 LED lamps directly from their lighting distributor. This "upstream" model was so successful that unitary HVAC and heat pumps up to 25 tons are being added. This means that customers face lower upfront costs and save administrative time.
- **Small Business Direct Install and On-Bill Financing:** Provides turnkey services to small commercial customers (< 438,000 kWh annually) consisting of: energy audits, direct installation of measures, National Grid incentive contribution of 70% of the total project cost, and on-bill repayment option for customers' share of the project cost, either over 24 months interest free or lump sum payment with a 15% discount. In 2013, this offering will be extended to large business customers.
- **Possible third-party financing:** National Grid has been developing a financing vehicle that could potentially provide small and large commercial and industrial customers access to third-party financing. The objective is to provide financing to C&I customers at loan terms of 0% interest with on-bill repayment for up to 5 years to finance the non-incentive portion of energy efficiency projects.

**Table 9. Rhode Island Energy Efficiency Program, Electric, 2008–2014**

YEAR		UTILITY PROGRAM COST	TOTAL BENEFITS	UTILITY COST PER LIFETIME KWH SAVED	TOTAL RESOURCE COST TEST RATIO	PARTICIPANTS
<b>2008</b>	Planned	\$14,933,400	\$60,341,000	\$0.032	4.0	636,748
	Documented Results	\$14,933,400	\$98,786,000	n/a	6.21	717,714
<b>2009</b>	Planned	\$22,818,299	\$117,401,800	\$0.039	3.22	932,762
	Documented Results	\$24,377,000	\$123,045,000	\$0.027	3.02	899,331
<b>2010</b>	Planned	\$28,333,300	\$160,918,000	\$0.045	4.25	890,561
	Documented Results	\$25,630,000	\$128,864,000	\$0.027	3.73	929,242
<b>2011</b>	Planned	\$45,642,700	\$178,160,000	\$0.047	2.83	1,189,306
	Documented Results	\$34,084,300	\$151,542,400	\$0.031	3.35	1,076,776
<b>2012</b>	Planned	\$55,877,000	\$184,873,000	\$0.050	2.57	1,431,379
	Preliminary Results	\$46,710,300	\$147,030,000	\$0.037		1,255,066
<b>2013</b>	Planned	\$64,814,938	\$185,139,000	\$0.049	2.27	1,582,496
<b>2014</b>	Planned	\$81,691,294	\$251,198,316	\$0.056	2.26	1,960,550
<b>TOTAL</b>	Planned 2008–2014	\$299,177,531	\$1,077,690,116			7,987,054

Sources: 2008 Year-End Report Docket Nos. 3790 & 3892, 2009 Year-End Report Docket No. 4000, 2010 Energy Efficiency Procurement Plan Docket No. 4116, 2010 Year End Report, RI PUC Docket No. 4116, 2011 Year End Report, RI PUC Docket No. 4209, 2012 Energy Efficiency Program Plan, RI PUC Docket No. 4295, Preliminary Quarter 4 results from 2012, 2013 Energy Efficiency Program Plan, RI PUC Docket 4366, 2012–2014 Energy Efficiency Procurement Plan, RI PUC Docket No. 4284

**Table 10. Rhode Island Energy Efficiency Program, Natural Gas, 2008–2014**

YEAR		UTILITY PROGRAM COST	TOTAL BENEFIT	LIFETIME ENERGY SAVINGS (MMBTU)
<b>2008</b>	Documented Results	\$6,725,000	\$69,389,700	10,026,912
<b>2009</b>	Planned	\$5,948,500	\$19,127,644	2,041,436
	Documented Results	\$6,280,100	\$26,071,000	2,558,728
<b>2010</b>	Planned	\$4,402,300	\$18,781,500	1,566,146
	Documented Results	\$5,090,400	\$26,309,000	2,155,112
<b>2011</b>	Planned	\$6,171,500	\$20,163,800	1,601,861
	Documented Results	\$4,441,400	\$18,196,000	1,623,922
<b>2012</b>	Planned	\$12,799,000	\$43,881,000	3,643,336
	Preliminary Results	\$12,838,500	\$36,510,000	3,263,490
<b>2013</b>	Planned	\$17,956,703	\$46,758,000	3,830,689
<b>2014</b>	Planned	\$21,392,323	\$56,214,055	5,526,209
<b>TOTAL</b>	Planned 2009–2014	\$73,072,626	\$223,707,499	19,775,823

2008 Year-End Report Docket Nos. 3790 & 3892, 2009 Year-End Report Docket No. 4000, 2010 Energy Efficiency Procurement Plan Docket No. 4116, 2010 Year End Report, RI PUC Docket No. 4116, 2011 Year End Report, RI PUC Docket No. 4209, 2012 Energy Efficiency Program Plan, RI PUC Docket No. 4295, Preliminary Quarter 4 results from 2012, 2013 Energy Efficiency Program Plan, RI PUC Docket 4366, 2012–2014 Energy Efficiency Procurement Plan, RI PUC Docket No. 4284

## COMBINED HEAT & POWER

A combined heat and power (CHP) facility is “equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes, through the sequential use of energy.”<sup>6</sup>

On June 21, 2012, an amendment to the Least Cost Procurement Statute, R.I.G.L. § 39-1-27.7 to support the installation and investment in clean and efficient CHP was signed into law.<sup>7</sup> The new CHP provision requires National Grid to document this support annually in its energy efficiency program plan by including a plan for identifying and recruiting qualified CHP projects, incentive levels, contract terms and guidelines, and achievable megawatt targets<sup>8</sup> In addition, the law requires that the following criteria be factored into the utility’s CHP plan: (i) economic development benefits in Rhode Island; (ii) energy and cost savings for customers; (iii) energy supply costs; (iv) greenhouse gas emissions standards and air quality benefits; and (v) system reliability benefits.

The EERMC hosted a CHP Public Meeting on September 20, 2013 at the Economic Development Corporation to engage stakeholders and solicit input on CHP. The feedback from vendors and customers was incorporated into the 2013 CHP offerings. The CHP provisions of National Grid’s 2013 Energy

Efficiency Program Plan emphasize increasing the support for qualifying efficient CHP projects, as intended by the legislation, including increasing the incentive from \$750/kW to a maximum of \$1,250/kW or 70% of project cost, subject to project efficiency characteristics and budgetary constraints. For 2013, National Grid has set a goal of two installations with a total target of 150 kW in Rhode Island and commitment to at least two additional projects for future years. A full description of offerings, incentives, and eligibility for CHP projects can be found in Attachment 2 of the 2013 Energy Efficiency Program Plan.<sup>9</sup> The plan describes:

- The process for identification and recruitment of qualified CHP projects.
- Technical assistance and scoping study services available for potential CHP projects.
- Benefit cost screening requirements.
- Incentive levels.
- Contract terms, guidelines, tariff considerations, and other considerations for large CHP projects.

<sup>6</sup> CFR Title 18, Part 292, Sub-Par A, 292.101-Definitions

<sup>7</sup> R.I.G.L. § 39-1-27.7(c)(6)(11) through (iv)

<sup>8</sup> Id at (iii)

<sup>9</sup> 2013 Energy Efficiency Program Plan is available online here: [http://www.ripuc.org/eventsactions/docket/4366-NGrid-2013-EEPP\(11-2-12\).pdf](http://www.ripuc.org/eventsactions/docket/4366-NGrid-2013-EEPP(11-2-12).pdf)

## BUILDING ENERGY CODE AND APPLIANCE STANDARDS

National Grid's 2013 Codes and Standards (C&S) Initiative will save energy on behalf of ratepayers by creating an environment that achieves the following:

- Leads to greater compliance with existing building energy codes
- Directly influences appliance standards
- Works with local governments to adopt a voluntary stretch code
- Encourages code-setting bodies to strengthen energy efficiency regulations.

