

Rhode Island Energy Efficiency and Resource Management Council

Annual Report to the General Assembly: Required Under RIGL § 42-140.1-5: April 2010

Report of the Energy Efficiency and Resource Management Council:
Year 2009 Programs and Activities

www.rieermc.ri.gov



Letter from the Chair

To Governor Donald L. Carcieri, Senate President M. Teresa Paiva-Weed,
House Speaker Gordon D. Fox, and members of the General Assembly,

On behalf of the Energy Efficiency and Resource Management Council (“EERMC” or “Council”) please accept this April 2010 Annual Report to the General Assembly, for the period April 16, 2009 to April 15, 2010, the Council’s third year of operation. This 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,” as required by R.I. General Law § 42-140.1-5.

The Council was established by the Comprehensive Energy Conservation, Efficiency and Affordability Act of 2006 to maximize benefits to Rhode Island energy consumers. The Council has had a very productive year pursuing its four primary purposes established in R.I. General Law § 42-140.1-3:

“(1) Evaluate and make recommendations, including, but not limited to, plans and programs, with regard to the optimization of energy efficiency, energy conservation, energy resource development; and the development of a plan for least-cost procurement for Rhode Island; and

(2) Provide consistent, comprehensive, informed and publicly accountable stakeholder 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.”

In working toward these purposes the Council has a statutory role to advise and partner with the Office of Energy Resources (“OER”). The Commissioner of OER serves as the Executive Secretary and Director as a non-voting, ex-officio member of the EERMC. The seven voting members of the Council are persons representing: large commercial/industrial users,

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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

Sam Krasnow- Environmental
ENE (Environment Northeast), Policy
Advocate & Attorney

Joseph Newsome- Low Income Users

Joseph Cirillo- Energy Design/Codes
Former Building Commissioner

Residential Users
Vacant- Needs Appointment

Ex-Officio Members

Electric Distribution Utility
Vacant-Needs Appointment

Gas Distribution Utility
Vacant- Needs Appointment

Victor Allienello
President, East Providence Fuel Oil

Executive Director and Secretary
Commissioner
Office of Energy Resources

small commercial/industrial users, residential users, low income users, environmental issues pertaining to energy, energy design and codes, and energy regulation and law. The other three, non-voting ex-officio members, are representatives of the electric distribution utility, gas distribution utility, and fuel oil or heating fuel industry.

The Council engages in policy and planning advice to the Governor, General Assembly, and Public Utilities Commission, including in 2009 participating in PUC dockets on the 3-year and annual energy efficiency programs, system reliability matters, and the electric rate case which included a revenue decoupling proposal.

The EERMC hired the VEIC/Optimal Energy Consulting Team in 2009 to provide technical support to the Council on all areas of program planning and delivery, policy development, utility implementation. For example, in 2009 the VEIC/Optimal Consulting Team provided support and oversight of the implementation of the National Grid 2009 Annual Plan and Budget and worked with the Collaborative Subcommittee to develop the 2010 Annual Plan and Budget. The VEIC/Optimal Energy team was a leading author of this Annual Report.

This 2010 Annual Report contains a summary of the activities of the Council over the past year including its role in:

- (1) The implementation of Least Cost Procurement;
- (2) The implementation of System Reliability Procurement;
- (3) Identifying Opportunities for Energy Efficiency; and
- (4) Advising the OER on the implementation of the Regional Greenhouse Gas Initiative.

The Annual Report also includes the Council 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 2010 marks the second year of the 3-year Least Cost Procurement Plan for electric energy efficiency, which when fully implemented by National Grid, will save Rhode Island consumers more than \$280 million by efficiency investments made through 2011, create hundreds of jobs, and result in more dollars available to circulate in the local economy. These efficiency programs carry out the General Assembly's far-sighted, nation leading 2006 mandate to ensure it is Rhode Island policy to invest first in lower cost efficiency resources (at 3-5¢ per lifetime kWh saved) before more expensive supply (at 8-10¢ per kWh).

We look forward to continuing to work to improve the affordability, efficiency, and economic benefits of the state's energy system in the year to come.

Respectfully Submitted,

S. Paul Ryan, Chair,
Energy Efficiency and Resources Management Council
April 15, 2010



Please visit the EERMC online at: <http://www.rieermc.ri.gov>

Least Cost Procurement

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Energy Efficiency: Investing in Rhode Island

Rhode Island is a leader in implementing high-quality energy efficiency programs. In 2009, the American Council for an Energy Efficiency Economy (ACEEE) ranked Rhode Island as ninth in the nation in the State Energy Efficiency Scorecard; a scoring system that assigns credit for states' utility and public benefits programs and policies, transportation policies, building energy codes, combined heat and power, state government initiatives, and appliance and equipment efficiency standards.¹ This top ten ranking clearly indicates that Rhode Island's energy-efficiency legislation, policies, and programs are national models to be emulated.

Energy efficiency is an invaluable energy resource to the state. Rhode Island's energy-efficiency programs help create jobs, lower energy bills, lessen dependence on foreign fuels, reduce energy consumption, and decrease the emissions of carbon dioxide, nitrogen oxides, and sulfur dioxides from power plants. Rhode Island's residents, businesses, and government benefit from these economic, environmental, and societal impacts.

In 2009 the Rhode Island Public Utilities Commission (PUC) in compliance with "The Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006," approved a significantly expanded energy efficiency plan that supported National Grid to increase investments in energy efficiency resources that are cheaper than supply. Successful implementation of the plan in 2009 represents a huge step for Rhode Island in reforming its energy policy by investing in lower cost, cleaner energy efficiency that reduces consumer bills.

In 2009, Rhode Island's energy efficiency programs served over 100,000 customers, resulting in 81 million kilowatt-hours saved in 2009 and 843 million kilowatt-hours saved over the lifetime of the measures.² This is equivalent to:

- Providing electricity to more than 119,000 homes for one year³
- Reducing customers' energy bills by more than \$14 million in 2009⁴
- Reducing customers' energy bills by more than \$147 million over the lifetime of the efficiency measure
- Avoiding the emissions of 16 million tons of carbon dioxide in 2009⁵

2009 Program Metrics

Customers Served	• 106, 571
Energy Savings	• 16,923 kW • 81,118 MWh
CO ₂ Emissions Avoided	• 16,000,000 tons

"Rhode Island sends over \$1 billion out of the region each year for energy consumption, but the 2006 legislation stops the bleeding. As a result of Least Cost Procurement, energy dollars go toward local efficiency programs, resources, and jobs before being spent on expensive out-of-state supply."

*- Samuel Krasnow,
EERMC*

¹ American Council for an Energy Efficient Economy. 2009 State Energy Efficiency Scorecard. <http://aceee.org/pubs/e097.htm>

² National Grid, "Summary of 2009 Target and Preliminary 4th Quarter Results," March, 2009.

³ Rhode Island homes consume, on average, 589 kWh per month. EIA, "Average Monthly Billing by Census Division, State, 2008". See:

<http://www.eia.doe.gov/cneaf/electricity/esr/table5.html>.

