

R. DANIEL PRENTISS dan@prentisslaw.com

December 6, 2012

Luly E. Massaro, Commission Clerk Rhode Island Public Utility Commission 89 Jefferson Boulevard Warwick, RI 02888

Re: Docket 4366- IN RE: NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID'S ENERGY EFFICIENCY PROGRAM PLAN for 2013

Dear Luly:

I enclose ten copies of the response of the Energy Efficiency and Resource Management Council to the Commission's first data request.

Very truly yours,

R. Daniel Prentiss EERMC Counsel

RDP/ka Enclosures Cc: Service List 874/92/9420

### STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS PUBLIC UTILITIES COMMISSION

### IN RE: NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID'S ENERGY EFFICIENCY PROGRAM PLAN for 2013

DOCKET NO. 4366

### RESPONSE OF EERMC TO COMMISSION'S FIRST SET OF DATA REQUESTS (December 6, 2012)

### **REQUEST:**

COMM 1. R.I.G.L. §42-140.1-5 and Section 1.4B of the EE Procurement Standards require the Council to 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. Please provide a copy of the most recent report filed on April 15, 2012.

RESPONSE: See attached.

# THE RHODE ISLAND ENERGY EFFICIENCY AND RESOURCES MANAGEMENT COUNCIL

By its attorney, /s/ R. Daniel Prentiss

R. Daniel Prentiss One Turks Head Place, Suite 380 Providence, RI 02903 dan@prentisslaw.com

### CERTIFICATE OF SERVICE

I hereby certify that on the 6th day of December, 2012, I delivered a true copy of the foregoing document either by first class mail or by electronic mail to the Docket 4366 Service List as of December 6, 2012.

/s/ R. Daniel Prentiss

**R.** Daniel Prentiss



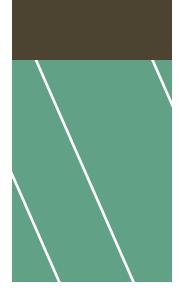
Annual Report to the General Assembly | Required Under RIGL 42-140.1-5: April 2012



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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 2012 Annual Report to the General Assembly, for the period April 16, 2011 to April 15, 2012, the Council's fifth year of operation. As required by RIGL § 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."

2011 was a positive year in the fulfillment of our mission. Continuing a positive trend started in 2008, Rhode Island has once again risen in the rankings and is now among the top five states in the nation for energy efficiency policies and implementation. 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, Rhode Island receives electric and natural gas benefits of more than \$3. 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 wellbeing of the state. It is in this context, then, that we urge the state legislature to exercise caution in re-directing Least Cost Procurement resources — resources paid by the state's ratepayers — as part of a solution to close the state's budget gap. While the EERMC is committed to ensuring that there is a strong Office of Energy Resources, real damage could be done to the state's Least Cost Procurement effort if the body of knowledge, experience and expertise gained by the EERMC since its inception is weakened. It will not only stall the momentum we have all worked so hard to achieve, but would represent unsound economic policy as well.

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 2012 Annual Report contains a summary of the activities of the EERMC over the past year including its role in:

- 1. The implementation of the 2011 Energy Efficiency Procurement Plan;
- 2. The development and approval of the 2012–2014 Energy Efficiency and System Reliability Procurement Plans;

- 3. Fostering key partnerships in Rhode Island to achieve deeper and broader energy savings for all customer sectors; and
- 4. The development and approval of the 2012 Energy Efficiency and System Reliability Program Plans.

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.

The Council is excited that 2012 marks the first 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 2012 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 (Environment Northeast), and approved by the Commission on December 21, 2011 will serve many more customers than last year and achieve greater savings for each customer. Total projected participation will increase by over 60% in 2012. Moreover, the 2012 Plan proposes implementation 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, nationleading 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, 2012

### **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 (Environment Northeast), Rhode Island Director

Joseph Newsome — Low Income Users

Joseph Cirillo — Energy Design/Codes Former Building Commissioner

**Dr. Marion Gold** — Residential Users, University of Rhode Island, Co-Director of Energy Center

### **EX-OFFICIO MEMBERS**

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

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

Victor Allienello President, East Providence Fuel Oil

**Dr. Kenneth Payne** Executive Director and Secretary, Commissioner, Office of Energy Resources

(April 15, 2011–December 2, 2011)

### 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 RIGL § 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, providing representation for residential, commercial and industrial, low income, building codes, and environmental interests. Exofficio, 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 the Rhode Island office of Optimal Energy.

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 2011, the EERMC participated in several PUC dockets regarding the 2012–2014 energy savings targets, the 2012–2014 Energy Efficiency and System Reliability Procurement Plan, the 2012 Energy Efficiency Program Plan, and the 2012 System Reliability Program Plan.

### RHODE ISLAND ENERGY EFFICIENCY 2011 ACHIEVEMENTS AND HIGHLIGHTS SUMMARY

<text>

Energy efficiency, including insulating homes and businesses, replacing inefficient heating equipment and appliances, and upgrading lighting, is bringing real savings to Rhode Islanders in the form of lower energy bills, boosting stronger local economies, creating jobs, and reducing climate pollution. Energy efficiency decreases demand for expensive energy and reduces greenhouse gas emissions from power generation. Because these efficiency investments cost less than 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 2011 State Energy Efficiency Scorecard, Rhode Island ranked 5th in the nation in the overall scoring and 2nd 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.

traditional fossil fuel supply (the cost of saving one kWh of electricity via consumer efficiency programs is only 4¢, while the cost of purchasing supply is between 8¢ and 12¢) — efficiency is the best way to help Rhode Islanders save money on their energy bills. Lower energy bills reduce the cost of doing business in the state, helping Rhode Island businesses to remain competitive in a global economy. In 2011, Rhode Island's energy efficiency programs served 260,000 participants, resulting in over 1 billion kWh saved at a cost of \$0.032 per kWh saved. These energy efficiency measures will create \$150 million in benefits for Rhode Islanders over the lifetime of the efficiency measures and avoid 500,000 metric tons of carbon dioxide emissions.

The natural gas energy efficiency programs served 3,465 participants in 2011, reducing natural gas consumption by 1,544,486 MMBTUs at a cost of \$2.95 per MMBTU. These measures are creating \$17 million over the lifetime of the efficiency measures. The natural gas energy efficiency measures will also avoid 90,000 metric tons of greenhouse gas emissions.

## Table 1. 2011 Energy EfficiencyProgram Participation

ELECTRIC PROGRAMS	2011
Residential New Construction	384
Electric HVAC	1,574
EnergyWise	9,979
ENERGY STAR <sup>®</sup> Lighting	225,737
ENERGY STAR <sup>®</sup> Products	18,141
Single Family Low-Income Services	1,499
New Construction	208
Large Retrofit	374
Small Business Services	1,674
NATURAL GAS PROGRAMS	2011
EnergyWise	1,496
High Efficiency Heating Equipment	1,538
Single Family Low-Income Services	190
New Construction	69
Large Retrofit	44
Small Business Services	128

### 2011 ENERGY EFFICIENCY PROGRAM SAVINGS



Participants 255,815



**Lifetime Energy Savings** 292,731 MWh 524,661 MMBTU

**Residential Program** 



**Cost Savings** \$5.1 million annually \$43.9 million over the lifetime of the efficiency measures\*

### Commercial & Industrial Program

Participants 2,252



Lifetime Energy Savings 749,736 MWh 968,349 MMBTU



### **Cost Savings** \$6.0 million annually \$78.9 million over the lifetime of the efficiency measures\*

\* Not discounted to account for the time value of money.

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### **COMMUNITY PARTNERSHIPS**

To support broader stakeholder engagement, Council members, the Consultant team, and National Grid forged innovative partnerships with municipal, nonprofit, and state agency representatives, resulting in more energy savings from traditionally hardto-reach customer segments. These efforts focused on supporting the leveraging, synergizing and coordinating of activities to increase the scale and likelihood of success. Specific examples include:

- The Green & Healthy Homes Initiative (GHHI) promotes "a cost-effective and integrated approach to housing interventions by combining federal and philanthropic investments in weatherization, energy efficiency, health and safety." With support from the U.S. Department of Housing and Urban Development (HUD) and the Centers for Disease Control (CDC), GHHI provides technical assistance to 15 GHHI project sites nationally. The Council began working closely with GHHI staff in Providence in 2011 and continues in its efforts to align program opportunities between National Grid and other stakeholders with GHHI's concept. Through activities led by the City of Providence's Department of Planning and Development, a Green & Healthy Homes Initiative Providence-Neighborhood Initiative Pilot (GHHIP NIP) was launched in 2011 and is bringing GHHI's integrated approach to health and energy efficiency to 250 Providence residences.
- The Emerald Cities Collaborative is "a consortium of businesses, unions, government representatives, community organizations, research and technical assistance providers, development intermediaries, and social justice advocates united around the goal of greening our metropolitan areas." Providence was selected as one of 10 cities to highlight the benefits of this integrated approach to using energy efficiency to reduce carbon emissions, lower energy costs and

create good, sustainable jobs to deliver these benefits. Council representation at the steering committee level in Rhode Island and Consultant Team research and reporting are helping establish RI as a leader in this innovative approach.