This initiative will span residential and commercial buildings, new construction, and retrofits. National Grid has a long-term strategic plan for advancing these goals. In 2013, National Grid will focus on code compliance support.

The Code Compliance Enhancement Initiative will be designed to increase the ability and desire of architects, engineers, contractors, and construction managers to comply with the locally mandated building energy code and improve the ability of local building officials to enforce the code. Recently completed studies commissioned by National Grid and co-funded by the State of Rhode Island highlight the importance of energy code compliance assistance. For example, the study of commercial buildings finds that for vintage 2008–2011 buildings,

commercial and industrial new construction was 70% compliant with the energy code. In other words, 30% of commercial energy savings are being lost.

Based on the findings of the code compliance studies, National Grid will undertake the following tasks as part of the 2013 Energy Efficiency Program Plan:

- Provide classroom-style and web-based trainings for the residential and commercial design, construction, and enforcement industries.
- Support at least 5 technical consultants to support building department staff in each Rhode Island county. The goal of these “circuit riders” will be to clarify any confusion or misunderstanding that building design and construction professionals may have about energy codes, and to support their efforts to better understand and execute code compliant building designs.
- Support the development and implementation of training for third-party energy specialists for residential and commercial buildings.
- Develop and support consistent documentation tools such as builder manuals, software tools, checklists, and code check protocols for adoption by jurisdictions as a means of code compliance enhancement.

## 2013 SYSTEM RELIABILITY PROCUREMENT PLAN

Rhode Island's 2006 energy law contains an important and innovative requirement as part of its overarching least cost procurement mandate. RI utilities are required to develop an electric “system reliability plan” that strategically considers an array of customer-sited energy resources to maximize their benefit to RI's energy system. These “non-wires alternatives” (NWA) include cost-effective energy efficiency measures targeted to reduce peak loads; distributed generation at or near loads; and demand response measures that reduce the peak loads on the electricity grid. These strategies would be combined with actions that can squeeze more out of the existing distribution system. The utility is asked to assess whether an array of such resources could be deployed to avoid dirtier “peaking” generators and enable the utility to defer expensive distribution (and potentially transmission) system investments. Deferring distribution system investments could provide savings over time for customers and could lower the volatility and cost

uncertainty of the larger energy and capacity markets in New England by securing sources of energy supply and capacity from in-state resources.

In 2010 and 2011, the Council and National Grid developed a process for revising the system reliability procurement standards and a framework for considering NWAs as possible solutions to planning and reliability issues. The Council's objective is to establish a procedure and funding options for systematically identifying customer-side and distributed resources that, if cost-effective, defer or avoid distribution and transmission upgrades, improve system reliability, and provide for better utilization of distributed resources.

On July 25, 2011 the PUC approved revised System Reliability Procurement Standards. The revised Standards establish a process that enables an objective assessment of the alternatives as the Company integrates the analysis of non-

wires alternatives into distribution planning, as required by R.I.G.L. § 39-1-27.7.

On December 18, 2012, the PUC approved the National Grid's 2013 System Reliability Procurement Plan ("SRP Plan"), which continues and builds upon work started in the summer of 2012. The 2013 SRP Plan is designed to defer the need for a new substation feeder in the Tiverton/Little Compton region until at least 2017. The pilot project proposes to conduct a targeted demand reduction program that will reduce the strain on the grid from customer air conditioning, lighting, and other targeted energy efficiency measures; if the pilot is successful in providing sustained load relief over its planned lifecycle and enrolling 1 megawatt (MW) of load relief by the end of 2017, it will result in deferred construction of a new substation feeder estimated to cost \$2.9 million until at least 2018.

Deferring the new feeder through the use of energy efficiency and demand response allows the utility to better utilize its capital and construction resources and provides for a more effective use of the distribution system. It is possible that the new feeder may be avoided altogether if localized load patterns change in significant and unanticipated ways.

Implementation of the pilot program began in March, 2012. National Grid employed a marketing campaign specifically targeted to customers who had previously had home energy assessments or were identified as having historically high summer usage. Beginning in June, 2012, National Grid began installing communicating technologies in participants' homes. These devices help customers manage their summer peak energy usage. One of the lessons learned in 2012 is that the saturation of central air conditioning in the Tiverton/Little Compton area is lower than expected (20% vs. an estimated 32%), and that

there is a relatively higher saturation of window air conditioners. This information was used to modify the pilot program to include recycling and rebate options for inefficient window air conditioners.

It is expected that the 2013 SRP investments will create combined annual summer demand savings of 161 kW and combined lifetime demand savings of 1,914 kW for the residential and commercial and industrial sectors in the Tiverton/Little Compton area. Additionally, in 2013, the pilot will create combined annual energy savings of 500 MWh and combined lifetime energy savings of 5,512 MWh in the same area. In 2013, the pilot will create \$1.33 of economic benefits for every \$1 invested. Overall, the pilot in 2013 will generate economic benefits of more than \$973,000 over the life of the measures.

### **2013 System Reliability Plan Summary**

- Objective: Defer construction of a \$2.9 million feeder in Tiverton/Little Compton through the use of targeted energy efficiency and demand response.
- The need is approximately 1 MW of load relief by 2017.
- Annual electricity consumption is increasing by 1.1%–1.4% in Little Compton and Tiverton, and 2012 summer peak demand was 5.8% and 5.4% higher in those towns than in 2011.
- The 6-year Total Resource Cost Test ratio is 1.46. For every \$1 invested, customers will save \$1.46. The ratio will increase if the feeder is deferred for more than 4 years.
- The project is forecasted to provide cumulative lifetime energy savings of 28,631 MWh and peak capacity savings of 1,420 kW in 2018.

## POLICY RECOMMENDATIONS

R.I.G.L. § 42-140.1-5 requires that the EERMC: “Submit to the joint committee on energy an annual report on/or before April 15 of each year, commencing in 2008, regarding the activities of the Council, its assessment of energy issues, the status of system reliability, energy efficiency and conservation procurement and its *recommendations regarding any improvements which might be necessary or desirable.*”

Section 1.4B of the Energy Efficiency Procurement Standards requires that the EERMC: “submit to the joint committee on energy an annual report on April 15 *which includes a review of the effectiveness of any performance incentive approved by the PUC in achieving the objectives of efficient and cost-effective procurement of all efficiency resources lower cost than supply and the level of its success in mitigating the cost of variability of electric service by reducing customer usage.*”

The EERMC has submitted policy recommendations in each of its Annual Reports to the Legislature.

The EERMC submits the following recommendations as part of its 2012 Annual Report:

### Policy Recommendations:

**Expand Financing for Energy Efficiency:** The EERMC strongly recommends that in 2013 a concerted effort to develop a full range of financing options supporting and leveraging aggressive energy efficiency investment in Rhode Island be investigated, developed and deployed. These strategies should provide consistent access to affordable capital for customers who own and/or use a wide range of building types throughout the Rhode Island economy. The EERMC, working with OER, National Grid, and other public and private sector entities should develop innovative partnerships that effectively leverage and enhance the legislatively mandated Least Cost Procurement investments made on behalf of Rhode Island consumers by National Grid and other participants in Rhode Island’s energy efficiency industry. Initiatives should include but not be limited to:

1. The EERMC recommends that Rhode Island legislatively authorize the development of a residential Property Assessed Clean Energy (PACE) program to facilitate integrated electric efficiency, thermal efficiency and renewable energy investments by RI residents. The EERMC recommends that the OER be designated to provide coordination and implementation support to Rhode Island communities as they adopt PACE programs authorized by such legislation. The EERMC should

play an active role in supporting the passage and reviewing the implementation of residential PACE.