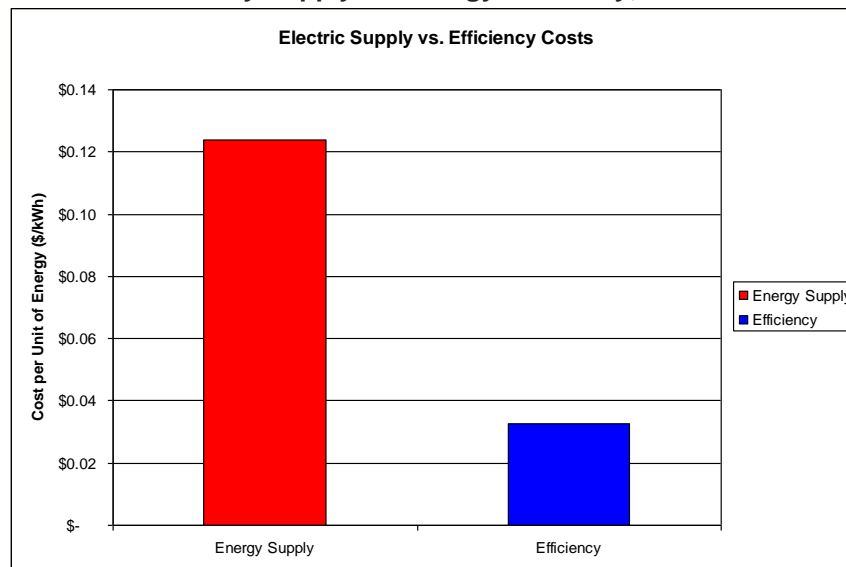
⁴ Average rate of 17.45¢ per kWh in Rhode Island. EIA, "Average Monthly Billing by Census Division, State, 2008". See: <http://www.eia.doe.gov/cneaf/electricity/esr/table5.html>.

⁵ Independent System Operator-New England, "2007 New England Marginal Emissions Rate Analysis."

When efficiency is allowed to compete on a dollar-for-dollar basis with supply, it will win and the result is dramatically lower energy costs for Rhode Island. Directing power companies to purchase all cost-effective efficiency, DG, and renewable energy will drive customer costs down in Rhode Island and be a powerful hedge against fast rising oil and natural gas prices.

The 2009 Plan is part of a larger 3-year “Least Cost Procurement Plan,” for 2009, 2010, and 2011 that was approved by the PUC in April 2009. 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. These efficiency efforts are ‘least cost’ because investing in efficiency measures is one-third as expensive as buying power from generating plants. EERMC Opportunity Report Phase I shows that in 2008 efficiency investments cost less than 4¢ per lifetime kWh, whereas electricity supply costs 12¢ per kWh. For every \$1 invested in energy efficiency, Rhode Island receives total economic benefits of more than \$4.

Chart A. Price of Electricity Supply vs. Energy Efficiency, 2008



Achieving the savings goals outlined in the 3-year plan would put Rhode Island in the top 5 states nationally for annual savings from electric efficiency investments. The plan calls for increasing investments in cost-effective energy efficiency measures to \$43 million in 2011, up from \$24.6 million in 2009 and \$31 million in 2010. If Rhode Island is able to implement the ramp-up in investments and program innovations fully in 2010 and 2011, Rhode Island ratepayers will see approximately \$280 million in net lifetime benefits.

Rhode Island’s energy efficiency programs serve as an economic development engine, quickly paying for themselves through increased economic activity and job creation. Jobs such as Leadership in Energy and Environmental Design (LEED) architects, energy auditors, lighting installers, HVAC technicians, and energy-efficiency entrepreneurs are among the growing options for the green workforce in the state.

A recent report shows that increasing efficiency program investments to \$1 billion over 15 years would increase economic activity by \$8.7 billion (2008) as consumers spend energy bill savings in other critical economic sectors. Of this total, \$5.7 billion would contribute to the gross state product, with \$4.9 billion returned to workers through increased real household income and employment equivalent to 51,000 job years (one full-time job for a period of one year).¹

¹Howland, J., Murrow, D., Petraglia, L., Cumings, T. Energy Efficiency: An Engine of Economic Growth. October 2009. Available from: <http://www.environmental.org/resources/open/p/id/964/resource/Energy%20Efficiency%20Engine%20of%20Economic%20Growth>. These economic benefits are the result of investments in energy efficiency measures over 15 years and 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.

National Grid Summary Graphs

National Grid is charged under the Act with the responsibility of delivering energy efficiency under Least Cost Procurement. The following pages highlight the energy efficiency programs successfully delivered by national Grid to its customers in Rhode Island in 2009 and prior years. Figures for 2010 are based on the approved energy efficiency program plan for 2010

Chart B. Energy Efficiency Program Costs and Total Economic Benefits by Program Year

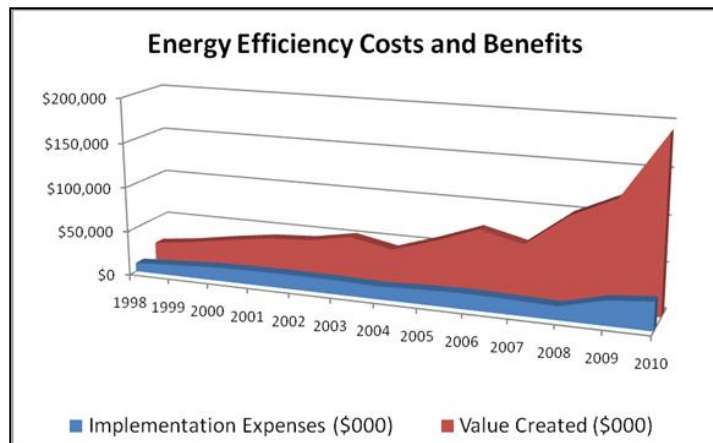
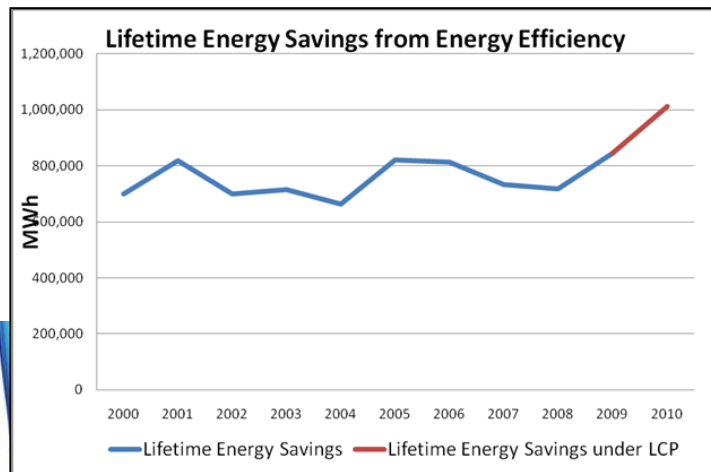


Chart C. Lifetime Megawatt-hour Savings by Program Year



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Investing in energy efficiency creates benefits in the wider economy. First, living in more efficient homes and using efficient appliances will reduce our energy consumption, lowering our energy bills, and freeing up money for spending in other parts of the economy. Second, by reducing our exposure to swings in energy prices, efficiency investments have the added benefit of hedging against future high energy prices.

Incentives to Customers in Rhode Island Cities and Towns in 2009

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Last year, Rhode Islanders received more than \$21,000,000 in National Grid incentives and rebates to invest in energy efficiency projects. The rebates and incentives are delivered through numerous National Grid programs targeted to residents, businesses and municipalities. Each year, the amount that each city or town receives is based on customer participation in energy efficiency programs. You can encourage the residents and businesses in your town to participate in National Grid energy efficiency programs by visiting: www.powerofaction.com

Table A. Energy Efficiency Incentives Provided to Residential, Commercial, and Industrial Customers by National Grid in 2009
(National Grid incentives for gas efficiency not included)