- Rhode Island Housing and Mortgage Finance provides funding and technical support for the sale and upgrade of multifamily properties throughout the state. EERMC members, the Consultant Team, and National Grid are partnering with Rhode Island Housing to optimize the integration of energy efficiency into the property retrofit process. The group has reviewed the process and objectives of these efforts, and worked to create timely and comprehensive integration of Rhode Island Housing's efforts with National Grid's energy efficiency programs. Now, many of these buildings are in much better position to maximize the energy efficiency upgrades that take place during these optimal times of capital upgrades.
- The Washington County Regional Planning Council, with support from the Rhode Island Foundation, initiated efforts to explore high efficiency street lighting options for member municipalities. The EERMC and its Consultants have provided research and technical advice on new approaches to high efficiency municipal street lighting and National Grid has committed to exploring these alternatives in 2012.
- City of Providence Sustainability Office is coordinating with National Grid, the EERMC, and its Consultant Team to increase the participation of minority contractors in the weatherization program, and partner with community organizations to boost the participation of residents and small businesses in the efficiency programs.

### 2012-2014 ENERGY EFFICIENCY PROCUREMENT PLAN

On July 25, 2011 the RI PUC issued a written order approving nation-leading 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 electric 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:

- 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.
- 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.
- **Innovation and new technologies**: Testing new products and technologies to determine which technologies are beneficial and cost-effective for Rhode Island customers.
- 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 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 2 and 3 include the electric and natural gas program metrics for the 2012–2014 Energy Efficiency Procurement Plan.



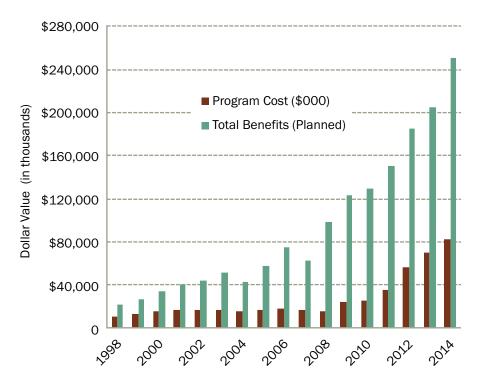
### Table 2. 2012–2014 Energy Efficiency Procurement Plan Summary, Electric

ELECTRIC PROGRAMS	2012	2013	2014	TOTAL
Annual MWh savings	128,570	158,820	189,068	476,458
Lifetime MWh savings	1,546,997	1,609,419	1,960,550	5,116,966
Savings as a percent of 2009 electric load	1.7%	2.1%	2.5%	
Total benefits	\$198,836,955	\$204,451,077	\$251,198,316	\$654,486,348
Total spending	\$64,385,628	\$75,978,573	\$88,236,598	\$228,600,799
Participants	288,561	538,561	560,730	1,387,352

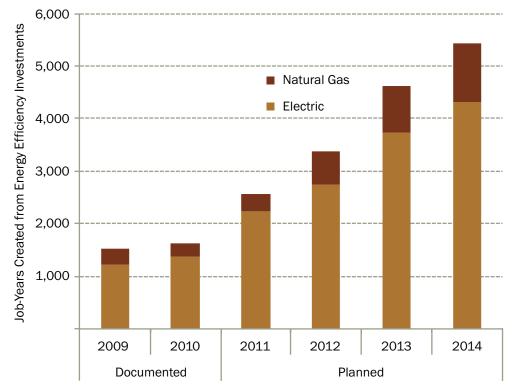
### Table 3. 2012–2014 Energy Efficiency Procurement Plan Summary, Natural Gas

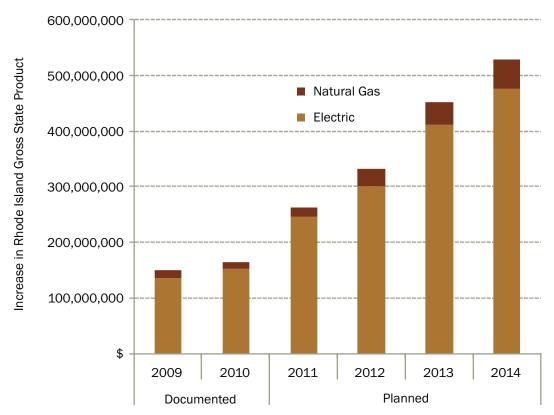
NATURAL GAS PROGRAMS	2012	2013	2014	TOTAL
Annual MMBtu savings	231,550	284,734	355,917	872,201
Lifetime MMBtu savings	3,316,495	4,420,967	5,526,209	13,263,671
Savings as a percent of 2009 gas load	0.6%%	0.8%	1.0%	
Total benefits	\$31,280,215	\$43,686,179	\$56,214,055	\$131,180,449
Total spending	\$13,687,795	\$18,046,503	\$22,602,890	\$54,337,188
Participants	14,099	17,337	21,671	53,107

Note: Natural gas savings targets were adjusted from 1.2% to 1.0% in the 2012-2014 Energy Efficiency Procurement Plan to reflect lower avoided natural gas costs.



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





### Figure 3. Energy Efficiency Impact on RI Gross State Product (GSP), 2009–2014

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

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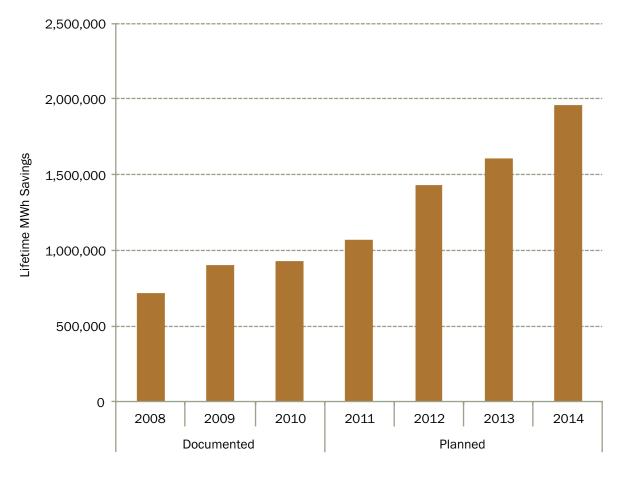
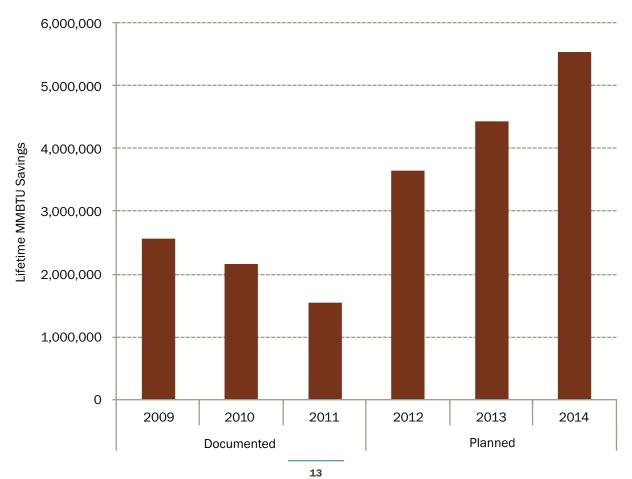
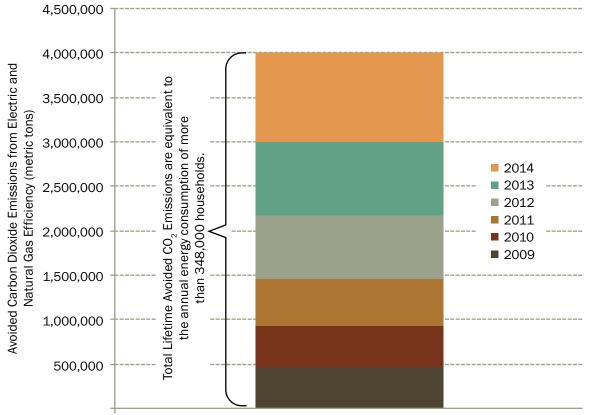


Figure 5. Lifetime Natural Gas Savings, 2009–2014





#### Figure 6. Lifetime Avoided Greenhouse Gas (GHG) Emissions

Avoided Lifetime CO2 Emissions

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; Energy Savings Targets Docket No. 4202, ISO-NE Marginal Emissions Rate, 2009.