2. The EERMC strongly recommends that National Grid develop new financing resources for large private sector Commercial and Industrial customers in Rhode Island, as it has committed to do in its 2013 Annual Plan. This is the only sector for which a substantive defined financing program has not been implemented. This is a sector that employs many Rhode Islanders and that contributes large sums of money to the energy efficiency program budgets through the electric and gas System Benefit Charges. If such resources are not in place by July 1st of 2013, the EERMC and other state agencies in Rhode Island should work aggressively with National Grid to help develop a strong financing capability for these customers through other channels such as a revolving loan fund.
3. The EERMC recognizes that National Grid is providing innovative financing strategies already in some of its programs, and will work to support their expansion.
4. During 2013, the OER and the EERMC, in cooperation with National Grid should review the adoption and implementation of commercial Property Assessed Clean Energy Programs (Commercial PACE) in adjoining states, and in other jurisdictions nationally and evaluate their appropriateness for and applicability to Rhode Island’s Least Cost Procurement efforts.

**Adopt Labeling and Disclosure Strategies for Buildings:** The EERMC recommends that the General Assembly and OER work to establish and support disclosure strategies for homes and businesses and benchmarking requirements for public buildings and facilities. Much good work on this front is already under way in connection with the DOE-funded RI Public Energy Partnership effort.

There is a good deal of interest in rating and labeling existing buildings in the U.S., following more than a decade of experience in Europe and the rest of the world. Most of these efforts to make visible the energy performance of buildings in the U.S. have been focused on commercial, multifamily and government buildings. At this time, six cities and two states have rating and disclosure policies in place.<sup>10</sup> Most of these jurisdictions utilize the EPA/DOE Portfolio

<sup>10</sup> [http://www.buildingrating.org/sites/default/files/documents/Commercial\\_Benchmarking\\_Policy\\_Matrix.pdf](http://www.buildingrating.org/sites/default/files/documents/Commercial_Benchmarking_Policy_Matrix.pdf)

Manager to benchmark these buildings. For residential buildings, three cities and five states have some sort of energy disclosure policy.<sup>11</sup> While most of these require a checklist or utility data, there is good deal of work currently underway throughout the U.S. to develop and pilot voluntary building energy rating and labeling systems to allow sellers of ungraded homes to demonstrate the value of their homes or buyers to understand what they will be getting into. The U.S. DOE has developed and is piloting a national rating and labeling system for homes with about 25 partners around the country.<sup>12</sup> At the same time, a number of other rating and labeling systems are being developed and piloted, including an effort in Springfield, Massachusetts and initiatives underway in Connecticut and Vermont in the Northeast.<sup>13</sup>

### **Important EERMC Principles:**

**Use RGGI funds to provide benefits to Rhode Island consumers:** o ensure that Rhode Island consumers realize the benefits of the RGGI program, the EERMC recommends that the Office of Energy Resources continue to direct RGGI proceeds to investments that will provide significant benefit to Rhode Island ratepayers. OER should accomplish this through supporting least cost procurement directly; through investments in innovative strategies that support LCP over the long term; and through strategies specifically designed to advance market-based approaches to EE and RE development.

**Improve Efficiency for Unregulated Fuels:** The EERMC commits itself to continue working with the General Assembly, fuel oil dealers, and other stakeholders to establish a sustainably funded efficiency program offering for consumers who heat with oil, kerosene, or propane. While National Grid's single-family program continues to provide some incentives to weatherize delivered-fuel heated homes, a fuller, more sustainable allocation is required to offer incentive amounts equal to those customers with electric or natural gas heat.

**Support coordination of efficiency services for economically vulnerable Rhode Island consumers:** The EERMC intends to build on activities started in 2012 to support synergies and leveraging of efforts in this time of dwindling funds with the multiple private, public and non-profit entities that remain firmly committed to meeting housing affordability challenges in Rhode Island. While energy is a key component of affordable housing, issues related to health and safety also impact affordability. Tremendous opportunity lies in leveraging funds, and then coordinating and synchronizing housing interventions to address energy, health and safety in a comprehensive package.

Rhode Island has already demonstrated success in aligning efforts through Green & Healthy Homes Initiative Providence: Neighborhood Innovation Pilot. Through sustained focus on supporting these joint efforts, additional success in expanding the implementation of enhancements to the affordable housing stock will be achieved. The Council will also advise the Assembly, the OER and other state agencies to help maximize coordination, design and delivery of comprehensive service models to meet the needs of this sector.

### **Comments on Utility Performance Incentive**

In National Grid's filed and approved 2013 Energy Efficiency Program Plan, a significant change was made to the company's Performance Incentive that will provide enhanced motivation for National Grid to attain savings levels near of above 100% of planned goals. This is accomplished by raising the level at which the company begins to earn any incentive from the previous 60% to 75% of the target, and makes the percentage of the available incentive earned higher for performance approaching and exceeding 100% of goals.

### **Comments on Success in Mitigating Cost Variability:**

Cost effective least cost procurement continues to reduce energy consumption as documented in the EERMC's cost- effectiveness review memo, filed on November 15, 2012.

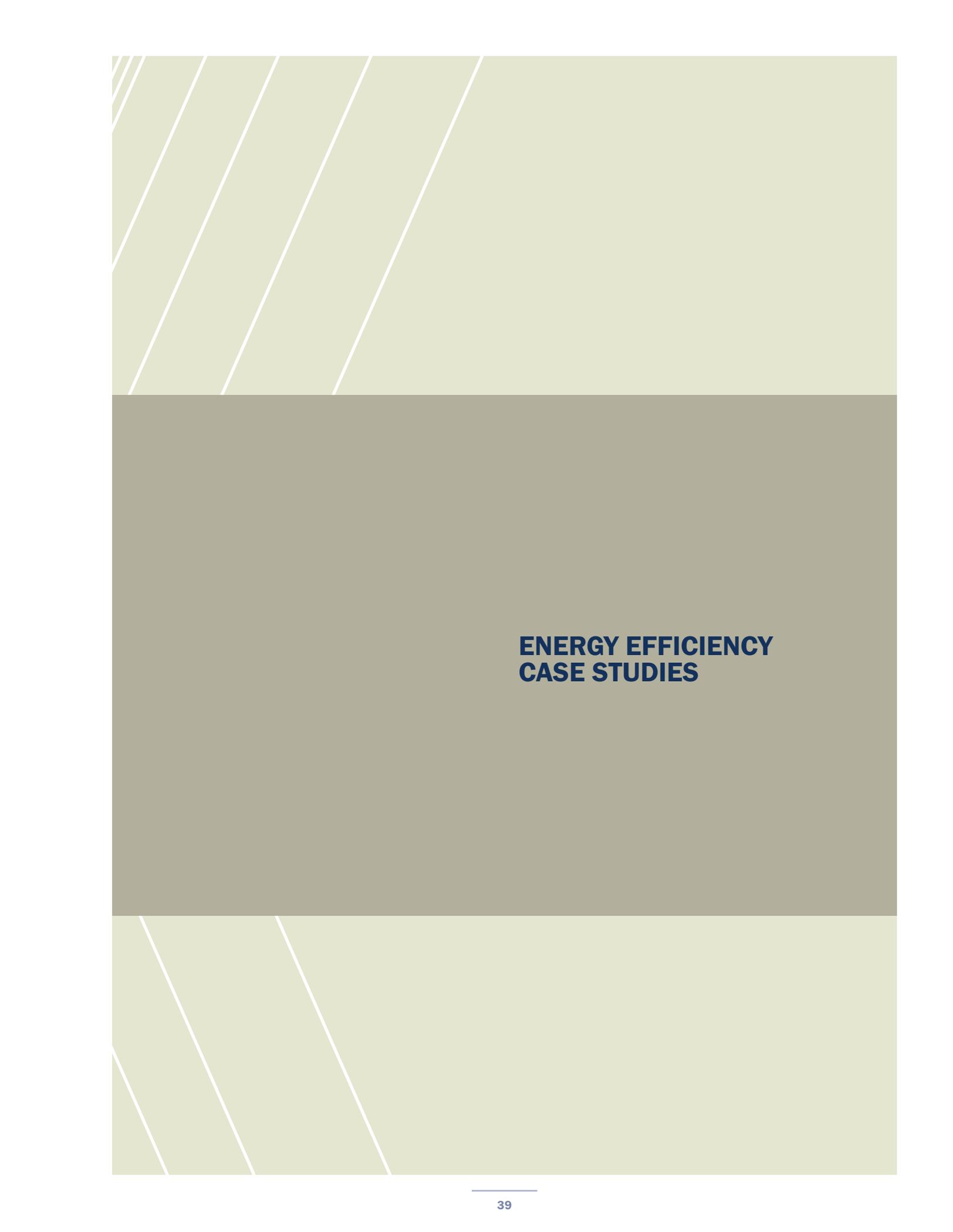
The regional avoided cost study has identified demand reduction induced price effects as a value created by energy efficiency programs. These price effects are the reduction of electric prices through structural changes in the supply market over time as a result of the introduction of energy efficiency and consequent reduction in demand.