BARRINGTON	\$225,641	NEWPORT	\$400,813
BRISTOL	\$479,512	NORTH KINGSTOWN	\$713,679
BURRILLVILLE	\$31,457	NORTH PROVIDENCE	\$1,007,629
CENTRAL FALLS	\$335,924	NORTH SMITHFIELD	\$266,953
CHARLESTOWN	\$76,857	PAWTUCKET	\$883,606
COVENTRY	\$339,339	PORTSMOUTH	\$215,365
CRANSTON	\$1,525,293	PROVIDENCE	\$3,607,148
CUMBERLAND	\$746,275	RICHMOND	\$113,126
EAST GREENWICH	\$231,657	SCITUATE	\$59,792
EAST PROVIDENCE	\$989,390	SMITHFIELD	\$662,161
EXETER	\$45,887	SOUTH KINGSTOWN	\$891,898
FOSTER	\$40,616	TIVERTON	\$204,420
GLOCESTER	\$344,731	WARREN	\$229,185
HOPKINTON	\$97,580	WARWICK	\$1,625,130
JAMESTOWN	\$46,431	WEST GREENWICH	\$80,252
JOHNSTON	\$1,172,388	WEST KINGSTON	\$25,482
LINCOLN	\$328,509	WEST WARWICK	\$547,690
LITTLE COMPTON	\$35,101	WESTERLY	\$212,871
MIDDLETOWN	\$481,423	WOONSOCKET	\$519,781
NARRAGANSETT	\$549,735	Total	\$21,261,651

2009-2011 Least Cost Procurement Plan

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The following table shows the ramp-up in efficiency investments set out in the 2009-2011 Least Cost Procurement Plan filed in the fall of 2008. The actual program costs and energy savings achieved in 2008 and 2009, and the goals submitted in the 2010 efficiency plan, may differ slightly from those described in Table B below. Charts C and D on the following page illustrate the actual savings achieved in the 2008 and 2009 program years.

Table B. 2009-2011 Energy Efficiency Procurement Plan: Summary of Benefits, Costs, and Savings (\$000)

	2008	2009	2010	2011	3 Year Total
NPV Net Benefits (\$000)	\$60,341	\$78,278	\$93,458	\$109,866	\$281,602
NPV Utility Costs (\$000)	\$14,861	\$24,430	\$34,739	\$43,296	\$102,461
TRC Benefit/Cost	4.00	3.22	2.95	2.83	2.97
Annual Energy Savings (MWh)	54,268	74,387	88,546	102,566	265,499
Annual kW	9,154	12,555	15,154	17,815	45,524
Lifetime MWh	636,748	893,011	1,084,987	1,272,891	3,250,888
Cost/Lifetime kWh	\$0.032	\$0.039	\$0.044	\$0.047	\$0.044

Notes: Net benefits=benefits-(participant costs +utility costs-shareholder incentive)
Utility costs exclude shareholder incentive
TRC Benefit/Cost includes shareholder incentive as a cost

The 3-Year Least Cost Procurement plan places Rhode Island firmly on track to be a leader in energy efficiency efforts. This precedent-setting commitment to energy efficiency investment will allow thousands of more Rhode Island homes and businesses to participate in programs that put money in their pocket, grow jobs in the local economy and clean up our energy supply.

Savings from Energy Efficiency

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Energy efficiency remains the most affordable, most immediately available, and most effective way to meet our energy needs and reduce greenhouse gas pollution in the power sector. The cheapest and cleanest power plant is the one that is never built, and the economic and environmental savings will go back to the people and communities of Rhode Island.

Chart C. Savings from Energy Efficiency as a Percentage of Total Consumption

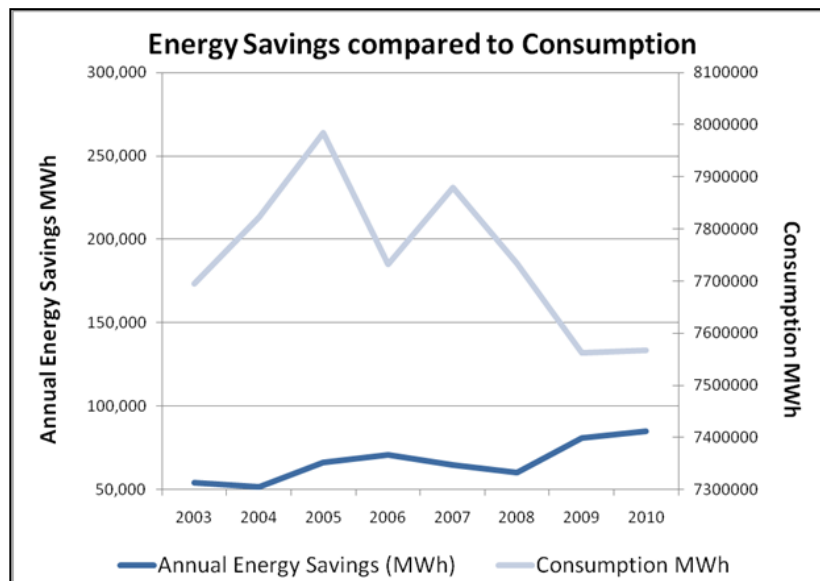
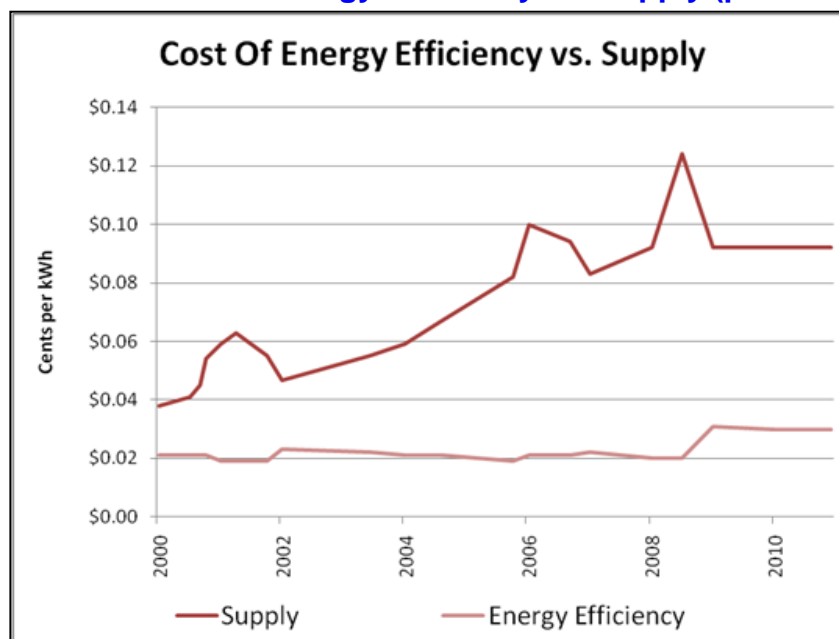


Chart D. Cost of Energy Efficiency vs. Supply (per kWh)



National Grid Energy Efficiency Programs

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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[®] Homes Program promotes construction of energy efficient homes by offering technical and marketing assistance.
- ENERGY STAR[®] Incentives to builders of new energy efficient homes that comply with the program's performance standards.
- ENERGY STAR[®] Products promote high efficiency appliances such as: refrigerators, room air conditioners, and electronics.
- ENERGY STAR[®] Lighting promotes compact fluorescent lamps and fixtures by discounting the price through instant rebates at retail stores or through mail order.
- ENERGY STAR[®] Central Air Conditioning promotes the installation of high efficiency central air conditioners. The program provides contractor training for installation and testing high efficiency systems. The program offers rebates for new ENERGY STAR[®] systems, and incentives for checking new and existing systems.
- High Efficiency Heating Equipment offers rebates for new energy efficient natural gas equipment including boilers, furnaces, water heating equipment, thermostats, and boiler reset controls. The ENERGY STAR[®] Heating program offers rebates for new energy efficient oil or propane furnaces and boilers.

For more information, visit www.powerofaction.com

2009 Results

3,500 EnergyWise audits conducted

119,000 CFLs rebated through ENERGY STAR[®] Lighting

10,000 ENERGY STAR[®] Products rebated

5,000 High Efficiency Heating Equipment rebates
380 ENERGY STAR[®] Homes

1,300 ENERGY STAR[®] Air Conditioning rebates and incentives

\$3,110,000 in gas rebates and incentives

\$8,660,000 in electric rebates and incentives

Case Study: Riviera Apartments, East Providence RI

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Riviera Apartments is located in East Providence, Rhode Island. National Grid provides natural gas and electric service to this facility. Participation in National Grid's EnergyWise Program enabled the facility to greatly reduce its energy consumption.