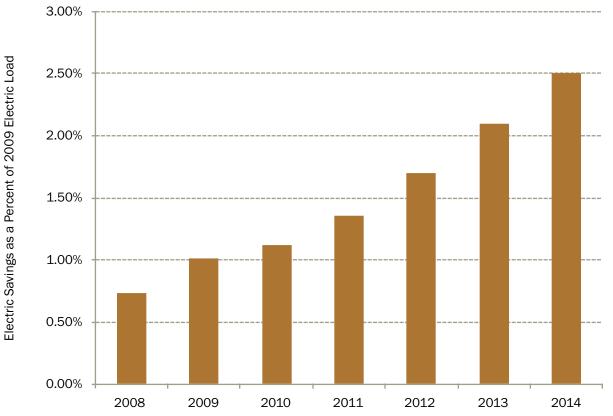


Figure 7. Energy Savings as a Percent of Electric Load, 2008–2014

Sources: Calulations based on actual 2009 load and reported energy savings. RI PUC Docket No. 4202. Energy Savings Targets for 2012–2014.

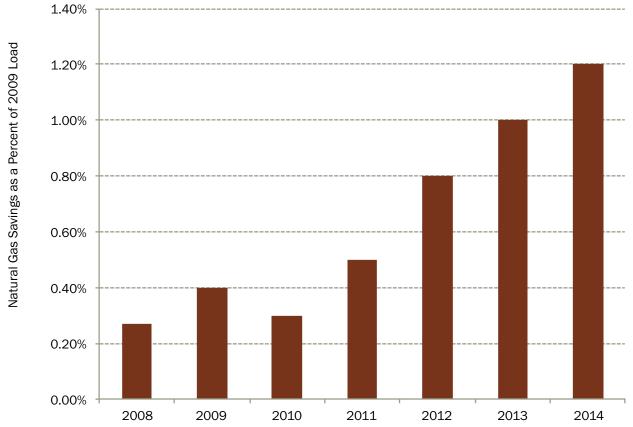


Figure 8. Energy Savings as a Percent of Natural Gas Load, 2008-2014

Sources: Calulations based on actual 2009 load and reported energy savings. RI PUC Docket No. 4202. Energy Savings Targets for 2012–2014.

### **2012 ENERGY EFFICIENCY PROGRAM PLAN HIGHLIGHTS**



### Residential

- New market for weatherization contractors: In 2012, independent, BPI-certified weatherization contractors will perform all single-family weatherization work. Jobs will be distributed on a fair and equitable basis to all qualified contractors. This initiative will open the door for many more contractors to participate in the energy efficiency programs.
- Heat Loan offers 0% financing: The Heat Loan offers 0% interest loans for weatherization and high-efficiency heating systems to residential customers. Residential customers are eligible for seven year loans ranging from \$2,000 to \$25,000 to be applied toward weatherization measures and high efficiency heating systems. The Heat Loan is available in partnership with local banks.
- Community Initiative engages trusted community organizers: The Community Initiative is designed to leverage trusted local community organizations to drive deeper energy savings and greater participation in their neighborhoods.
- Low-Income Services: National Grid is targeting 2,500 households for electric energy efficiency measures in 2012, a 40% increase over 2011 levels, and 430 households for natural gas services, more than doubling 2011 participation. In addition, over 650 multifamily units will receive electric and gas efficiency measures. National Grid also continues to work with affordable housing developers to create ENERGY STAR<sup>®</sup> rated homes throughout the state.
- New energy-efficient products: A number of new and innovative residential products have recently been proven to save energy and are now available for rebates. Products include Wi-Fi enabled thermostats which can connect to mobile devices, electric heat pump hot water heaters, and several new types of LEDs.



### **Commercial & Industrial**

- Strategic Energy Management Planning: National Grid will work with its largest customers to establish multi-year energy savings plans that more closely align with customers' budget cycles. This initiative will engage the highest level decision makers to align their financial and social motivations for energy efficiency investments.
- Upstream LED Lighting: Commercial customers are now able to buy MR-16, PAR20, PAR30/BR30, and PAR38/BR40 LED lamps directly from their lighting distributor. This reduces the paperwork and the cost for customers and drives deeper energy savings. Seven participating distributors are located in Rhode Island.
- Small Business Direct Install: 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.
- Main Street Initiative: Targets 12 towns where small business customers have historically been under-served based on an analysis of overall program participation rates. Auditors will spend several days going door-to-door in business districts conducting audits and promoting the small business program.
- Manufacturing Initiative: This initiative will offer a comprehensive, no cost scoping study to 10 large manufacturing customers in 2012. National Grid will work with TEC-RI to better understand the needs of this customer segment.

### Table 4. Rhode Island Energy Efficiency Program, Electric, 2008-2014

YEAR		UTILITY PROGRAM COST	TOTAL BENEFITS	COST PER LIFETIME kWh	TOTAL RESOURCE COST TEST BENEFIT/ COST	LIFETIME ENERGY SAVINGS (MWh)
2008	Planned	\$14,933,400	\$60,341,000	\$0.032	4.00	636,748
	Documented Results	\$14,933,400	\$98,786,000	n/a	6.21	717,714
2009	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
2010	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
2011	Planned	\$45,642,700	\$178,160,000	\$0.047	2.83	1,189,306
	Preliminary Results	\$34,842,500	\$150,292,487	\$0.032	3.21	1,069,745
2012	Planned	\$55,877,000	\$184,873,000	\$0.050	2.57	1,431,379
2013	Planned	\$70,079,358	\$204,451,077	\$0.058	2.20	1,609,419
2014	Planned	\$81,691,294	\$251,198,316	\$0.056	2.26	1,960,550
TOTAL	Planned 2008-2014	\$307,430,552	\$1,141,509,880			8,617,380

Sources: 2008 National Grid Year-End Report, RI PUC Docket Nos. 3790 & 3892, 2009 National Grid Year-End Report, RI PUC Docket No. 4000, 2010 National Grid Year-End Report, RI PUC Docket No. 4116, 2011 – Preliminary Year-End Results 2012 Energy Efficiency Program Plan, RI PUC Docket No. 4295, 2012–2014 Energy Efficiency Procurement Plan, RI PUC Docket No. 4284

YEAR		UTILITY PROGRAM COST	TOTAL BENEFIT	LIFETIME ENERGY SAVINGS (MMBtu)
2008	Documented Results	\$6,725,000	\$69,389,700	10,026,912
2009	Planned	\$5,948,500	\$19,127,644	2,041,436
	Documented Results	\$6,280,100	\$26,071,000	2,558,728
2010	Planned	\$4,402,300	\$18,781,500	1,566,146
	Documented Results	\$5,090,400	\$26,309,000	2,155,112
2011	Planned	\$6,171,500	\$20,163,800	1,601,861
	Preliminary Results	\$4,056,156	\$17,445,627	1,544,486
2012	Planned	\$12,799,000	\$43,881,000	3,643,336
2013	Planned	\$17,095,149	\$43,686,179	4,420,967
2014	Planned	\$21,392,323	\$56,214,055	5,526,209
TOTAL	Planned 2009–2014	\$73,438,128	\$282,996,561	29,875,750

### Table 5. Rhode Island Energy Efficiency Program, Natural Gas, 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 Revised – Preliminary Year End Results, 2012 Energy Efficiency Program Plan, RI PUC Docket No. 4295, 2012–2014 Energy Efficiency Procurement Plan, RI PUC Docket No. 4284

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

The benefits that Rhode Island will see 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.

### 2012 Energy Efficiency Program

- Economic Benefits: \$228 million
- Participants: 379,281
- Gross State Product Impact: \$301.8 million
- Job-Years Created: 2,682

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.

The "Energy Efficiency: Engine of Economic Growth" report shows that increasing efficiency program investments to levels needed to capture all costeffective electric efficiency 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.<sup>1,2</sup> \$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.3

The effectiveness of efficiency investments can be evaluated by considering economic benefits relative to efficiency program dollars invested. The table on the following page 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>&</sup>lt;sup>1</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

 $<sup>^{\</sup>rm 2}$  "All cost-effective energy efficiency" is equivalent to "economic potential" as defined in the Opportunity Report, Phase II.

<sup>&</sup>lt;sup>3</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 6. Summary of Rhode Island Economic Impacts

	ELECTRIC	NATURAL GAS	UNREGULATED FUELS
Total Efficiency Program Costs (\$Billions) <sup>4</sup>	1.1	0.41	0.38
Increase in GSP (\$Billions)	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
Increase in Employment (Job Years)	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.

<sup>4</sup> The "Energy Efficiency: Engine for Economic Growth" and Opportunity Report, Phase II both assume an approximate investment of \$70 million per year.

### **2012 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. Rhode Island utilities are required to develop an electric "system reliability plan" that strategically considers an array of customersited energy resources to maximize their benefit to Rhode Island'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 than 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 RIGL § 39-1-27.7.

On February 27, 2012 the PUC approved National Grid's 2012 System Reliability Procurement Plan (SRP Plan). The 2012 SRP Plan is designed to defer the need for a new substation feeder in the Tiverton/Little Compton region by at least 4 years. The pilot project proposes to conduct a targeted demand reduction program that will reduce customer air conditioning and lighting loads; 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.