To further the objectives of cost-effective procurement of energy efficiency, the EERMC is supporting an analysis of rate and bill impacts from energy efficiency being conducted by the Division of Public Utilities and Carriers. A summary of the findings of this report will be included in next year's Annual Report.

<sup>11</sup> [http://www.buildingrating.org/sites/default/files/documents/Residential\\_Benchmarking\\_Policy\\_Matrix.pdf](http://www.buildingrating.org/sites/default/files/documents/Residential_Benchmarking_Policy_Matrix.pdf)

<sup>12</sup> [http://www1.eere.energy.gov/buildings/residential/hes\\_index.html](http://www1.eere.energy.gov/buildings/residential/hes_index.html)

<sup>13</sup> [http://www1.eere.energy.gov/buildings/betterbuildings/neighborhoods/massachusetts\\_sep\\_profile.html](http://www1.eere.energy.gov/buildings/betterbuildings/neighborhoods/massachusetts_sep_profile.html)



## **ENERGY EFFICIENCY CASE STUDIES**

# EnergyWise Program

## Single Family Home — North Providence, Rhode Island



Everyone was on time, knowledgeable, and polite. The work was well done and improved the efficiency, comfort, and quality of my home.”

- Mary Hoffman, Homeowner

Mary Hoffman had an in-home energy assessment completed at her Ranch style home located in North Providence, RI. The home has 1,350 square feet of living space. Upon completion of the work, Mary received over \$1,900 in incentives and rebates towards the energy efficiency improvements made in her home.

### Project Summary

- ◆ Air Sealing
- ◆ Insulation
- ◆ CFLs

### Savings Summary

**The Need** – Improve efficiency and reduce utility costs.

**The Solution** – Installed insulation, CFL light bulbs, and sealed air leaks throughout the home with the help of rebates and incentives from National Grid.

Project Cost	\$2,280.99
National Grid Incentive	\$1,903.19
Cost to Customer:	\$377.80
Annual Cost Savings:	\$229.51

As a National Grid customer, you may be eligible for a Home Energy Assessment, at no cost to you. The assessment will measure your home's energy efficiency and put you on the path to reducing costs and saving big on home energy improvements.

You'll receive a visit from an Energy Specialist who will:

- ◆ evaluate your home's energy use, from detecting air leakage to checking insulation levels and heating systems
- ◆ provide you with a personalized summary of energy-saving recommendations
- ◆ discuss available rebates and incentives such as 25% or 75%, up to a maximum of \$2750 depending on your fuel type, for the cost of insulation and air sealing improvements

# EnergyWise Program

## Single Family Home — Cranston, Rhode Island



**You were all cheerleaders for energy savings! From the Energy Specialist who taught me things about my home that I didn't know, to the courteous, on-time installers, to the enthusiastic final inspector. My heating and electric bills were astronomical, almost unaffordable. I'm really happy I called National Grid for their EnergyWise program.**

- Cheryl Carbone, Homeowner

Cheryl Carbone had an energy assessment completed at her Colonial style home, which was built in the 1980s. The Energy Specialist found that the home could benefit from additional attic insulation, duct sealing, and air sealing. Upon completion of the work Cheryl received a rebate of \$2,750 towards the cost of these energy efficiency improvements. In addition, she received replacement CFLs at no cost.

### Project Summary

- ◆ Duct Sealing
- ◆ Air Sealing
- ◆ Insulation
- ◆ CFLs

### Savings Summary

**The Need** – Improve efficiency and reduce utility costs.

**The Solution** – Installed insulation, CFL light bulbs, and sealed air leaks throughout the home with the help of rebates and incentives from National Grid.

Project Cost	\$3,253.90
National Grid Incentive	\$2,750.00
Annual kWh Savings	3,173 kWh
Annual Therm Savings	266 therms
Annual Cost Savings	\$892.76 (Electric & Gas)

As a National Grid customer, you may be eligible for a Home Energy Assessment, at no cost to you. The assessment will measure your home's energy efficiency and put you on the path to reducing costs and saving big on home energy improvements.

You'll receive a visit from an Energy Specialist who will:

- ◆ evaluate your home's energy use, from detecting air leakage to checking insulation levels and heating systems
- ◆ provide you with a personalized summary of energy-saving recommendations
- ◆ discuss available rebates and incentives such as 25% or 75%, up to a maximum of \$2750 depending on your fuel type, for the cost of insulation and air sealing improvements

## ENERGY EFFICIENCY VENDORS IN 2012

The following are businesses that delivered a wide range of services for the 2012 Energy Efficiency programs. It includes program implementation as well as the plumbers, contractors, or sub-contractors who installed equipment where a customer received a rebate. It also includes businesses that provided a wide range of program administration services such as marketing, engineering, evaluation, education outreach or rebate processing.