The EnergyWise Program provides an on-site analysis of all end uses of energy within the apartment complex. Comprehensive energy efficiency measures are installed throughout the facility. The program results in reduced monthly operating costs, improved home affordability and increased comfort, all while providing greater environmental benefits.

National Grid installed high efficiency CFLs and lighting fixtures, 13 energy efficient refrigerators, insulation and air sealing, and energy efficiency showerheads and aerators. National Grid installed measures worth \$26,065 and the customer paid \$11,465 for a total cost of \$37,530. The weatherization resulted in an annual energy savings of 31,874kWh and an annual natural gas savings of 8,120 therms. The annual cost savings of both gas and electric are \$14,012.

*"We've been able to save energy costs both for ourselves and our tenants by replacing outdated equipment."
— Chris Bilotti, Riviera Apartments*



Low Income Eligible Programs

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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 CFL's.
- 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
- Heating system replacement
- Air conditioner and pool pump timers

2009 Results:

- Audited or installed heating equipment for 1,350 gas and electric participants
- Provided more than \$3,510,000 in customer incentives
- Projects have a lifetime savings of 15,500 MWh
- Projects have annual savings of 15,500 MMBtu of natural gas.

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



Photo Rights Reserved, National Grid

Small and Medium Sized Business Program



CASE STUDY: Wright's Dairy Farm North Smithfield RI

Northern Rhode Islanders have been enjoying Wright's Dairy Farm products since 1900. For generations the farm has delivered exceptional quality in dairy and pastry products and service to match. National Grid's Small Business Services Program helped Wright's implement a lighting retrofit project that casts new light on old family traditions. By providing a free on-site energy assessment and paying up to 70% of project costs, the program made the energy efficiency improvements affordable and easy to implement.

National Grid installed high efficiency lighting and spread Wright's share of the cost over 24 months on its electric bill, interest free. The National Grid incentive totaled \$3,443 and the cost to the customer was \$1,469. Wright's estimated annual energy cost savings will be \$1,600.

"This entire project went very smoothly. The contractors were excellent. The account representative was very knowledgeable. And we loved that we could spread out our cost on the monthly bill. Great job." - Elizabeth Dulude

National Grid helps small businesses save energy by providing:

- A free on-site energy assessment that identifies potential energy savings.
- A customized report that details energy-efficient recommendations.
- Installation is completed at the customer's convenience.
- Old fluorescent lights and ballasts are removed and recycled.
- National Grid pays up 70% of installation and equipment costs.
- Customers can finance their share of the project over 24 months on their electric bill, interest free.

Eligible Projects include:

- High performance T8 lamps and electronic ballasts
- Retrofit reflector kits
- High efficiency fluorescent fixtures
- Compact fluorescent lamps (CFL)
- LED exit signs
- Occupancy sensors
- Energy Management Systems
- Walk-in cooler/refrigeration controls and LED lighting upgrades
- Site-specific customer projects

2009 Results:

- Served 955 Rhode Island businesses
- Provided more than \$5,000,000 in customer incentives and project financing
- Projects have a lifetime savings of 125,800 MWh and reduced demand by 2,300 kW

**For more information, customers can call 1-800-332-3333 or visit
<https://www.powerofaction.com/SmallBusiness>**

Large Commercial and Industrial Programs

National Grid offers two programs for large commercial and industrial customers that use more than 200kW. Each program includes financial incentives to reduce the incremental cost 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, and 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.

2009 Results

- Served 560 electric customers and 740 gas customers
- Delivered \$9,680,000 in electric incentives
- Delivered \$1,760,000 in gas incentives
- Annual energy savings of 50,000 MWh and life time savings of 589,000 MWh
- Annual energy savings of 126,000 MMBtu of gas

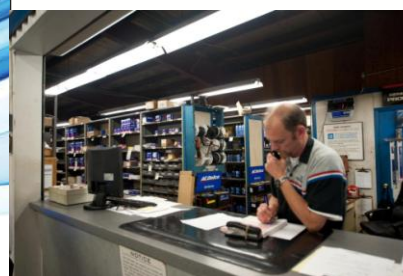
For more information, visit www.powerofaction.com



CASE STUDY: Warwick Sewer Authority, Warwick

Warwick Wastewater Treatment Plant is a 5 million gallon-per day (MGD) designed capacity wastewater treatment plant serving the City of Warwick, RI. The plant is currently installing new equipment and systems to enable the facility to process an average of 7.7 MGD with peak flows during wet weather of more than 12.7 MGD.

National Grid provided technical assistance that identified full life cycle cost analysis for all measures, including the design air-flow rate of the aeration blowers for energy saving measures. The technical assistance cost \$7,500. National Grid also provided incentives for \$52,401 to install efficient mechanical equipment and systems including variable speed drives on the aeration blowers and premium efficiency motors. The annual electric energy savings are estimated to be 28,215 MWh, and save the Warwick Sewer Authority \$26,855 annually.



Photos by David Barnes

Energy Efficiency in Rhode Island: An Engine of Economic Growth

Energy efficiency is emerging as a key policy solution to address high energy costs and the threat of climate change. As investments in energy efficiency programs increase, there is a need to understand more completely the economic effects on individual customers and on the economy as a whole. ENE (Environment Northeast) conducted an independent study to quantify the impacts of energy efficiency investments on Rhode Island's economy.

The report shows that increasing efficiency program investments to levels needed to capture all cost-effective 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.^{1,2} \$5.7 billion of the total increase in economic activity would contribute to the gross state product (GSP), while \$4.9 billion would be returned to workers through increased real household income and employment equivalent to 51,000 job years (one full-time job for a period of one year). 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.

The effectiveness of efficiency investments can be evaluated by considering economic benefits relative to efficiency program dollars invested. The table below shows the absolute and relative 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.

ENE (Environment Northeast), "Economic Efficiency: Engine for Economic Growth," October, 2009.
See: http://www.env-ne.org/public/resources/pdf/ENE_EnergyEfficiencyEngineofEconomicGrowth_FINAL.pdf

Table C. Summary of Rhode Island Economic Impacts

	Electric	Natural Gas	Unregulated Fuels
Total Efficiency Program Costs (\$Billions)³	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.

¹ "All cost-effective" energy efficiency is equivalent to "economic potential" as defined in the Rhode Island Opportunity Report. See page 16.

² 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.

³ The "Economic Efficiency: Engine for Economic Growth" and RI Opportunity Report both assume an approximate investment of \$70 million per year.

System Reliability

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

A new EERMC subcommittee has been established to develop an electric system reliability plan that takes into consideration sustainable alternatives to distribution upgrades and results in lower customer costs while securing local sources of energy supply and capacity. Specifically, the subcommittee is working towards a plan to avoid or defer new distribution upgrades in constrained areas of Rhode Island with a suite of efficiency, distributed generation, and demand response investments. This plan could become a model that can be used for system reliability planning nationwide. Over the past several months, the subcommittee has been working on the substantial changes this approach suggests for transmission and distribution planning. Issues about how to accurately quantify benefits, model alternatives, provide high levels of reliability, and fund the alternative strategies are being addressed. Issues about how this approach might benefit from and interact with future Smart Grid deployment are also being considered. The goal is also to effectively anticipate possible deployment of electric vehicles, and become a model for other states and utilities.

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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: 1) the magnitude of low cost efficiency resources existing in Rhode Island homes, businesses, and institutions and 2) System Reliability resources such as distributed generation, small scale renewable, and demand response in the state. The EERMC commissioned, directed, and managed studies to meet these goals. The studies are used by National Grid in developing its Least Cost Efficiency Procurement and System Reliability Plans, and by the EERMC in guiding the development of state policies and practices consistent with the findings and directives of the 2006 Comprehensive Energy Act and the PUC's Standards for Energy Efficiency and System Reliability Procurement.

