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National
Association of
Regulatory
Utility
Commissioners

Energy Efficiency: Development of Programs and Budgets

NARUC/Nigeria Electricity Regulatory Partnership
Dubai, United Arab Emirates
3-5 December, 2014

Paul Roberti, Commissioner
Rhode Island Public Utilities Commission

Energy Efficiency Background

Legal Background and History

First Energy Efficiency programs in the country approved in RI and MA in 1990

2006 Comprehensive Energy Conservation, Efficiency and Affordability Act (“2006 Act”) - statutory basis

R.I.G.L. Section 39-1-27.7(a)(2) defines least cost procurement

Commission’s Standards for Energy Efficiency and Conservation Procurement and System Reliability (“Standards”)

Planning Process and Procedure

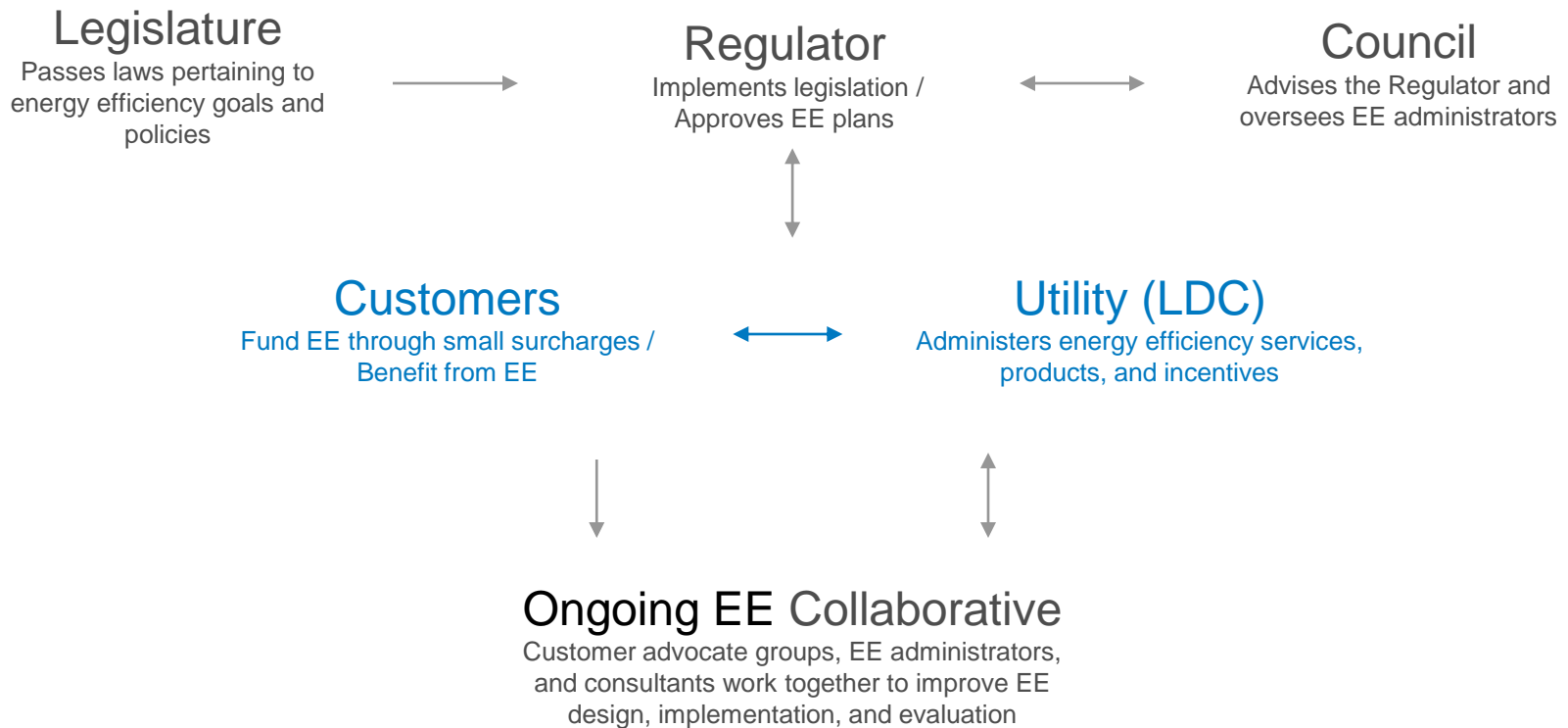
National Grid develops programs with input of Energy Efficiency Collaborative, an independent, diverse stakeholder group