A and C Burner Service HVAC, East Providence, RI  
A Plus Electric, Warwick, RI  
A&M Compressed Air Products, Uxbridge, MA  
A&P Fire Systems, East Providence, RI  
A. Perry Plumbing and Heating, Coventry, RI  
Abline Oil Service, Cranston, RI  
Acme Electric, North Providence, RI  
"ACTION, Inc.," Fall River, MA  
Advanced Comfort Systems, North Smithfield, RI  
Advantage Weatherization, Quincy, MA  
AECOM, Providence, RI  
Aero Mechanical, Johnston, RI  
Affordable Heating, North Providence, RI  
Affordable Insulation, Pawtucket, RI  
AH Robert Plumbing and Heating, Warwick, RI  
Air Conditioning Systems of New England, Cranston, RI  
Air Energy, South Easton, MA  
Air Flow, Coventry, RI  
Air Synergy, Providence, RI  
AI and Sons Construction Company, Warwick, RI  
Aladdin Electric, Johnston, RI  
Aldanti and Son Plumbing, Glocester, RI  
All Energy Services LLC, Pawtucket, RI  
All in One Plumbing & Heating, Scituate, RI  
All Seasons Heating and Air, Johnston, RI  
All Temps Mechanical LLC, Warwick, RI  
Alliance Plumbing and Heating, Cumberland, RI  
Alliance to Save Energy, Washington, DC  
Allied Electrical Group, Providence, RI  
Allied Plumbing and Heating, North Providence, RI  
Almedia Plumbing and Heating, Smithfield, RI  
Alpha Mechanical, East Providence, RI  
Alternative Creative Energy & HVAC, Blackstone, MA  
Ameresco, Framingham, MA  
American Council for an Energy-Efficient Economy, Washington, DC  
American Development Institute, Warwick, RI  
American Energy Solutions, Leawood, KS  
American Green Building Services, Dedham, MA  
American Plumbing & Heating, North Providence, RI  
American Refrigeration Company, Andover, MA  
Amerlux LLC, Fairfield, NJ  
Amos House, Providence, RI  
Anchor Plumbing and Heating Company, Providence, RI  
Andelman and Lelek Engineering, Norwood, MA  
Anderson Mechanical LLC, North Grafton, MA  
Andreozzi Associates, East Providence, RI  
Andrew White, Coventry, RI

Anthony F. Vieira III Heating and Air Conditioning, Attleboro, MA  
Any Time Plumbing, Harrisville, RI  
Applied Energy Engineering & Commissioning, Manchester, MA  
Applied Proactive Technologies, Springfield, MA  
AR Heating and Cooling, Providence, RI  
Arden Engineering, Pawtucket, RI  
Ardente Supply Company, Woonsocket, RI  
Armor Plumbing, Exeter, RI  
Arthur Desautels, West Greenwich, RI  
Arthur DiPetrillo Plumbing and Heating, Johnston, RI  
Arthur Lettieri, Providence, RI  
Aten Energy Conservation LLC, Swansea, MA  
Atlantic Refrigeration of Hudson, Hudson, MA  
Atlantic Supply LLC, Coventry, RI  
Atlantis Comfort Systems Corp, Smithfield, RI  
Atlas Copco, Johnston, RI  
Autiello Plumbing and Heating, Cranston, RI  
Automatic Heating Equipment, Providence, RI  
Automatic Temperature Control, Cranston, RI  
Aztec Energy Partners, Braintree, MA  
B and B Plumbing, Warwick, RI  
B2Q Associates, North Andover, MA  
Barlow Heating LLC, Warwick, RI  
Bay Coast Bank, Swansea, MA  
Bay Plumbing, North Kingstown, RI  
Beacon Mechanical, Glocester, RI  
Beam Electric, Coventry, RI  
Beauchemin Designs, North Providence, RI  
Bell and Piasczyk Plumbing and Heating, Narragansett, RI  
Beneficial Energy Products CO, Pawtucket, RI  
Berard Heating and Plumbing, Warwick, RI  
Bermudez Plumbing, Pawtucket, RI  
Berubes Plumbing Heating and Remodeling, Somerset, MA  
Besco Electric, Woonsocket, RI  
Biello Electric, Fall River, MA  
Big Dog Plumbing and Heating, Hopkinton, RI  
Bill Ellis Plumbing and Heating, West Kingstown, RI  
Bill Gardnier Plumbing and Heating LLC, East Providence, RI  
Bill Linehann, Warwick, RI  
Blackstone Valley Community Action Program, Pawtucket, RI  
Bluestone Energy Services Ltd, Norwell, MA  
Bob Larisas Plumbing and Heating, Barrington, RI  
Bodell Plumbing and Heating, South Kingstown, RI  
Boss Heating, Westerly, RI  
Boston Light Source, Boston, MA  
Bousquet Oil, Woonsocket, RI  
Braswell's Plumbing & Heating, North Kingstown, RI  
Brennan Oil DBA Energy & Mech, North Providence, RI  
Briarwood Meadows, East Greenwich, RI  
Briggs Mechanical, North Attleboro, MA  
Bristol Aluminum & Vinyl, Bristol, RI  
Bristol County Plumbing & Heating, Bristol, RI  
BriteSwitch LLC, Princeton, NJ  
Bruin Corporation of Attleboro, North Attleboro, MA  
Bruno & Son Electric, Providence, RI  
Bryant University, Smithfield, RI  
BT Ins, Santa Clara, CA  
Buckley and Son Fuel, Johnston, RI