Phase I Energy Efficiency Potential

Phase I of the Opportunity Report found that the opportunities for low-cost energy efficiency are quite large. The chart below shows the technical, economic, and achievable energy efficiency (measured in GWh) available in Rhode Island that is cheaper than supply.

Table D. Rhode Island Energy Efficiency Potential Over 10 Year (2009-2018)

GWh	Technical Potential		Economic Potential		Achievable Potential	
	GWh	% of Forecast*	GWh	% of Forecast	GWh	% of Forecast
Residential	1,038	34%	870	28%	273	9%
Commercial	1,161	32%	1,026	28%	371	10%
Industrial	156	14%	164	14%	120	11%
Overall	2,354	28%	2,050	24%	764	9%

Note:

Technical potential: total demand-side resource potential over the planning period from all measures, regardless of whether those measures are cost-effective and without regard for market barriers or the ability of programs to capture it.

Economic potential: total demand-side resource potential over the planning period for all measures that are cost-effective, based on a total resource cost test.

Achievable potential: the estimated maximum demand-side resources that could be captured over the planning period, given aggressive, well-designed, fully-funded programs.

*Load is forecasted to increase from approximately 7,800 GWh in 2008 to 8,800 GWh in 2017. In 2017, energy efficiency could reduce load by approximately 1,885 GWh.

Opportunity Report cont.

Phase 1 cont. Renewable Energy Potential

In addition to assessing the potential for energy efficiency, Phase I of the Opportunity Report also evaluated the potential for non-utility scale renewable energy sources including solar, wind, biomass, and small-scale hydropower. Research and evaluation was conducted by the University of Rhode Island's Energy Center. The URI team found that small-scale renewable energy sources can contribute to meeting Rhode Island's need for energy and that the market for these technologies is currently underdeveloped in the state. The report estimated the potential of several renewable resources as follows:

- **Solar:** The total solar irradiance that falls on RI during an average day in June or July is 16,977 GWh, compared to the state's annual energy use of 7,888 GWh. The team estimated that 1% of the land area in solar panels could meet 65% of the state's energy needs.
- **Wind:** RI has, on average, the potential for 109 MW of small wind energy, which could generate 1 billion kWh per year.
- **Small Hydropower:** RI has 674 dams with the potential capacity of 11.5 MW.

Combined Heat and Power Potential

Combined heat and power (CHP) is a proven energy technology that, in addition to providing clear opportunities for reducing greenhouse gases and other air pollutants, also makes sense for Rhode Island economically. By installing a CHP system designed to meet the thermal and electrical base load needs of a building or facility, CHP can increase the building's operational efficiency and decrease energy costs. Rhode Island's commercial and industrial sectors are ideal settings for CHP installations, and 102 MW of CHP already existed in Rhode Island at the time of the study.

The Opportunity Report estimated the potential for CHP resources in Rhode Island and evaluated the economic, environmental, and reliability benefits associated with that level of CHP adoption. Key stakeholders were consulted in the development of these estimates, including energy and utility experts, relevant RI state agencies, and industry leaders.

Several factors influence the economic and achievable potential for CHP in Rhode Island, including natural gas prices, environmental regulations, and the absence of "back-up" charges for electricity. High and low potential estimates were developed based on scenarios that make different assumptions about these key factors. The study concluded that the economic potential for incremental CHP installations is estimated to be 200 MW and 330 MW respectively for the low and high technical potential scenarios.

Phase II

With the completion of Phase I of the Opportunity Report, work in 2009 focused on Phase II. The overall goal of Phase II is to use on-site and phone surveys to confirm the Phase I estimates of technical, economic, and achievable energy efficiency potential. KEMA, Inc. is conducting 300 phone surveys and 150 site visits to collect information on the saturation of electrical equipment and appliances in Rhode Island homes, businesses, and factories. For example, the surveys should elicit information on the number of Rhode Island homes with plasma TVs or businesses with high-efficiency cooling equipment.

The information gathered in Phase II will help refine the estimates of the total available savings potential over the next 3 and 10 years and the cost to achieve that level of energy savings. The EERMC will use this information to refine energy efficiency program designs and budgets.

Regional Greenhouse Gas Initiative (RGGI)

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RGGI Profile

- 10 States (ME, MA, NH, VT, RI, CT, NY, NJ, DE, and MD)
- Applies to all fossil fuel-fired power plants 25 MW or greater
- Went into effect January 1, 2009
- Latest of 7 quarterly auctions was conducted March 10, 2009
- Initial regional cap is 188 million tons of CO₂
- Cap is two-phase:
 - 1) Stabilization at initial level for 2009-2014
 - 2) 2.5% reduction per year from 2015-2018 for total 10% reduction
- Compliance period is 3 years; allowances equivalent to 2009-2011 emissions due March 1, 2012

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.

RGGI represents a significant step toward confronting global climate change. As a whole, the RGGI region, comprising 10 states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont), is the 7th largest global warming polluter in the world. Reducing emissions in the RGGI region addresses a significant source of greenhouse gases and proves the viability of large cap and trade systems.

The first year of operation for RGGI concluded in January 2010 and was a success; Rhode Island raised \$9.3 million from the sale of emissions allowances. The emissions allowances at the heart of cap and trade are a new public resource for investment in cost-effective GHG emission reduction activities such as energy efficiency programs.

Table E. Summary of Rhode Island RGGI Auction Revenues

		Auctions 1-6		Auction 7		Totals to Date	
		Allowances	Mean Price	Allowances	Mean Price	Allowances	Mean Price
2009							
Vintage		2,632,647	\$2.91	658,161	\$2.07	3,290,808	\$2.75
2012							
Vintage		122,944	\$2.24	32,185	\$1.86	155,129	\$2.16
Projected Auction Proceeds Recipients							
Efficiency Programs	100%		\$7,922,587		\$1,422,257		\$9,344,844
Total	100%		\$7,922,587		\$1,422,257		\$9,344,844

Rhode Island wisely chose to use the allowance revenues to benefit consumers. RI opted to direct one hundred percent of the allowance revenues (net of administrative costs) to energy efficiency. The logic behind investing RGGI funds in efficiency is straightforward. When consumers use energy more efficiently, demand for electricity declines, bringing down supply costs and power plant emissions. Lower emissions reduce demand for allowances, thus decreasing allowance prices and the overall program cost. Capturing the EE's dual benefits of lower supply costs and lower carbon costs is one of RGGI's greatest achievements, and ensures costs remain low over time. Investments in efficiency maximize economic savings for consumers as they lower carbon prices and generate \$4 in saving for each \$1 invested.

Regional Greenhouse Gas Initiative (RGGI) cont.