Load growth in the Tiverton area may cause potential overloads of National Grid equipment beginning in 2014. These overloads occur in the summertime and are primarily due to increased use of air conditioning. The utility projects the need for an additional feeder from the substation serving the Tiverton area on or before 2014 to remedy the overloads. However, the 2012 SRP Plan proposes to use a mix of geographically focused energy efficiency, and central air conditioning and lighting ballast direct load control to defer the project through engagement with residential and commercial customers and by providing incentives for customers to decrease their energy use during summer peak periods.

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.

### 2012 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.
- This region of the state has exceptionally high load growth of 3.4% annually. The state-wide average is 0.6% annually.
- The 6-year Total Resource Cost Test ratio is 1.82. For every \$1 invested, customers will save \$1.82. The ratio will increase if the feeder is deferred for more than 4 years.
- The project is forecasted to provide annual energy savings of 535,000 kWh and peak capacity savings of 1,266 kW in 2017.
- National Grid plans to recruit 125 residential customers and 10 commercial customers in central air thermostat demand response and 5 commercial customers in lighting ballast demand response in 2012.

### 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.

Natural gas was added to Least Cost Procurement in 2010, and with it came the obligation to conduct an opportunity report for natural gas. 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. In particular, the interest focuses on data and information regarding new technologies and energy efficiency measures and strategies that could be deployed to support achieving the natural gas savings goals established in the 2012–2014 Energy Efficiency Procurement Plan and approved by the RI PUC in December, 2011. The Natural Gas Opportunity Report, due on June 29, 2012, will:

- Summarize current technologies and delivery strategies offered by National Grid.
- Collect data and conduct interviews with implementation contractors, vendors and trade allies, industrial and manufacturing customers, members of the Emerald Cities collaborative, national or regional natural gas and deliverable fuels efficiency experts, and other stakeholders.
- Define opportunities for new energy savings: increased efficiency levels from existing measures; greater program activity with existing measures; and new measures not currently included in programs, such as building envelope, systems, and controls.
- Characterize efficiency opportunities with respect to potential costs, energy savings, cost-effectiveness, applicable customer types and market segments, scale of total potential, and other important factors for adoption.

The final report will clearly identify the most promising set of opportunities for additional natural gas and deliverable fuels efficiency savings in 2013 and 2014. Recommendations will also be made about whether deployment should be subject to a pilot prior to full-scale deployment. The report will contribute meaningfully to the preparation of the 2013 and 2014 Energy Efficiency Program Plans.

### **INCENTIVES BY TOWN**

Table 7. National Grid Natural Gas and Electric Energy Efficiency Incentives Provided to Residential, Commercial, and Industrial Customers in 2011, by Municipality

Barnington         \$511,173           Bristol         \$502,197           Burrillville         \$155,850           Central Falls         \$614,332           Charlestown         \$79,076           Coventry         \$514,401           Cranston         \$2,181,392           Cumberland         \$728,005           East Greenwich         \$637,272           East Greenwich         \$637,272           East Greenwich         \$53,932           Foster         \$47,924           Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$1,088,279           Lincoln         \$1,088,279           Lincoln         \$1,077,785           Narragansett         \$629,087           Newport         \$556,174           North Kingstown         \$1,077,785           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence	Barrington	\$311,175
Burrillville         \$155,850           Central Falls         \$614,332           Charlestown         \$79,076           Coventry         \$514,401           Cranston         \$2,181,392           Cumberland         \$728,005           East Greenwich         \$637,272           East Greenwich         \$2,264,262           Exeter         \$53,932           Foster         \$47,924           Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$51,74           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Soituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747		
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Charlestown         \$79,076           Coventry         \$514,401           Cranston         \$2,181,392           Cumberland         \$728,005           East Greenwich         \$637,272           East Greenwich         \$637,272           East Providence         \$2,264,262           Exeter         \$53,932           Foster         \$47,924           Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$207,227           Warren         \$395,609           Warvick         \$2,959,099		
Coventry         \$514,401           Cranston         \$2,181,392           Cumberland         \$728,005           East Greenwich         \$637,272           East Greenwich         \$22,264,262           Exeter         \$53,932           Foster         \$47,924           Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,2	Charlestown	
Cranston         \$2,181,392           Cumberland         \$728,005           East Greenwich         \$637,272           East Providence         \$2,264,262           Exeter         \$53,932           Foster         \$47,924           Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$29,59,099		
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Foster         \$47,924           Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           West Kingston         \$35,590           Woonsocket         \$910,685	East Providence	\$2,264,262
Glocester         \$264,078           Hopkinton         \$73,663           Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           West Kingston         \$35,590           Woonsocket         \$910,685	Exeter	\$53,932
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Jamestown         \$56,174           Johnston         \$1,088,279           Lincoln         \$978,770           Little Compton         \$52,046           Middletown         \$321,369           Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Providence         \$313,714           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           West Kingston         \$35,590           Woonsocket         \$910,685	Glocester	\$264,078
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Narragansett         \$629,087           Newport         \$596,273           North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$395,609           Warren         \$395,609           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590	Little Compton	\$52,046
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North Kingstown         \$1,077,785           North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$904,985           West Greenwich         \$87,288           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Narragansett	\$629,087
North Providence         \$313,714           North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Newport	\$596,273
North Smithfield         \$367,514           Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           West Greenwich         \$87,288           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	North Kingstown	\$1,077,785
Pawtucket         \$1,661,198           Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           Woonsocket         \$910,685	North Providence	\$313,714
Portsmouth         \$298,378           Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	North Smithfield	\$367,514
Providence         \$5,184,615           Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Pawtucket	\$1,661,198
Richmond         \$77,802           Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Portsmouth	\$298,378
Scituate         \$296,551           Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Providence	\$5,184,615
Smithfield         \$820,207           South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Richmond	\$77,802
South Kingston         \$34,747           Tiverton         \$207,227           Warren         \$395,609           Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Scituate	\$296,551
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Warwick         \$2,959,099           West Greenwich         \$87,288           West Warwick         \$904,985           Westerly         \$629,576           West Kingston         \$35,590           Woonsocket         \$910,685	Tiverton	\$207,227
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West Kingston\$35,590Woonsocket\$910,685	West Warwick	\$904,985
Woonsocket \$910,685	Westerly	\$629,576
	West Kingston	\$35,590
GRAND TOTAL \$28,412,126	Woonsocket	\$910,685
	GRAND TOTAL	\$28,412,126

### **RESIDENTIAL PROGRAMS**

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

- EnergyWise offers free home energy audits and incentives for weatherization. During the audit, auditors change light bulbs and fixtures, as they identify potential appliance and weatherization retrofits. Customers then receive incentives to weatherize their homes including heating system upgrades, insulation, and air sealing.
- ENERGY STAR<sup>®</sup> Homes Program promotes construction of energy-efficient homes by offering technical and marketing assistance or incentives to builders of new energy-efficient homes that comply with the program's performance standards.
- ENERGY STAR<sup>®</sup> Products promote high efficiency appliances such as: refrigerators, room air conditioners, and electronics.
- ENERGY STAR<sup>®</sup> Lighting promotes compact fluorescent lamps, fixtures, and LEDs by discounting the price through instant rebates at retail stores or through mail order.
- ENERGY STAR® HVAC promotes the installation of high efficiency central air conditioners and gas heating equipment and water heaters. The program provides contractor training for installation and testing high efficiency systems. The program offers rebates for new ENERGY STAR® systems, incentives for checking new and existing systems, and incentives for oil or propane furnaces and boilers with electric motors.
- Residential pilots explore new opportunities in Deep Energy Retrofits, residential products and behavior programs.

### 2011 Results

- 34,020 MWh and 25,966 MMbtu saved annually
- 292,731 lifetime MWh and 542,661 lifetime MMBtu saved
- 725,445 short tons of greenhouse gas emissions avoided
- 258,849 participants
- \$41.4 million in estimated lifetime electric bill savings
- \$7.6 million in estimated lifetime gas bill savings

# Providence's "Fine Art of Recycling" wins ENERGY STAR<sup>®</sup> Award

In the summer, nine hand-painted refrigerators popped up throughout downtown Providence, including City Hall and Biltmore Park. The sculptures were part of "The Fine Art of Refrigerator Recycling," where local artists reimagined old refrigerators as new pieces of art in order to encourage others to recycle their old refrigerators. National Grid offers to pick up customers' refrigerators and gives them a \$50 rebate for recycling the energy-hog.



National Grid won an ENERGY STAR<sup>®</sup> award for the campaign in Providence. The award also recognized the Company's efforts to broaden participation in energy efficiency programs with Spanish language marketing efforts including a new website, television and radio advertising and interviews, bilingual point-of-purchase materials, and community events.



A goal of our energy efficiency programs is to have every Rhode Islander participate. To that end, National Grid launched a campaign to create awareness about energy efficiency programs. The campaign includes radio ads and bus shelter posters that promote a website where customers can learn how easy energy efficiency can be.



national**grid** We have energy savings programs for every hot chocolate sipper in Rhode Island.