Buckley Heating & Cooling, South Kingstown, RI  
 Building Science Corporation, Westford, MA  
 Burbank's Plumbing & Heating, North Kingstown, RI  
 Buro Happold Consulting Engineers PC, New York, NY  
 Butler Property Services, Providence, RI  
 C & K Electric Company, Providence, RI  
 C W Cummings Plumbing CO, Coventry, RI  
 Cal Supply Company, Cranston, RI  
 Callahan, Bridgewater, MA  
 CAM HVAC & Construction, Smithfield, RI  
 Canal Electric, Johnston, RI  
 Capitol Plumbing and Heating, Cumberland, RI  
 Carbone Plumbing and Heating, Cranston, RI  
 Carjon AC and Heating, Smithfield, RI  
 Carl Pecchia Heating Cont. LLC, Warwick, RI  
 Carrier, Canton, MA  
 Carter Bros. , Burrillville, RI  
 Carter Events Plus, Hampton, NH  
 Cassana HVAC LLC, Cranston, RI  
 Castle Construction, Johnston, RI  
 Cavaco Brothers Plumbing and Heating, East Providence, RI  
 CCAP Heating Service, Cranston, RI  
 CD Heating, Cranston, RI  
 Central Street Contractor, Central Falls, RI  
 Century Heating, Smithfield, RI  
 CGI Technologies & Solutions, Montreal, QC  
 Charland Enterprises, Pawtucket, RI  
 Charlies Heating LLC, North Kingstown, RI  
 Chaves Plumbing & Heating, Middletown, RI  
 Cheaper Sweepers, Warwick, RI  
 Chet's Welding, Uxbridge, MA  
 Cipriano Plumbing and Heating, South Kingstown, RI  
 Classic Sheet Metal, Swansea, MA  
 Climate Air, Providence, RI  
 Coastal Electric, Newport, RI  
 Cola Plumbing and Heating, North Kingstown, RI  
 Coldmasters, Providence, RI  
 Comfort Systems, West Kingston, RI  
 Commercial Electric, Cleveland, OH  
 Commercial Heating Service and Sale, Cumberland, RI  
 Competitive Resources, Yalesville, CT  
 Comprehensive Community Action Program, Cranston, RI  
 Compressed Air Technologies, Monroe, OH  
 Conservation Services Group, Westborough, MA  
 Consolidated Marketing Services, Burlington, MA  
 Consortium for Energy Efficiency, Boston, MA  
 Continental Engineering, Johnston, RI  
 Contractor Arthur Desautels, West Greenwich, RI  
 Corey Lane DBA A-All Services, Providence, RI  
 CPS Electric, Marlborough, MA  
 Cross Insulation, Cumberland, RI  
 Crystal Plumbing and Heating, Providence, RI  
 CSV Mechanical, South Kingstown, RI  
 Cummings Plumbing Co, Coventry, RI  
 Cutter Enterprises LLC, Tolland, CT  
 D and J Plumbing and Heating, Charlestown, RI  
 D and V Mechanical, Westerly, RI  
 D&D Metal Works, Cranston, RI  
 Dagher Consulting, Lexington, MA  
 Dave Parillo Plumbing and Heating, Cranston, RI  
 David Garrahan DBA Pipe Fixer, Coventry, RI  
 David Iannucci, Providence, RI  
 David Parnes Photography, Concord, MA  
 DBA Marciano Electric, West Warwick, RI  
 DDL Energy, New London, CT  
 Delektra Plg and Htg Co, Warren, RI  
 Delta Electric, Medford, MA  
 Delfufo and Sons Plumbing and Heating Co, West Greenwich, RI  
 DFS Plumbing Services, West Greenwich, RI  
 Dimezza Const, Warwick, RI  
 Dionne and Sons Piping Dynamics Ltd, Coventry, RI  
 Dirocco Plumbing Services LLC., North Providence, RI  
 DMI, Needham, MA  
 Don Dalpe Plumbing, Blackstone, MA  
 Don Jestings and Sons LLC, Middletown, RI  
 Donovan and Sons, Middletown, RI  
 Douglas Oil CO, Providence, RI  
 Drivers Plumbing and Heating, Providence, RI  
 DSA Mechanical, Barrington, RI  
 DSL & Sons Heating & Cooling LL, Bradford, RI  
 Dudek Oil Co, Warren, RI  
 Dupuis Oil Co, Pawtucket, RI  
 Dynamic Air Systems, East Providence, RI  
 E A Marcoux and Son, Woonsocket, RI  
 E M Greco and Son, Warwick, RI  
 E Source Companies, Boulder, CO  
 Earth Networks, Germantown, MD  
 East Bat Chimney Works, Warren, RI  
 East Bay Plumbing and Heating, Bristol, RI  
 Eastbay Community Action, East Providence, RI  
 Ecobee, Toronto, ON  
 Ecova, Spokane, WA  
 Ed Beaudoin Plumbing and Heating, Cranston, RI  
 Eddy's Construction - DBA, Providence, RI  
 Einhorn Yaffee Prescott Architecture, Washington, DC  
 Electric Wholesalers, Boston, MA  
 Electrical Distributors, Charlotte, NC  
 Elmhurst Engineering, East Providence, RI  
 EMC, Hopkinton, MA  
 Emergency Response Plumbing & Heating, Warwick, RI  
 Emond Plumbing and Heating, Taunton, MA  
 Enercon, Kennesaw, GA  
 Energy & Resource Solutions, North Andover, MA  
 Energy Consumers Alliance of New England, Boston, MA  
 Energy Engineering & Design, Framingham, MA  
 Energy Federation, Westborough, MA  
 Energy Machinery, Rockland, MA  
 Energy Source, Miami, FL  
 Energy-One, Tulsa, OK  
 Enviro Service, Norwell, MA  
 Eurotech Climate System, Pawtucket, RI  
 Evergreen Plumbing and Heating, Warwick, RI  
 F G Lees, Providence, RI  
 Facility Solutions Group, Austin, TX  
 Falcon Hydraulics and Boiler Services, West Kingston, RI  
 FCI Engineering Group LLC, Providence, RI  
 Feather HVAC, Cumberland, RI  
 Feula Plumbing and Heating, Johnston, RI  
 Fletcher Heating, Hopkinton, RI  
 Flou Heating and AC, Narragansett, RI  
 Foremost Electrical Service, Cranston, RI  
 Fraunhofer USA, Cambridge, MA  
 FTS Lighting, Orange, CA  
 G and G Technology, North Kingstown, RI

G Hill Plumbing, Westerly, RI  
 Gardner Nelson and Partners, New York, NY  
 Gas Doctor, Cranston, RI  
 Gas Master, Little Compton, RI  
 Gas Pro, Pawtucket, RI  
 Gasman, Warwick, RI  
 Geiselman Plumbing and Heating, Pawtucket, RI  
 Gem Air Services, Pawtucket, RI  
 Gem Plumbing & Heating Services, Lincoln, RI  
 Gerard Levesque Plumbing and Heating, Coventry, RI  
 Gettens/Nesco, Canton, MA  
 Giammarcoi Plumbing, North Providence, RI  
 Gilbane Construction, Providence, RI  
 Gilbert Gizzarelli, Warwick, RI  
 Ginger's Oil Company, Westerly, RI  
 Glendale Oil CO, Burrillville, RI  
 Globex Industries, Narragansett, RI  
 Goldon Goncalves, East Providence, RI  
 Goulart Petroleum, Little Compton, RI  
 Granite City Electric, Pawtucket, MA  
 Green and Healthy Homes Initiative, Providence, RI  
 Green Seal, North Kingstown, RI  
 GreenerU, Cambridge, MA  
 Greenwich Insulation, West Warwick, RI  
 Groom Energy Solutions, Salem, MA  
 Groves Energy, Scituate, RI  
 Guardian Energy Management Solutions, Marlborough, MA  
 Guy Clemont Plumbing and Heating, Johnston, RI  
 H H Heating, Lincoln, RI  
 H K Heating, Coventry, RI  
 HAABCO Construction, Jamestown, RI  
 Hamel & McAlister, Burlington, MA  
 Harbor Controls Corporation, North Kingstown, RI  
 Harmony Design & Const LLC, Providence, RI  
 Hart Engineering Corporation, Cumberland, RI  
 Haven Plumbing and Heating Co, Cranston, RI  
 Hawkes Plumbing CO, Glocester, RI  
 HC Woodmansee and Son, Hopkinton, RI  
 Helgeson Enterprises, White Bear Lake, MN  
 Henderson Electric, Pawtucket, RI  
 Heroica's Painting, Providence, RI  
 Holgate Plumbing and Heating, Warwick, RI  
 Hope Air Systems, Northborough, MA  
 Hope Oil, Scituate, RI  
 Horizon Lighting & Energy Services, Taunton, MA  
 Houle Plumbing and Heating, Coventry, RI  
 Houstyns Remodeling, Lincoln, RI  
 Howard's Heating Service, North Kingstown, RI  
 Iasimone Plumbing Hetaing and Drain  
   Cleaning, North Providence, RI  
 IBM Corporation, Cambridge, MA  
 ICF Consulting, Lexington, MA  
 ICON International, Stamford, CT  
 Ideas Agency, Blairstown, NJ  
 Illumetek Corp, Cuyahoga Falls, OH  
 IMichael Rinaldi, Narragansett, RI  
 Industrial Burner Service, Providence, RI  
 Industrial Control Service Corporation, Chelmsford, MA  
 Industrial Electric, Cranston, RI  
 Industrial Pump, Tiverton, RI  
 Ingersoll Rand Company, Davidson, NC  
 Inner Workings, Amesbury, MA  
 InQuest Technologies, Providence, RI  
 Insulate 2 Save, Fall River, MA  
 Integral Group, New York, NY  
 Interstate Electrical Services, North Billerica, MA  
 Interviewing Service of America, Van Nuys, CA  
 J and M Plumbing, Coventry, RI  
 J Joyce Plumbing and Heating Co, Warwick, RI  
 J L Roth and Associates, Palm Harbor, FL  
 J.J. McNamara & Son, Providence, RI  
 JACO Environmental, Franklin, MA  
 Jae Yoon, Richmond, RI  
 Jay Leblanc Plumbing, Blackstone, MA  
 Jay's Electric, Providence, RI  
 JD Mechanical, Smithfield, RI  
 Jeff Berard Plumbing and Heating, Warwick, RI  
 Jenkins Heating, Smithfield, RI  
 Jim Steitz Plumbing and Heating LLC, Coventry, RI  
 JKL Engineering Co, Providence, RI  
 JMAC Plumbing and Heating, Warwick, RI  
 JMB Mechanical, Johnston, RI  
 JMF Services DBA Improved Illumination, Medfield, MA  
 JMP Plumbing and Heating, Rehoboth, MA  
 John C Fletcher, Hopkinton, RI  
 John Nicholson, Providence, RI  
 John S Babcock Plumbing, Westerly, RI  
 Johnny's Oil & Heating, Providence, RI  
 Johnson and Johnson Plumbing and Heating, Narragansett, RI  
 Johnson Controls Lighting Services, Lincoln, RI  
 Joseph Giorno Plumbing and Heating, Cranston, RI  
 JRQ Heating, Warwick, RI  
 Jr's Plumbing Service, Warwick, RI  
 Just Heat, Portsmouth, RI  
 Kaeser Compressors, South Easton, MA  
 Kafin Oil Company, Woonsocket, RI  
 Kans Plumbing, Bristol, RI  
 KBE Building Corporation, Farmington, CT  
 KCG Energy LLC, Lexington, MA  
 Kelliher Samets Volk, Boston, MA  
 KEMA, Burlington, MA  
 Ken Adams, Cranston, RI  
 Kenahan Construction, West Warwick, RI  
 Kens Heating LLC, Providence, RI  
 Kessler's Sheet Metal, Providence, RI  
 Koolco, South Kingstown, RI  
 KS Electric LLC, East Greenbush, NY  
 Kwik Plumbing and Heating, Johnston, RI  
 L & B Remodeling, Warwick, RI  
 L and F Plumbing LLC, Cranston, RI  
 Lantern Energy LLC, Norwich, CT  
 Lapierre Electric, Woonsocket, RI  
 Larry's Heating & BCI, Rehoboth, MA  
 Lawrence Air Systems, Barrington, RI  
 Lemay Framing & Remodeling, North Smithfield, RI  
 Lennox Industries, Wilmington, MA  
 Light House Propane, East Greenwich, RI  
 Lighthouse Consulting, Warren, RI  
 Lighting Retrofit Services, Wilmington, MA  
 Lightstat, Pleasant Valley, CT  
 Lime Energy , Boston, MA  
 Litemor, Norwood, MA  
 LJ Giorgi Plumbing and Heating, North Providence, RI  
 Lockheed Martin Services, Burlington, MA