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In September 2009, the Office of Energy Resources, in consultation with the EERMC and RI DEM, wrote and finalized the RGGI Regulation and Plan, in a manner that complies with the R.I.G.L 23-82 requirement that *“the proceeds shall be used for the most cost effective available projects that can reduce consumer energy costs and lower the costs of the RGGI program for consumers.”* After much input from diverse stakeholders, including consumer, business, low-income, environmental, and other interests, and after thoughtful deliberation, OER specified in its Final RGGI Regulation and Plan that proceeds be used as follows:

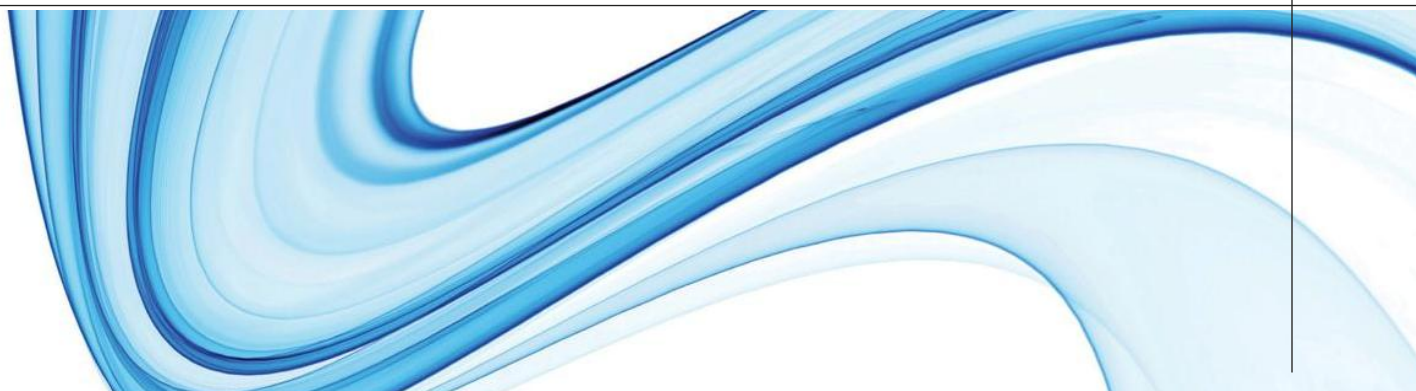
- *“Sixty (percent) shall be allocated to the Least Cost Procurement Energy Efficiency Utility Account at the Utility for the sole purpose of supplementing and expanding energy efficiency efforts consistent with the PUC approved Energy Efficiency (EE) Procurement Plan and annual efficiency Program Plans for investment in all cost-effective energy efficiency programs and projects that are lower cost than supply and reduce long-term consumer energy demands and costs”; and*
- *“Forty percent shall be allocated to the Innovative Financing and Partnership Account at the Utility for the sole purpose of investing in new partnerships, research, and pilot programs including innovative financing options and partnerships that can drive efficiency program development and enhancements to accelerate and broaden the energy savings for Rhode Islanders.”*

Rhode Island has begun to implement this plan as sixty percent of RGGI revenue will be used for investments in electric energy efficiency that are cheaper than supply, and the Innovative Financing and Partnership approach offers an extraordinary opportunity to create long-term sustainable programs that tackle the most difficult barriers facing energy efficiency. The revenue allocated for the Innovative Financing and Partnership will be used to elevate Rhode Island’s energy efficiency performance through innovative programs focused on the future of energy efficiency planning-financing, market transformation, deeper, whole-building energy savings, and tackling the split incentive barrier for landlords and tenants.

Rhode Island’s commitment to energy efficiency through RGGI sends a signal that the state is serious about taking control of its energy future and reducing energy costs for all Rhode Islanders. To stay true to this commitment Rhode Island must continue to implement the established RGGI plans and fund the leveraged efficiency programs in order to deliver continuing consumer benefit and keep the costs of the program down.

For more information on RGGI, see:

http://www.env-ne.org/public/resources/pdf/ENE_2009_RGGI_Evaluation_20100223_FINAL.pdf



American Recovery & Reinvestment Act of 2009: Implementation

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Department of Energy Recovery Act Funding: Allocation

Energy Efficiency and Renewable Energy.....	\$16.8 billion
Clean up of Cold War Nuclear Sites.....	\$6.0 billion
Loan Guarantees for Renewable Energy	\$4.0 billion
Smart Grid & Efficient Transmission	\$4.5 billion
Carbon Capture & Sequestration	\$3.4 billion
Scientific Research.....	\$1.6 billion
Advanced Research Projects Agency- Energy.....	\$0.4 billion
Total.....	\$36.7 billion

Source: Department of Energy

EERMC Advises OER on ARRA Implementation

During 2009 the EERMC fulfilled its statutory obligation to advise the Office of Energy Resources (OER) on the planning and use of Federal funds to support energy programs, most notably the American Recovery and Reinvestment Act (ARRA).

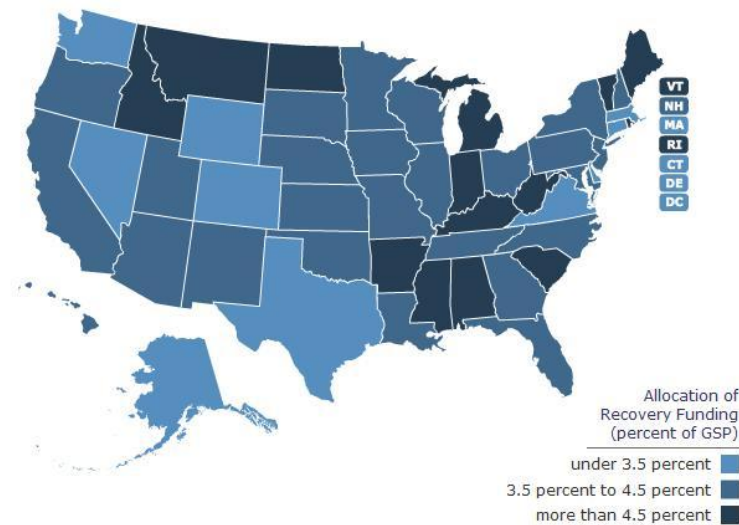
The EERMCs involvement in this effort commenced in February 2009 when the federal stimulus package was emerging. In March 2009, the Council urged the OER to pay careful attention to potential use of State Energy Program (ARRA-SEP) funds as a means to provide energy efficiency assistance to households that heat with oil, (This recommendation was incorporated into the spending plan for ARRA-SEP at the level of \$2.3 million).

Council member Sam Krasnow served on the Energy Review Team, established by the Governor's Office of Economic Recovery and Reinvestment. The Energy Review Team guided both the development of ARRA applications to the US Department of Energy and program design upon the approval of those applications.

The EERMC, during the summer of 2009, expressed its strong belief that the state should be adequately staffed and organized to meet ARRA obligations. During its autumn meeting, the EERMC sought and received monthly reports on the status of ARRA implementation in Rhode Island.

Nationwide Allocation of Recovery Funding

Click on a state to see how money will be allocated to the states in the American Recovery and Reinvestment Act of 2009.



ARRA Implementation cont.

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In broad terms, ARRA programs in Rhode Island are as follows:

<u>ARRA State Energy Plan</u>	<u>\$23.96M</u>
Residential Energy Efficiency	\$2.3M
Small Commercial/Industrial Energy Efficiency	\$2.3M
Large Commercial/Industrial Energy Efficiency	\$2.3M
Utility Scale Renewable Energy Projects	\$5.0M
Non- Utility Scale Renewable Energy Projects	\$8.4M
Miscellaneous Smaller Projects	\$1.9M
Administration	\$1.9M
<u>ARRA-Weatherization Assistance Program</u>	<u>\$20.07M</u>
Community Action Agencies (1-4 dwelling units)	\$12.2M
Training & Technical Assistance	\$1.8M
Rhode Island Housing (large housing complexes)	\$6.0M
<u>ARRA-Energy Efficiency & Conservation Block Grants</u>	<u>\$9.59M</u>
Energy Performance Contracting (\$5,000 plus 50 cents per capita)	\$0.7M
Base Grant Allocations (equalizing all communities to at least \$9.80 per capita)	\$5.4M
Competitive Applications	\$3.0M
Administration	\$0.5M

EERMC Weatherization

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EERMC Monitors Progress of Weatherization of Low Income Households

During 2009, dwelling units occupied by low income households were weatherized at record levels in Rhode Island, using multiple sources of funding. The weatherization services are provided through Community Action Agencies.

The Council's attention to this issue commenced at its June 2009 meeting, reports on progress were received at the Council's October and December meetings.