Every Priords Interface can be appeared assess by and finding at their and range. We have a discuss of programs and array based have can appear by the Array and a first and their and their and their and their and and have can be appeared as appeared by a start of the appeared to part the array and their array their areas and the array and their array appeared. When it is not be an end on program to the start areas. The an array areas the discuss and the array appeared as appeared by the array of the array o



### ARRA Grant for Deliverable Fuel Weatherization Created 38,000 Job Hours

In 2011, National Grid successfully completed the Deliverable Fuels program which was made available through a grant from the Office of Energy Resources as part of the American Recovery and Reinvestment Act. The program rebated energy efficiency retrofits to homes that heat with oil, propane, or other deliverable fuels.

### Results

- 1,700 homes received heating system replacement or weatherization rebates
- \$2.3 million in customer rebates
- 3,300 audits for homes with deliverable fuels conducted through EnergyWise
- 38,000 job hours created for local heating and weatherization contractors

Customers with deliverable fuels interested in weatherization, including air sealing and insulation, can still receive rebates through EnergyWise. Please call EnergyWise at 1-888-633-7947 for a free home energy assessment.

### SMALL AND MEDIUM SIZE BUSINESS PROGRAM

National Grid helps small businesses save energy by providing a free on-site energy assessment that identifies potential energy savings. The assessment creates customized report that details energy-efficient recommendations. National Grid then completes retrofit installations at the customer's convenience. National Grid pays up 70% of installation and equipment costs and customers can finance their share of the project over 24 months on their electric bill, interest free, using the Small Business Revolving Loan Fund.

The program also markets itself through a Main Streets initiative where businesses are visited door-to-door. In 2011, the Company walked the main streets of Woonsocket, Central Falls and Providence.

### 2011 Results

- 16,771 MWh saved annually
- 195,400 MWh saved over the lifetime of the energy efficiency measures
- 5,164 MMBtu of Natural Gas saved annually
- 31,370 of Natural Gas saved over the lifetime of the energy efficiency measures
- 1,798 participants
- 91,796 short tons of greenhouse gas emissions avoided
- \$29 million in estimated lifetime electric and gas bill savings

### LARGE COMMERCIAL AND INDUSTRIAL PROGRAMS

National Grid offers two programs for large commercial and industrial customers that use more than 200 kW. Each program includes financial incentives to reduce the incremental cost barrier to investing in efficiency. National Grid also reduces the efficiency barriers by offering technical assistance including efficient engineering information, as well as identifying and analyzing opportunities for 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 program, High Performance School program, an Industrial Initiative program, training for trade allies, promotion of building codes and standards, and 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 Training and Certification initiative, in addition to more programs and services.

In 2011, National Grid focused on developing energy-saving opportunities within certain business and municipal sectors. The Company completed 13 technical assessments of municipal wastewater treatment facilities, and contracted to audit more than 100 buildings with the Rhode Island Army National Guard through the Whole Building Assessment initiative. The Company worked with the RI Hospitality Association to target opportunities for energy efficient commercial kitchen equipment. The Company offered retrofit incentives to several national chains with multiple Rhode Island locations. The Company also continued working with Cranston Public Schools to help retrofit several elementary and middle schools.

### 2011 Results

- 42,409 MWh saved annually
- 544,336 MWh saved over the lifetime of the energy efficiency measures
- 85,377 MMBtu of natural gas saved annually
- 936,664 MMBtu of natural gas saved over the lifetime of the energy efficiency measures
- 770 participants
- 260,909 short tons of greenhouse gas emissions avoided
- \$28.6 million in estimated lifetime electric bill savings
- \$19 million in estimated lifetime gas bill savings

### LOW-INCOME ELIGIBLE RESIDENTIAL PROGRAMS

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

- Customers contact their local community action agency to determine if they are eligible.
- An energy manager from a local community action agency conducts an energy audit and determines energy and cost savings.
- Instant savings measures are installed during the energy audit, including: water saving devices, room air conditioner timers, and CFLs.
- Heating system replacements and weatherization, such as air sealing and insulation, are installed during a follow up visit.

Eligible efficiency projects may include: ENERGY STAR\* refrigerators, ENERGY STAR\* lighting, water saving measures, insulation, and air sealing measures, and heating system replacement.

### 2011 Results:

- 2,042 MWh saved in 2011
- 27,279 MWh saved over the lifetime of the energy efficiency measures
- 2,572 MMBtu of natural gas saved in 2011
- 51,430 MMBtu of natural gas saved over the lifetime of the energy efficiency measures
- 13,050 short tons of greenhouse gas emissions avoided
- \$2.5 million in estimated lifetime electric bill savings
- \$728,000 in estimated lifetime gas bill savings

Note: Difficulties at the Management level with one Weatherization contractor had a significant adverse impact on performance in the fourth quarter of 2011.

For more information, please visit: http://www.energy.ri.gov/lowincome/cap.php

### **ENERGY CODE TRAININGS AND OPPORTUNITIES**

National Grid has focused on opportunities for energy savings through the state's energy code. The Company held several energy code trainings throughout 2011. The energy code trainings focused on either residential or commercial codes. Officials, builders, designers and technicians were invited. The trainings count for professional credit.

National Grid is also collaborating with the RI Codes Commission, OER, and Northeast Energy Efficiency Partnership to study the energy code baseline in commercial buildings. Additionally, the Company conducted 40 site visits to new homes as part of a study on the residential energy code baseline. These two studies will help inform strategies for increase energy savings in the future.

### **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.

States participating in RGGI (Connecticut, Rhode Island, New Hampshire, Vermont, New York, New Jersey, Vermont, Maine, Massachusetts, and Delaware) accrue significant economic benefits from energy efficiency investments funded by the program. In Rhode Island, revenues from auctions of allowances (permits to emit one ton of  $CO_2$ ) have been used to create more than \$5 million in a revolving loan fund to finance energy-saving projects for small and large businesses. It has also been used to launch the Heat Loan program which offers residential customers 0% interest loans for retrofitting their homes. Efficiency savings flow into the local economy, boosting economic output and creating jobs economy-wide. RGGI's original Memorandum of Understanding (MOU) allowed each participating state to determine how to distribute allowances independently, as long as at least 25 percent of the value of allowances is used for "consumer benefit." Rhode Island wisely chose to use 100 percent of the after-expense allowance revenues to benefit consumers through re-investing the allowance revenues in cost-effective energy efficiency. Efficiency investments benefit consumers in a number of ways. First, reduced energy consumption due to energy efficiency brings down monthly bills. Second, reduced consumption decreases wholesale electricity prices, delivering additional savings to all consumers. Third, reduced demand for electricity brings down emissions from fossil fuel-fired power plants, decreasing the demand for emissions allowances and the overall cost of RGGI.

Efficiency investments provide additional benefits throughout the economy by creating local efficiencyrelated jobs, reducing expenditures on imported fossil fuels, and boosting consumer spending on other goods and services. Direct employment benefits range from energy service contractors who install insulation and efficiency equipment to manufacturers of advanced energy saving technologies. Indirect employment benefits accrue across the economy as the money consumers save on their monthly energy bills is spent locally.

### **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 and 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 onbill 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 having 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 two lenders participating in the program, Navigant Credit Union and Citizens-Union Savings Bank. Additional programs include the Deep Energy Retrofit and Homes Tier III pilot.

### 2011 RGGI Results

- 160 Heat Loans have been disbursed, worth approximately \$1 million dollars in total value.
- 1,000 businesses received loans for retrofits from the Small Business Revolving Loan Fund.
- The Deep Energy Retrofit has two units under construction and six units in the application process to be completed in 2012.
- The Homes Tier III Pilot could not launch because there are no accredited HVAC contractors to meet EPA requirements. As a result, funds have been shifted to the Deep Energy Retrofit pilot to serve more customers.

### **Report on RGGI-Funded Loan Programs**

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.

### Table 8. Summary of RGGI Impact, Auctions 1-14

Net Revenue (\$ Millions)	\$14.24
EE Funding (\$ Millions)	\$12.72
Jobs Multiplier (Job Years/\$Million of EE Investment)	48
Job-Years Created	610
GSP Multiplier (GSP impact/\$1 EE Investment)	\$5.40
GSP Growth (\$ Millions)	\$68.6

Source: ENE, 2009. Energy Efficiency: Engine of Economic Growth.

AUCTIONS	AUCTION YEAR	NET PROCEEDS*	ENERGY EFFICIENCY FUNDING	STATUS	ENERGY EFFICIENCY INCENTIVES
1-5	2008-2009	\$6,581,188	\$3,950,152	Received March 2010	Rebates and incentives for all energy efficiency programs
			\$2,633,434	Received December 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 January 2012	Small Business Revolving Loan Large Commercial Revolving Loan
11-14	2011	\$2,621,091	\$2,096,873	Anticipated 2012	Planned for rebates and incentives for all energy efficiency programs

### **Table 9. Summary of RGGI-Funded Energy Efficiency Initiatives**

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

### **POLICY RECOMMENDATIONS**

The Council was established by the Comprehensive Energy Conservation, Efficiency and Affordability Act of 2006 to maximize benefits to Rhode Island energy consumers. In carrying out this purpose the Act established the Council's role in providing policy recommendations to the General Assembly, the Public Utilities Commission, and the Office of Energy Resources. Specifically, the 2006 Act requires that the EERMC's annual report include the Council's recommendations regarding any improvements which might be necessary or desirable. (RIGL § 42-140.1-5)

Accordingly, the EERMC respectfully submits the following two priority policy recommendations to the General Assembly and looks forward to working with the General Assembly and all interested parties and stakeholders in further refining and accomplishing these policies in the months and years ahead. In addition the EERMC is providing in this section, an update discussion of a number of recommendations made in previous years.