Ioln Energy Mechanical Services, West Warwick, RI  
 Lubera Plumbing, Coventry, RI  
 Luso Plumbing and Heating, Cumberland, RI  
 Lutz Air Co, East Providence, RI  
 Major Electric Supply, Pawtucket, RI  
 Malone Plumbing and Heating, Cranston, RI  
 Maloney's Oil Company, Pawtucket, RI  
 Mansi, Warren, RI  
 Manuppelli Plumbing LLC, Warwick, RI  
 Martel Plumbing & Heating, Central Falls, RI  
 Mathew Cedarfield, Warwick, RI  
 Mathews Bros DBA Arizona Oil, Cranston, RI  
 Mc Kee Brothers Oil, Cumberland, RI  
 Mechanical HVAC Systems, South Kingstown, RI  
 Medford Wellington, Medford, MA  
 Mendez Contractors, Providence, RI  
 Merit Mechanical, Warwick, RI  
 Michael Freitas Plumbing and Mechanical, Burrillville, RI  
 Michael Lundy, Tiverton, RI  
 Micheletti Oil Service, Johnston, RI  
 Mike Dupree, Mansfield, MA  
 Mike's Oil, Tiverton, RI  
 MJ Bouchard Heating and AC, Smithfield, RI  
 MJ Heating and Air Conditioning, Fall River, MA  
 Modern Mechanical LLC, Woonsocket, RI  
 Montella Oil, Providence, RI  
 Mr Rooter Plumbing, Warwick, RI  
 Munro Distributing, Cranston, RI  
 Murray Plumbing and Heating, Smithfield, RI  
 Mutual Development Corp, West Warwick, RI  
 N E Electric Distribution (NEED) Amity Electric, Richmond, RI  
 Natek Corporation, Saratoga Springs, NY  
 National Refrigeration, Warwick, RI  
 National Resource Management, Canton, MA  
 Navigant Credit Union, Smithfield, RI  
 New Buildings Institute, White Salmon, WA  
 New England Insulation, Woonsocket, RI  
 New England Restoration and Construction Services, Exeter, RI  
 New England Supply, Pawtucket, RI  
 Newport Plumbing and Heating Gas Co, Portsmouth, RI  
 News America Marketing, New York, NY  
 NexGen Mechanical, Warwick, RI  
 NexRev, Plano, TX  
 Nightingale Plumbing and Heating, Providence, RI  
 Nite Oil, Tiverton, RI  
 NMR Group, Somerville, MA  
 Noresco, Westborough, MA  
 Noribachi Corporation, Hawthorne, CA  
 North Atlantic Heating, Coventry, RI  
 NorthEast Electrical Distributors, Brockton, MA  
 Northeast Energy Efficiency Partnerships, Lexington, MA  
 Northeast Energy Reduction, Lincoln, RI  
 Northeast Noise Abatement, Warwick, RI  
 Northern Energy Services, Northborough, MA  
 Northwest Energy Efficiency Council, Seattle, WA  
 O'Brien & Neville, Holliston, MA  
 Ocean State Heating Service LLCY, Richmond, RI  
 Omnilite, Burlington, MA  
 On The Side HVAC, Cranston, RI  
 Opinion Dynamics Corporation, Waltham, MA  
 P and T Plumbing and Heating, Coventry, RI  
 P Mandarini, Cranston, RI  
 Patrick Martin, Bristol, RI  
 Patriot Plumbing, Coventry, RI  
 Patriot Sheet Metal HVAC, Pawtucket, RI  
 Pellegrino Plumbing, Westerly, RI  
 People's Power and Light, Providence, RI  
 Percival Electric, Warwick, RI  
 Perez Plumbing and Heating, Cranston, RI  
 Peter Paolino, Johnston, RI  
 Peter Skeffington, East Providence, RI  
 Petro, Providence, RI  
 Petronelli Plumbing and Heating, Johnston, RI  
 Phalanx Engineering, Cranston, RI  
 Phil Paul Plumbing and Heating, North Smithfield, RI  
 Phillip Rott Plumbing and RI, Coventry, RI  
 Phillips Plumbing and Mechanical, Cranston, RI  
 Phil's Bottled Gas Service Co., Tiverton, RI  
 Piazza Enterprises, Warwick, RI  
 Pickles Plumbing and Heating LLC, Burrillville, RI  
 Pingitore Plumbing and Heating Co, Johnston, RI  
 Pinnacle Plumbing and Heating, Smithfield, RI  
 Plumbing & Heating Solutions LLY, Providence, RI  
 Plumbing Solutions, Cranston, RI  
 Potvin Enterprises, Warwick, RI  
 Premair HVAC, Warwick, RI  
 Priority One, Hopkinton, RI  
 Prism Energy Services, Quincy, MA  
 Pro Unlimited, Boca Raton, FL  
 Projects Can Happen, Pawtucket, RI  
 Providence Community Action Program, Providence, RI  
 Providence Mechanical Services, Smithfield, RI  
 PRS Electric, Dighton, MA  
 Questline, Columbus, OH  
 R B Queern & Co, Middletown, RI  
 R E Coogan Heating, Warwick, RI  
 Ralph Ferra Plumbing, North Smithfield, RI  
 RAM Marketing, Saint James, NY  
 Rambone & Sprague Oil Service, Scituate, RI  
 Randy Pomeroy, Burrillville, RI  
 Ray Ciampantelli Plumbing and Heating Co, Peacedale, RI  
 Rayco Electric, Providence, RI  
 Raymond Degnan, North Providence, RI  
 Reddy Piping Concepts, Cranston, RI  
 Regan Heating & Air Conditioning, Providence, RI  
 Regency Plaza, Providence, RI  
 Reichert & Sons Fuel Oil, Glocester, RI  
 Reilly Electric, South Easton, MA  
 Reinhold Plumbing and Heating, Johnston, RI  
 Reinsant Heating, Lincoln, RI  
 Reliable Electric, Coventry, RI  
 Reliable Plumbing and Mechanical, Providence, RI  
 Renova Lighting Systems, Mansfield, MA  
 Resendes Heating Service LLC, Coventry, RI  
 Restivo Heating and Air Conditioning, Johnston, RI  
 Rethinking Power Management LLC, Boston, MA  
 Retrofit Insulation, Fall River, MA  
 Rhode Island Community Action Association, Cranston, RI  
 Rhode Island Green Building Council, Providence, RI  
 RI Analytical, Warwick, RI  
 RI Gutter, Warwick, RI  
 RI Insulation, Scituate, RI  
 RI Plumbing and Heating, Lincoln, RI  
 Ricahrd's Oil Company, Coventry, RI