The levels of weatherization of low-income dwelling units, as reported by the Office of Energy Resources, have been as follows:

2007

97 dwelling units per month

2008

93 dwelling units per month

2009

112 dwelling units per month—January – June

150 dwelling units per month—July – December

This level of weatherization was achieved before the Office of Energy Resources began using American Recovery and Reinvestment Act (ARRA) funds for weatherization. Agreements with Community Action Agencies and RI Housing have been entered into for the use of ARRA-Weatherization Assistance Program funds and the ARRA goals are an average of at least 128 dwelling units per month.

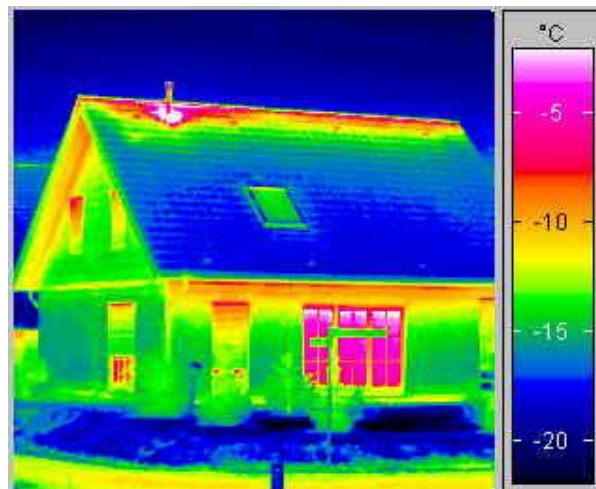


Photo Rights Reserved, National Grid

Energy Trends

Price and Emissions Trends in Rhode Island and throughout New England

The electricity that National Grid delivers to Rhode Island customers is generated using a number of different resources. The fuel mix for these resources for electricity delivered in 2009 is approximately 33.7% natural gas, 30% nuclear, 12% coal, and 2.6% oil. The graphs below show how the price of electricity and rate of greenhouse gas emissions is largely dependent on the mix of generating fuels technologies used.

Chart D. Annual New England CO₂ Emissions from the Electric Sector

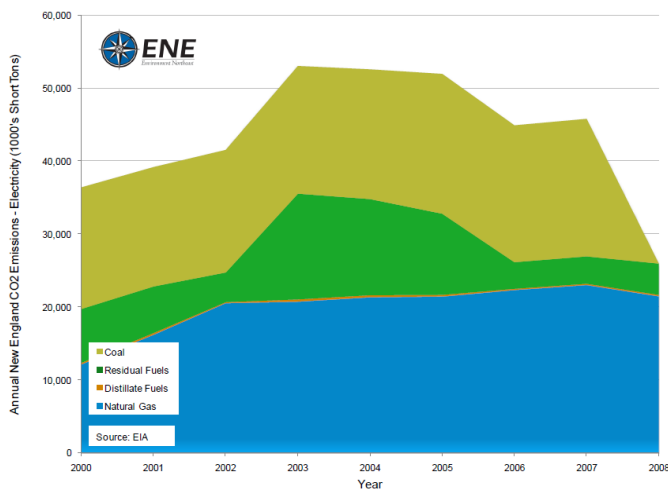
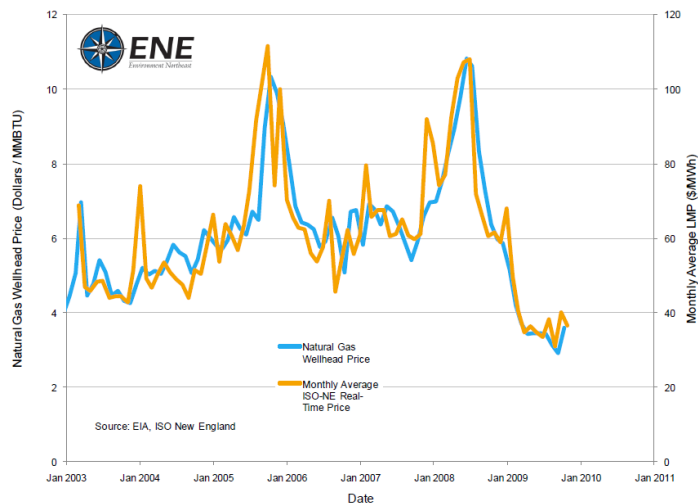


Chart E. Natural Gas Price vs. Monthly Average Real-Time Electricity Price



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Rhode Island Energy Overview

Prices	RI Avg.	U.S. Avg.
#2 Heating Oil		
	\$2.72/gal	\$2.63/gal
Residential Electricity		
	14.57¢/kWh	10.93¢/kWh
Commercial Electricity		
	13.46¢/kWh	9.73¢/kWh
Industrial Electricity		
	12.61¢/kWh	6.52¢/kWh

Source: EIA, 2008 and 2009

R.I. Electricity Generation, 2009

Total Net Generation	729,000 MWh
Carbon Dioxide Emissions	2,987,521 metric tons
Sulfur Dioxide Emissions	101 metric tons
Nitrogen Oxide Emissions	3,257 metric tons

Source: EIA, 2009

Fuel For Home Heating, Share of RI Households

Natural Gas	46%
No. 2 Heating Oil	42%
Electricity	8%
Liquefied Petroleum Gases	3%

Source: EIA, 2000

¹National Grid. Disclosure Table, February 2010. Available from https://www.nationalgridus.com/narragansett/non_html/RI_Standard_Offer_Disclosure_01-2010.pdf

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 establishes 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," R.I. General Law § 42-140.1-5.

Accordingly, the EERMC respectfully submits the following 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 objects in the months and years ahead.

Near Term Goals

Energy Efficiency Procurement – The EERMC is committed to, and charged with, helping Rhode Island develop energy efficiency (EE) services that lower customer costs while decreasing environmental impact and benefitting the RI economy. In doing this, it will be helpful to improve efficiency in all forms of energy use. Customers want to lower their bills not just by reducing electric use, but also by reducing natural gas and unregulated fossil fuel (oil and propane) use. It is the most effective for energy efficiency programs to be comprehensive in addressing all uses at a customer site, including natural gas, oil, and propane.

Continued

Policy Recommendations - Near Term Issues

Consistent with that goal of comprehensiveness, the EERMC makes the following recommendations:

- 1) ***The EERMC recommends that the same Least Cost Procurement (LCP) investment requirement that applies to electricity – and the ability to fund it – be required in Rhode Island law for natural gas service delivery as well.***

The General Assembly established a nation-leading, innovative approach in 2006 by requiring Least Cost Procurement in the electric sector which will save Rhode Island customers hundreds of millions of dollars by requiring that the electric utility invest in all energy efficiency that is cheaper than traditional supply. The 2006 Act was also pioneering, in that it established Rhode Island's first natural gas efficiency program. The natural gas efficiency program has now been running successfully for more than two years, helping businesses and residences save money by lowering their need for natural gas use. The programs have succeeded in reducing homeowner's heating requirements by as much as 20 to 30 percent with a benefit to cost ratio of 4:1. However, given the proven success to date, the current natural gas efficiency program is now constrained by an arbitrary upper limit of 15 cents per decatherm on the gas SBC.¹ The General Assembly has an exciting and pressing opportunity to enable larger savings for industrial, business and residential customers by removing this upper limit and establishing the same Least Cost Procurement mandate for natural gas – for the utility to invest in all gas efficiency that is cheaper than supply – that exists for electricity.

National Grid, with the support of the EERMC, has made significant progress in integrating the delivery of its electric and gas EE services to residential and business customers alike, but as electric efficiency budgets have grown, gas EE budgets remain limited. This means that (1) that the integration efforts are increasingly challenged and, (2) there are simply not sufficient funds to secure all cost-effective gas efficiency resources that are cheaper than supply. Rhode Island gas consumers would save tens of millions of dollars and businesses that use gas would be more competitive if the General Assembly instituted Least Cost Procurement for natural gas efficiency as exists for electricity.