Priority Recommendation #1: 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.

The EERMC recommends that effective, prudent policies be explored, adapted and enacted to provide the significant benefits of building disclosure and benchmarking practices. The EERMC commits to supporting the investigation and formulation of effective policies similar to those that have been enacted in other jurisdictions to establish policies most appropriate for Rhode Island.

Benchmarking, the practice of comparing buildings of similar size and occupancy type, can provide critical information on state and local buildings and facilities to help monitor energy performance over time, identify and prioritize energy efficiency opportunities, and verify energy and cost savings. Without knowledge of how a building ranks compared to baselines and optimal performance levels, action to address a building's energy usage will not necessarily be a priority. This can result in significantly higher costs to heat, cool and power buildings and facilities at consumer and taxpayer expense.

For the private market, disclosure of building energy performance information creates transparency that helps tenants and investors compare buildings, predict energy costs, and invest in buildings where utility bills are lower. This drives more competition and demand for energy-efficient buildings. Through disclosure policies, commercial buildings and residential homes can also be rated on the measure of the building's energy efficiency, with ratings being disclosed to the public or to entities requiring knowledge of energy performance. Energy disclosures create transparency, and give buyers and lenders access to the energy efficiency level of a building and provide utility information to tenants and occupants.

Priority Recommendation #2: We hope this report underscores the important role of the EERMC in providing ratepayer participation and oversight for the economic and environmental wellbeing of the state. It is in this context, then, that we urge the state legislature to exercise caution in re-directing Least Cost Procurement resources — resources paid by the state's ratepayers as part of a solution to close the state's budget gap. While the EERMC is committed to ensuring that there is a strong Office of Energy Resources, real damage could be done to the state's least cost procurement effort if the body of knowledge, experience and expertise gained by the EERMC since its inception is weakened. It not only will stall the momentum we have all worked so hard to achieve, but would represent unsound economic policy as well.

### **Policy Updates**

### Deployment of RGGI Funds to Support Energy Efficiency Programs and Lower Ratepayer Costs.

RIGL § 23-82-6 states that the allowance revenue from the RGGI program "shall be used for the most costeffective available projects that can reduce consumer energy costs and lower the costs of the RGGI program for consumers[.]" The EERMC continues to agree with the General Assembly's foresight with regard to the use of the RGGI auction proceeds and with the Office of Energy Resources' determination in 2010 to invest 80 percent of the proceeds directly in cost-effective energy efficiency to advance Least Cost Procurement. Of the remainder, 15 percent is planned to be used for renewable and/or energy efficiency projects at K-12 schools and five percent for education targeted to low-income ratepayers. One of RGGI's most important design precedents is the decision to invest auction proceeds in energy efficiency. In addition to saving consumers money on monthly bills, efficiency programs reduce demand for electricity, thus decreasing power plant emissions and making RGGI more cost-effective. Efficiency savings also boost economic output and job growth, as consumers spend less money on imported fossil fuels and more money

in the local economy. To ensure that Rhode Island consumers realize the benefits of the RGGI program, the EERMC recommends that the General Assembly continue to have RGGI proceeds directed to the most cost-effective energy resource — energy efficiency.

### Energy Affordability for Rhode Island Consumers

The challenges for lower income energy users continue to grow steadily — driven by rising fuel prices, weather variability, escalating utility shut-offs, and stagnant or declining household incomes. On top of that, decreased federal funding for the Low Income Heating Assistance Program (LIHEAP) and the Weatherization Assistance Program (WAP) and the expiration of ARRA funds make the situation even more critical. The Council believes that these factors constitute a serious threat to the health and well-being of the entire Rhode Island community and that a comprehensive set of just and equitable solutions must be found soon.

The EERMC intends to build on activities started in 2011 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 energy affordability challenges in Rhode Island. The goal of this outreach will be to identify specific strategies to increase the effectiveness of current low income energy services, including Weatherization and gas and electric utility programs. The Council will also actively seek to coordinate efforts with 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.

### Cost saving, comprehensive, all-fuels efficiency services for all unregulated fuel users

For a limited time in 2010 and 2011 National Grid was able to extend the benefits of energy efficiency to customers who heat their homes and businesses with oil, kerosene, or propane ("delivered fuels"). The Deliverable Fuels Program was made possible by State Energy Plan funds from ARRA and provided residents with incentives and rebates for weatherization measures such as insulation, air and duct sealing, and high-efficiency heating systems. At the end of 2011, 1,175 delivered-fuel heated homes received rebates for heating system upgrades and 526 received rebates for weatherization measures, savings customers an estimated \$1.6 million annually in lower heating bills and reducing heating oil consumption by 6.6 million gallons over the 20-year lifetime of the measures. With ARRA program funding ending in early 2012, National Grid is extending incentives to deliverable fuel homes through the electric EnergyWise program in 2012 to provide continuity of services to this sector as an interim step. However, a long-term, sustaining solution to the high costs of home heating oil and other delivered fuels customers is still needed.

As it did in 2011, the EERMC recommends that the General Assembly institute a stable revenue stream for sustained efficiency programs for homes heating with delivered fuels.

The opportunity to reduce Rhode Islanders' heating burden remains great and ultimately, it makes sense for the growing infrastructure that delivers whole-building efficiency in Rhode Island to be supported by a policy that makes the same level of cost-saving services available to Rhode Islanders who live in delivered fuelheated homes — approximately 42% — as those who live in natural gas-heated buildings.

Working with the oil dealers and other stakeholders, such an effort could be funded by a cost-saving efficiency charge for oil customers to provide a revenue stream that would be used to do comprehensive efficiency and weatherization work delivered fuel homes. For the Rhode Island homes that heat with natural gas, the existing efficiency programs have succeeded in reducing heating bills by up to 30% with a benefit to cost ratio of \$4 in savings for every \$1 invested in energy efficiency. If Rhode Island did the same for the 42% of Rhode Island homes heating with delivered fuels those consumers would save tens of millions of dollars and hundreds of local efficiency and weatherization jobs would be created.

The EERMC again commits itself to continue working with the General Assembly, fuel oil dealers, and other stakeholders to establish a sustainably funded, costsaving efficiency program offering for consumers who heat with oil, kerosene, or propane.

### **Financing Strategies**

As part of its involvement in every annual Energy Efficiency Program Plan and the recently complete Three-Year Plan covering 2012–2014, the EERMC emphasized the vital function that financing options provide in effectively leveraging utility ratepayer funds by encouraging and enabling customers in Rhode Island to pay for more of the upfront costs of energy efficiency themselves.

National Grid has established revolving loan funds for Commercial and Industrial customers and is actively seeking to expand these pools. The Council will continue to monitor and support these efforts to maintain and expand this valuable component of energy efficiency program delivery. Beyond these efforts, The EERMC also makes the following recommendation:

• PACE Financing: The EERMC continued monitoring the viability of Property Assessed Clean Energy (PACE) financing. Initial enthusiasm for this approach led to the passing of authorizing legislation for this innovative financing approach in a number of states. That enthusiasm was dramatically reduced by decisions in 2010 on the part of Fannie Mae and Freddy Mac (major lenders in the national secondary mortgage markets) that they would not accept loans that had PACE liens on properties. However, commercial programs were not adversely affected, because Fannie Mae and Freddie Mac do not purchase commercial mortgages and Federal Housing Finance Agency has no purview over national banks that do. During 2011 new commercial programs were established in a number of cities around the country.

**Recommendation/Update:** Given the length of time that is required to establish a PACE program, it would be reasonable for Rhode Island move forward with drafting and passing enabling legislation focused on commercial PACE. If a commercial PACE program is to be initiated, we recommend that efforts be undertaken to identify the most appropriate management body to establish an infrastructure and program design — either at the state or municipal level. Discussions with local mortgage lenders will be important to establish early buy-in. And perhaps most importantly, verifying that there is sufficient annual demand from commercial property owners for this service should precede extensive commitment of resources. Commercial PACE is a financing vehicle – not an automatic creation of demand. As the commercial PACE industry grows nationally, increased public awareness will cause some natural growth in demand.

# ENERGY EFFICIENCY CASE STUDIES

THE POWER OF ACTION

# EnergyWise

# Single family home, Rhode Island



National Grid customers can request a FREE in-home energy assessment by calling the EnergyWise program. An assessment will determine a customer's current home energy use and provide recommended measures they can make to improve efficiency and save money.