Richard A Lavey, Warren, RI  
RISE Engineering, Cranston, RI  
River Energy Consultants, Fall River, MA  
RJL Insulation Co., Middletown, RI  
RK Electric LLC, North Kingstown, RI  
Robert E Bang DBA Raymong J Reinsant Plumbing, Lincoln, RI  
Robert Martel Plumbing, Central Falls, RI  
Robert Squizzero Plumbing and Heating, Cranston, RI  
Robinson Supply Co., Fall River, MA  
Robs Oil Burner Service, West Warwick, RI  
Roland & Sons, Narragansett, RI  
Rossi Electric, Cranston, RI  
Roto Rooter Services, Providence, RI  
Rouleau Consulting Group LLC, Gloucester, MA  
RST Sheetmetal, Foster, RI  
Ruotolo Fuel, Johnston, RI  
RW Bruno Heating and Cooling, Lincoln, RI  
S & S Electric, Gloucester, RI  
S B Carbone Plumbing & Heating, Cranston, RI  
Sacks Exhibits, Wilmington, MA  
Sal Maggiacomo Plumbing and Heating, Cranston, RI  
Sal Manzi and Son Plumbing and Heating Co, Cranston, RI  
Sam Bliven Jr Plumbing & Heating, Westerly, RI  
Sandler Services LLC, East Providence, RI  
Sanoco DBA Santoro, Providence, RI  
Sasa Energy LLC, Johnston, RI  
Savard Oil Co, East Providence, RI  
Scales Industrial Technologies, Carle Place, NY  
Schneider Laboratories, Richmond, RI  
Seekonk Supply, Providence, RI  
Shearman Oil, Tiverton, RI  
Sherman Plumbing, East Providence, RI  
Siemens Industry, Cranston, RI  
Simons Supply, Warwick, RI  
Sine Plumbing and Heating, East Providence, RI  
SMOC, Framingham, MA  
South County Community Action, South Kingstown, RI  
South County Gas Service, Narragansett, RI  
St. Angelo Plumbing, Barrington, RI  
Stack Design Build LLC, Providence, RI  
Standard Electric Supply, Boston, MA  
Standish Brothers HVAC LLC, Coventry, RI  
State of Rhode Island, Providence, RI  
Stateline Fuel and Burner, Seekonk, MA  
Statewide, North Smithfield, RI  
Stedman Kazounis Plumbing, Charlestown, RI  
Stephen C Girard, East Providence, RI  
Steve Brown Plumbing and Heating LLC, Webster, MA  
Steve Dessert The Heating Man, Swansea, MA  
Steven Plumbing, Barrington, RI  
Steven Winter Associates, Norwalk, CT  
Sun Systems, Narragansett, RI  
Sunshine Oil Co, Bristol, RI  
Superior Comfort, Bristol, RI  
Superior Electric, Warwick, RI  
Superior Insulation LLC, Warwick, RI  
Superior Plumbing and Heating, Cranston, RI  
Supply New England - Uxbridge, Uxbridge, MA  
Sustainable Energy Solutions LLC, Providence, RI  
Sylvander Heat and AC, East Greenwich, RI  
Sylvania Lighting Services, Exeter, NH  
Synergy Investment, Westborough, MA  
T A Gardiner Plumbing and Heating, Bristol, RI  
T and J Heating and Conditioning and  
Plumbing, Bellingham, MA  
T Gomes Heating & Cooling LLC, Providence, RI  
Tadco Electric, Johnston, RI  
Tech Resources, Milford, MA  
Tendril Networks, Newton Lower Falls, MA  
Tetra Tech MA, Boston, MA  
TH Malloy and Sons, Cumberland, RI  
Thames Valley Vinnelson Co, Groton, CT  
The Cadmus Group, Waltham, MA  
The Elcon Group /CCMS Lighting, Hopkinton, MA  
The Plumber Company, Johnston, RI  
Thermal Home Energy Solutions, Cranston, RI  
Therrien Mechanical Systems, Lincoln, RI  
Thomas Federicci, Warwick, RI  
TNZ Energy Consulting, Stoughton, MA  
Todd Delmonico Plumbing, East Providence, RI  
Tom Peters Plumbing and Heating, Portsmouth, RI  
Total Comfort Heating and Cooling, Tiverton, RI  
Total Construction Services, Providence, RI  
Towne Heating Co, Swansea, MA  
Trane, Providence, RI  
Travers Plumbing and Heating Incorporated, Portsmouth, RI  
Tri-Town Community Action, Johnston, RI  
UG Nasons, Middletown, RI  
United Mechanical, Cranston, RI  
United Oil Burners Service, Warwick, RI  
Universal Insulation, North Providence, RI  
University of Rhode Island, South Kingstown, RI  
V & G Electric, Westerly, RI  
V & L Construction, Providence, RI  
Valcourt Heating, Little Compton, RI  
Valley Heating and Cooling, Richmond, RI  
Valley Plumbing and Heating, Cumberland, RI  
Vaughn Oil Co, Smithfield, RI  
Veolia ES Technical Solutions LLC, Boston, MA  
Vermont Energy Investment Corporation, Burlington, VT  
Vernon's Oil Burner Service, Warwick, RI  
VICMIR Heating and Air Conditioning, East Providence, RI  
Victory Heating & Air Conditioning Co, Bellingham, MA  
Viking Supply, Westerly, RI  
Vivona Plumbing & Heating, Portsmouth, RI  
Wakefield Heating Service LLC, South Kingstown, RI  
Walco Electric Co., Providence, RI  
Waldo Plumbing and Heating, Lincoln, RI  
Warner Appliance Service, Cumberland, RI  
Weller & Michal Architects, Harrisville, NH  
Wesco Oil & Propane, Smithfield, RI  
West Coast Lighting & Energy, Lake Elsinore, CA  
Westbay Community Action, Warwick, RI  
Whites Plumbing and Heating, Swansea, MA  
Wickford Appliance, Pawtucket, RI  
William Barberry, Scituate, RI  
Wipro Ltd, Boston, MA  
Wojcik Electric, Narragansett, RI  
Woods Heating Service, East Providence, RI  
World Energy Solutions, Worcester, MA  
Zawadzki Plumbing and Heating, Warwick, RI  
Zerodraft Insulation LLC, North Smithfield, RI



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