- 2) ***The EERMC recommends that the OER, National Grid, and the General Assembly work aggressively to ensure that comprehensive all-fuels efficiency services are available to all unregulated fuel users (heating oil, kerosene or propane) as well.***

Ultimately, it makes sense for the infrastructure to deliver whole-building efficiency in Rhode Island to be supported by a policy approach that makes the same level of service available to Rhode Islanders who live in unregulated fuel-heated homes – approximately 42% -- as those who live in natural gas-heated buildings.

The state needs a sustainable model for all Rhode Islanders that would be similar to the comprehensive weatherization services offered to Grid gas and electric customers through the three-year energy efficiency plan. Some National Grid offerings already support efficiency in oil and propane heated homes, but it is not appropriate or feasible to have electric or gas ratepayer funds support broad-scale efficiency improvements in an unregulated fuel. While ARRA funds may be used to increase the offerings to these buildings for a limited period of time, the EERMC recommends that the General Assembly institute a stable revenue stream for sustained efficiency programs for homes heating by heating oil, kerosene or propane. (cont.)

¹ R.I.G. L. 39-2-1.2 (d) Effective January 1, 2007, and for a period of seven (7) years thereafter, each gas distribution company shall include, with the approval of the commission, a charge of up to fifteen cents (\$0.15) per deca therm delivered to demand side management programs, including, but not limited to, programs for cost-effective energy efficiency, energy conservation, combined heat and power systems, and weatherization services for low income households.

Policy Recommendations- Near Term Issues

(cont.) Working with the oil dealers and other stakeholders, such an effort could be funded by an efficiency charge for oil customers to provide a revenue stream that would be used to do comprehensive efficiency and weatherization work for oil heating homes. For the RI homes that heat with natural gas the existing energy efficiency programs have succeeded in saving as much as 20 to 30 percent of a homeowner's heating requirement with a benefit to cost ratio of 4:1. If Rhode Island did the same for the 42% of Rhode Island homeowners heating with oil, kerosene, or propane and those consumers would save tens of millions of dollars.

An example to look at in another state is the Connecticut Home Energy Solution Program that offers one-stop service for electric and thermal efficiency for all electric customers in the state. The EERMC commits itself to continue to work with the General Assembly, fuel oil dealers, and other stakeholders to establish a sustainably funded efficiency program offering for consumers who heat with oil, kerosene, or propane.

3) The EERMC recommends that the General Assembly advocates with the Public Utilities Commission to approve funding for all electric efficiency that is cheaper than supply as required by the 2006 Act by approving funding this fall for the 2011 EE Program Plan (the 3rd year of the approved and statutorily required 3-year LCP plan).

After months of work, preparation, and back and forth with the utility, the EERMC believes that National Grid, in its Least Cost Procurement Plan, identified and committed to an appropriate level of efficiency investment and savings for 2011 to maximize economic benefits for RI consumers. The utility's 3-year Least Cost Procurement Plan, was approved by the Public Utilities Commission in April of 2009. The key step this fall is for the PUC to approve the annual 2011 plan, which complies with the 3-year plan, and the necessary funding through rates to fund investments in the annual implementation plan.

The EERMC and the utility have and will continue to aggressively advocate for the use of alternatives to rates to fund Least Cost Procurement such as Regional Greenhouse Gas Initiative funds, Forward Capacity Market funds, ARRA funds, and new lending and finance strategies. The core funding for the utility LCP efforts is likely to continue to require strong customer investments through rates in some form, in order to achieve \$4 in savings for every \$1 in investments. Indeed, the LCP requirement is a mandate for the utilities to invest in all efficiency that is lower cost than supply and it is the expectation of RI law and PUC standards that customers on whose behalf it is purchased, fund the acquisition of cost-effective efficiency instead of having to pay for more expensive supply. If fully implemented, the 2011 plan will save consumers more than \$100 million.

A more clear and predictable set of standards for approving an increase in funding for least cost procurement will be necessary for Rhode Island to meet the goals of the three year LCP plan effectively in 2012-2014.

Policy Recommendations –

Long Term Issues

In terms of longer term policy recommendations and implementation the EERMC suggests the following:

Financing Strategies

The EERMC is committed to supporting every strategy that can effectively leverage utility ratepayer funding by encouraging customers in Rhode Island to fund more of the costs of EE themselves. Improved codes and standards have this effect as they “institutionalize” higher levels of efficiency in the marketplace.

One significant way to increase customer participation may be through developing innovative financing strategies that enable consumers to afford more of the up-front costs that are often a barrier to adopting efficiency measures. Experience in other jurisdictions has shown that there is no “silver bullet” that makes all customer groups, for all measures, more ready to finance their own EE investments. National Grid is effectively using customer financing through short-term lending and on-bill payment for a portion of EE costs with small commercial customers, municipalities, and increasingly, larger commercial customers. The EERMC has actively supported the growth of this program component.

The EERMC will, in 2010, consider an emerging option, known as Property Assessed Clean Energy (PACE) financing. Authorizing legislation for this innovative financing approach has been passed in a number of states and would be required in Rhode Island to allow communities to adopt the PACE program. The EERMC will also continue to review models of various utility and community-based financing strategies.

Aligning Utility Incentives with Consumers Interests via Revenue Decoupling

In order to ensure investment in all efficiency resources that are cheaper than supply and all system reliability resources that are less expensive than traditional wires, poles, and substation infrastructure, the EERMC recognizes it is important to examine the utility’s incentives to ensure they align with their customers’ interests. Currently, Rhode Island’s distribution utility makes more money with higher and higher sales of natural gas and electricity and when it makes costly infrastructure investments. To fix this, the EERMC has advocated for a new system where the utility would no longer be incented to have higher sales and make unnecessary infrastructure investments that could be avoided with lower cost efficiency and system reliability resources that reduce consumers’ bills. This new approach would ensure the alignment of interests so that both the utility and consumers would benefit financially from full and aggressive investment in lower cost energy efficiency and system reliability resources.

Smart Grid

The EERMC is aware that National Grid sought ARRA funding for implementation of some aspects of the Smart Grid in Rhode Island. Smart grid refers to a complex set of innovations that have the potential to make the electric utility grid more intelligent and efficient in a number of ways.

The Smart Grid is defined by the Federal Energy Regulatory Commission as *“a power system architecture that permits two-way communication between the grid and essentially all devices that connect to it, ultimately all the way down to consumer appliances.”*

These include:

- Synchrophasor devices to collect and store time-stamped snapshots of bulk grid voltage, frequency, and current flow—30 times per second;
- Distribution switches that can change feeds to customer circuits in the blink of an eye;
- Customer meters that can continually send usage readings to the utility, and send back usage and price data to the customer or customer appliances.

Continued

Policy Recommendations – Long Term Issues

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“Rhode Island needs decoupling if it wants to fulfill the ‘all efficiency cheaper than supply’ mandate and the promise of hundreds of millions of dollars of savings. Our electricity distributor, National Grid, must be rewarded for delivering efficiency savings, not maintaining the status quo.”

- Dan Justynski, EERMC

The Smart Grid, used intelligently, could live up to its potential to enable the greatest efficiency and reliability in the generation, delivery, and use of electricity while minimizing long-term consumer and environmental costs. The EERMC proposes to facilitate an informed discussion of the Smart Grid with the following goals:

- Consider how the Smart Grid could integrate with and enhance LCP in RI in the following areas:
 - ❖ Customer Information/feedback to enhance customer empowerment and motivation to invest in EE.
 - ❖ Real-time pricing to ensure that customers have: a) the information, b) the price signals, and c) the capability to respond to new pricing structures in ways that can flatten the utility load shape and manage customer usage effectively.
 - ❖ Integration with current Utility EE offerings and with System Reliability planning and implementation.