An in-home energy assessment was completed for this Bungalow style home located in Riverside, RI. The home has 1,800 square feet of living space, and was built in 1930.

Upon completion of the work, the homeowner was eligible to receive free air sealing and a rebate of over \$1,400 towards the cost of insulation.

### **Project Summary**

- Air Sealing
- Insulation
- Weather Stripping
- Pipe Insulation

### "

The EnergyWise Program really helped us save money on some big-time improvements to our home. It would have been tough to afford otherwise. Upstairs used to get really hot in the summer and now we've really noticed a big difference – it's much cooler up there. It surprised us how smoothly everything went, and we're grateful National Grid helped us make these improvements. It's nice to get some money back from the gas company instead of always paying.

- Terri Sears, Homeowner

### Savings Summary

#### The Need—

Improve efficiency and reduce utility costs.

### The Solution-

Offer an incentive to consumers to have an in-home energy assessment completed.

The Result—	
Project Cost	\$1,898.79
National Grid Incentive	\$1,407.27
Annual kWh Savings	459 kWh
Annual Therm Savings:	329.16
Annual Cost Savings:	\$561.00
C02 Lifetime Reduction	1.6

For more information on National Grid's energy efficiency programs, please visit **www.powerofaction.com/efficiency** or call **1-888-633-7947**.

EE4775 EnergyWise\_Sears 10/10

THE POWER OF ACTION

# EnergyWise

# Single Family Home, Rhode Island



National Grid electric customers can request a FREE in-home energy assessment by calling the EnergyWise program. An assessment will determine the customer's current home energy use and provide recommended measures they can make to improve efficiency and save money.

An in-home energy assessment was completed for this Cape Cod style home located in Westerly, RI. The home has 1,739 square feet of living space, and was built in 1957.

Upon completion of the work, the homeowner was eligible to receive free air sealing and a rebate of over \$1,700 towards the cost of insulation.

### **Project Summary**

- Air sealing
- Insulation
- Installed high-efficiency compact fluorescent lighting and electric heat thermostats

### "

I was extremely pleased with the staff from the EnergyWise Program. They were very efficient, professional and courteous. They performed their tasks with the least amount of inconvenience. I have already noticed a significant decrease in my electric bills. I would highly recommend National Grid's EnergyWise Program.

- Rose Marie Christina, Homeowner

### Savings Summary

#### The Need-

To reduce electric consumption and energy bills.

#### The Solution—

Offer incentives to consumers to have an in-home energy assessment completed.

The Result—	
Project Cost	\$2,319.88
National Grid Incentive	\$1,746.58
Annual kWh Savings	14680. 44 kWh
Annual Cost Savings:	\$2,697.84

For more information on National Grid's energy efficiency programs, please visit **www.powerofaction.com/efficiency** or call **1-888-633-7947**.

EE4775 EnergyWise RI 10/10

THE POWER OF ACTION

# **High-Efficiency Heating**

# A Single Family Home in Barrington, Rhode Island



### "

I went with my plumber's recommendation to replace the old inefficient system. The heat is kept at 65 degrees and dropped to 60 degrees at night, with the help of my new programmable thermostat. The new boiler was installed with the purpose of resale in the future.

> -The MacIntyre Family Homeowners

The residential high-efficiency heating program from National Grid is available to natural gas heating customers residing in Rhode Island, like the MacIntyre family. The family resides in a single-family salt box colonial in Barrington, Rhode Island. When it came time to replace their heating and water heating systems, the family turned to the efficiency experts at National Grid. The MacIntyre's installed a highefficiency space heating unit, water heating unit and programmable thermostat, qualifying them for \$825 worth of mail-in rebates from National Grid.

### Project Summary Energy Efficiency Measures Installed

- An Indirect Water Heater, which is a type of high-efficiency hot water storage unit. An indirect hot water unit uses the home's space heating unit to heat a fluid that's circulated through a heat exchanger in the storage tank.
- A High-Efficiency Forced Hot Water Boiler, which is a type of high-efficiency space heating unit. Natural gas is burned to heat boiler water which is circulated throughout the home as heat. High-efficiency units use less energy to produce the same amount of heat as standard equipment, saving up to 30%\* on heating costs, year after year.

\*Savings Sources: Public Service Commission 2010 Technical Manual and the ENERGY STAR® website.

EE4964 McIntyre (4/11) RI

A Programmable Thermostat, saving up to \$180\* a year by managing heating needs automatically and efficiently.

### Savings Summary

### The Need –

Replace older heating and water heating systems to help the MacIntyre's use less energy and save money.

### The Solution -

Installed a high-efficiency heating unit, water heating unit and programmable thermostat with the help of mail-in rebates from National Grid.

#### The Result -

National Grid Incentive	\$925
Cost to the Customer	\$7,100

For more information on energy efficiency programs from National Grid, please visit www.powerofaction.com/ efficiency or call 1-800-292-2032.

THE POWER OF ACTION

# **High-Efficiency Heating**

# A Single Family Home in Newport, Rhode Island



### "

We wanted a unit that was quiet and compact, with good solid engineering. We looked for models with excellent recommendations from industry experts and other homeowners. The rebates from National Grid were a good thing, allowing us to get a better system.

> -The Powers Family Homeowners

The residential high-efficiency heating program from National Grid is available to natural gas heating customers residing in Rhode Island, like the Powers family. The family resides in a single-family home in Newport, Rhode Island. When it came time to replace their heating and water heating systems, the family turned to the efficiency experts at National Grid.

### Project Summary Energy Efficiency Measures Installed

- A Forced Hot Water Condensing Boiler, which is a type of highefficiency space heating unit. Natural gas is burned to heat boiler water which is circulated throughout the home as heat. Condensing units extract additional heat from exhaust gas to help heat your home. High-efficiency units use less energy to produce the same amount of heat as standard equipment, saving up to 30%\* on heating costs, year after year.
- An Indirect Water Heater, which is a type of high-efficiency hot water storage unit. An indirect hot water unit uses the home's space heating unit to heat a fluid that's circulated through a heat exchanger in the storage tank.

### Savings Summary

### The Need -

Replace older heating and water heating systems to help the Powers' use less energy and save money.

### The Solution -

Installed a high-efficiency heating unit and water heating unit with the help of mail-in rebates from National Grid.

### The Result -

National Grid Incentive	\$1,400
Cost to the Customer	\$10,480

For more information on energy efficiency programs from National Grid, please visit www.powerofaction.com/ efficiency or call 1-800-292-2032.

\*Savings Sources: Public Service Commission 2010 Technical Manual and the ENERGY STAR® website.

EE4964 Powers (4/11) RI

THE POWER OF ACTION

# **High-Efficiency Heating**

# A Single Family Home in East Providence, Rhode Island



### "

In converting from oil to gas, the rebate played a major part, as well as the recommendation from my plumber.

> -The Rebello Family Homeowners

The residential high-efficiency heating program from National Grid is available to natural gas heating customers residing in Rhode Island, like the Rebello family. The family resides in a single-family ranch style home in East Providence, Rhode Island. They decided to switch from oil heat to natural gas heat, installing high-efficiency natural gas heating and water heating equipment as part of the conversion process.

The Rebello's installed a high-efficiency space heating unit, water heating unit and programmable thermostat, qualifying them for \$1,325 worth of mail-in rebates from National Grid.

### Project Summary Energy Efficiency Measures Installed

- A Forced Hot Water Condensing Boiler, which is a type of highefficiency space heating unit. Natural gas is burned to heat boiler water which is circulated throughout the home as heat. Condensing units extract additional heat from exhaust gas to help heat your home. High-efficiency units use less energy to produce the same amount of heat as standard equipment, saving up to 30%\* on heating costs, year after year.
- An Indirect Water Heater, which is a type of high-efficiency hot water storage unit. An indirect hot water unit uses the home's space heating unit to heat a fluid that's circulated through a heat exchanger in the storage tank.
- A Programmable Thermostat, saving up to \$180 a year by managing heating needs automatically and efficiently.

\*Savings Sources: Public Service Commission 2010 Technical Manual and the ENERGY STAR® website. EE4964 Rebello (4/11) RI

### Savings Summary

### The Need -

Enable the homeowners to go highefficiency in their conversion from oil to gas heating and water heating equipment.

### The Solution -

Installed a high-efficiency heating unit and water heating unit with the help of mail-in rebates from National Grid.

### The Result -

National Grid Incentive	\$1,425
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For more information on energy efficiency programs from National Grid, please visit www.powerofaction.com/ efficiency or call 1-800-292-2032.

THE POWER OF ACTION

# Large Business Program Blue Cross Blue Shield of Rhode Island



Source: SMMA

#### **Blue Cross & Blue Shield Rl**

Since 1939, Blue Cross & Blue Shield of Rhode Island, a non-profit corporation, has been dedicated to improving the health of its members, strengthening relations with providers and simplifying its business processes. As a LEED New Construction Gold recipient, the new Blue Cross & Blue Shield RI headquarters treads lightly on the environment while offering a heathier, more comfortable workplace for employees and a sound investment for the company.

### **Project Summary**

### High Efficiency Lighting Systems and Controls

- High efficiency lighting design layout and system equipment
- Curtainwall fenestration design to optimize the use of daylight and reduce demand on the electrical lighting
- Occupancy sensors
- Daylight dimming controls

EE4775 Blue Cross 12/10

#### High-Performance Building Envelope

- Improved curtainwall system thermal value
- Additional Insulation at Opaque
   envelope
- Additional roof insulation
- Cool roof: Reflective roof membrane and green vegetated roof

### Efficient Mechanical Equipment and Systems

- High-performance HVAC Chilled water system
- Premium energy efficiency motors in fan boxes
- Static pressure reset
- Dual enthalpy economizer
- Data room water-side economizer
- Premium-efficient motors
- CO2 Sensors
- Chemical-free water treatment
- Energy Management System
- Measurement and verification program

#### **Strategic Partners**

Symmes Maini & McKee Associates 1000 Massachusetts Avenue Cambridge, MA 02138-5397

National Grid

### Savings Summary

#### The Need-

Achieve a high performance, energy-efficient building space.

#### The Solution -

Integrated design with high efficiency lighting and controls, rooftop HVAC system, economizers, and premium motors.

#### The Result-

Total Project Cost	\$612,557
National Grid Incentive	\$382,338
Cost to Customer	\$230,220
Simple Payback	1.9 years
Estimated Annual Electric Energy Savings	1,119,849 kWh
Annual Electric Cost Savings	\$118,368
CO <sub>2</sub> Lifetime Reduction	94,718 tons
SO <sub>2</sub> Lifetime Reduction	36 tons
NO <sub>x</sub> Lifetime Reduction	16 tons

For more information on National Grid's energy efficiency programs, please visit **www.powerofaction.com/efficiency** or call **1-877-378-2762**.

THE POWER OF ACTION

# Small Business Program

# Mews Tavern



MewsTavern Wakefield, RI

#### **Mews Tavern**

Originally a small fishermen's tavern which opened in 1947, owners Dave and Danny have transformed Mews Tavern into a legendary Rhode Island restaurant and bar. It's an authentic Celtic Pub where you can enjoy the best burger in South County and enjoy live entertainment. There is a great deal of history packed into Mews. People from all over come to visit this legendary establishment and now all patrons will drink and dine under their new energy efficient lighting that was installed after Mews took advantage of National Grid's Small Business Program. After a free energy evaluation they decided to move forward with recommended measures that helped decrease energy costs and their environmental impact.

#### **Efficiency Improvements**

Mews installed an Energy Management System and new energy efficient custom lighting.

### Savings Summary

### The Result

### Project 1:

Project Cost	\$28,159.45
National Grid Incentive	\$19,711.60
Cost to Customer	\$8,447.85
Annual Cost Savings	\$10,438.62
Annual kWh savings	77,750

For more information on National Grid's energy efficiency programs, please visit www.powerofaction.com/ smallbusinessNE.

EE4976 Mews (5/11)

THE POWER OF ACTION

# Small Business Program

# Phred's Drug



Phred's Drugs Cranston, RI

### "

The lights are nice and bright and the LED cooler lights enhance the product. I was impressed. It was easy there was no disruption to my business.

Charles Rossi, Owner

#### Phred's Drug

Established in 1956, Phred's Drug in Cranston, RI has been serving their customers diverse needs for 55 years. The owner, Charles Rossi, comes from a long line of pharmacists and intends to maintain the commitment, to the community that Phred's is known for. As part of that commitment he decided to take advantage of National Grid's Small Business Program and get a free energy evaluation that would identify ways that Phred's could decrease their energy consumption and reduce their energy costs. Charles chose to switch to energy efficiency overhead lights and LED cooler lights.

### **Efficiency Improvements**

Phred's Drug installed over head lights—T8 lamps and ballasts and changed out refrigeration lights for LED cooler lights.

### Savings Summary

#### **The Result**

Project Cost	\$21,395.75
National Grid Incentive	\$14,977.05
Cost to Customer	\$6,418.70
Annual Cost Savings	\$4,561.46
Annual kWh savings	46,131

Customer financed their portion of the costs on their electric bill interest-free over 24 months.

For more information on National Grid's energy efficiency programs, please visit www.powerofaction.com/small businessNE.

EE4976 Phreds (4/11)

THE POWER OF ACTION

# Small Business Program

# **Planet Fitness**



Planet Fitness, Warwick, RI

### "

Better for the environment, better for everyone in a 100 different ways, better for my bottom line.

Steve Eddleston, Owner

#### **Planet Fitness**

Planet Fitness in Warwick takes pride in being a business that keeps costs down for its customers. They strive to provide a health club that is clean, comfortable and hassle-free. One key way to keep the costs of running a business down is to decrease energy costs.

Planet Fitness received a free, noobligation energy evaluation through National Grid's Small Business Program and took advantage of incentives that allowed them to install energy efficient lighting throughout the facility which resulted in decreased energy costs.

#### **Efficiency Improvements**

**Project 1**: Custom overhead and High Bay Induction lighting

**Project 2:** Occupancy sensors, LED lighting and T8 lamps and ballasts

### Savings Summary

### **The Result**

### Project 1:

Project Cost	\$44,741.20
National Grid Incentive	\$31,318.84
Cost to Customer	\$11,409.01 includes 15% discount for paying in one lump sum
Annual Cost Savings	\$13,801.54

#### Project 2:

Project Cost	\$7,339.43
National Grid Incentive	\$5,137.601
Cost to Customer	\$1,871.55 includes 15% discount for paying in one lump sum
Annual Cost Savings	\$5,358.91

For more information on National Grid's energy efficiency programs, please visit www.powerofaction.com/small businessNE.

EE4976 Planet (4/11)

THE POWER OF ACTION

# Small Business Program PMI Incorporated



PMI Incorporated, Woonsocket, RI

### "

The Small Business Program enables us to upgrade to energy efficient equipment that meet the demands of the business. It's a fantastic offer. A no-brainer.

Bill Ober, President

#### **PMI Incorporated**

PMI-Polyurethane Molding Industries, Inc.custom molds components for medical equipment, industrial and transportation oem applications. The company also maintains cnc machine shop for mold building. As a Rhode Island-based family run company with over 30 years of experience, the entire company is committed to product quality and cost-effective molded solutions for their customers. Over the past two years they have also acted on their commitment to improving their energy efficiency and it began with a free energy evaluation from National

EE4976 PMI (4/11)

Grid. After National Grid identified areas of their facility where they could decrease costs and energy consumption, PMI pursued two energy efficiency products with the help of financial incentives from National Grid's Small Business Program. Initially they switched to more efficient lighting and then they increased the efficiency of their compressed air system.

### **Efficiency Improvements**

Project 1:

PMI replaced fixtures and ballasts and lamps and put in occupancy sensors

#### Project 2:

Compressed Air system efficiency project. PMI Installed a 40 HP with Integrated Cycling Air Dryer Variable Speed Drive (VSD) air compressor

### Savings Summary

#### **The Result**

#### Project 1:

Project Cost	\$5604.16
National Grid Incentive	\$3,922.91
Cost to Customer	\$1681.25
Annual Cost Savings	\$1,193.62

### Project 2:

Project Cost	\$41,541.84
National Grid Incentive	\$29,079.29
Cost to Customer	\$12,462.55
Annual Cost Savings	\$4,561.46
Annual kWh savings	31,226

For more information on National Grid's energy efficiency programs, please visit www.powerofaction.com/small businessNE.

THE POWER OF ACTION

# Small Business Program Spumoni's Restaurant



Spumoni's Restaurant Pawtucket, RI

#### **Spumoni's Restaurant**

Established in 1978, Spumoni's in Pawtucket is one of Rhode Island's favorite Italian seafood restaurants, offering authentic home made Italian cuisine. A family run business, owner George Jr. and his sister Michele want to uphold the quality and service that their father began when the family entered the restaurant business. In order to cut energy costs and decrease their environmental impact, they took advantage of National Grid's Small Business Program, got a free energy evaluation and moved forward with recommended measures that decreased their energy costs. George and Michele chose to switch to energy efficiency overhead lights and LED recessed cans.

#### **Efficiency Improvements**

Spumoni's installed over head lights—T8 lamps and ballasts and14 Watt LED recessed Cans.

### Savings Summary

#### **The Result**

Project Cost	\$8,281.26
National Grid Incentive	\$6,169.54
Cost to Customer	\$2,111.72
Annual Cost Savings	\$1,638.59
Annual kWh savings	13,857

Spumoni's owners chose to pay their portion of the project cost in one lump and received 15% discount.

For more information on National Grid's energy efficiency programs, please visit www.powerofaction.com/ smallbusinessNE.

EE4976 Spumonis (4/11)

## RHODE ISLAND ENERGY EFFICIENCY AND RESOURCE MANAGEMENT COUNCIL

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