Submits Plans to Energy Efficiency and Resource Management Council for approval

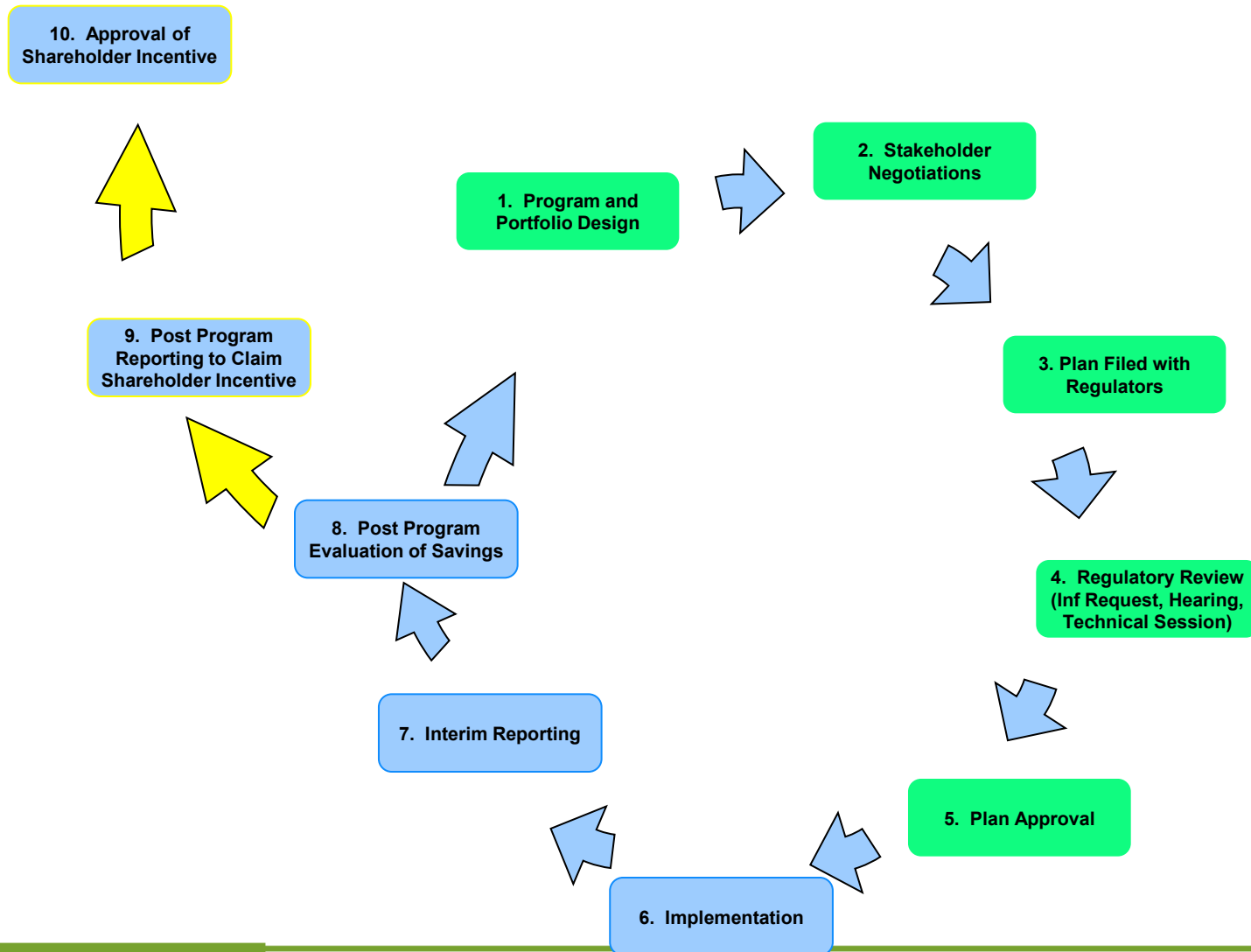
Plans filed for Commission review and approval:

- i. Company files its three-year procurement plan triennially on September 1
- ii. Annual program plan is filed on November 1 and contains the implementation plans and budgets by program for the following program year
- iii. Once approved, the Plan and the Energy Efficiency Program Charge are effective January 1 of the Plan Year

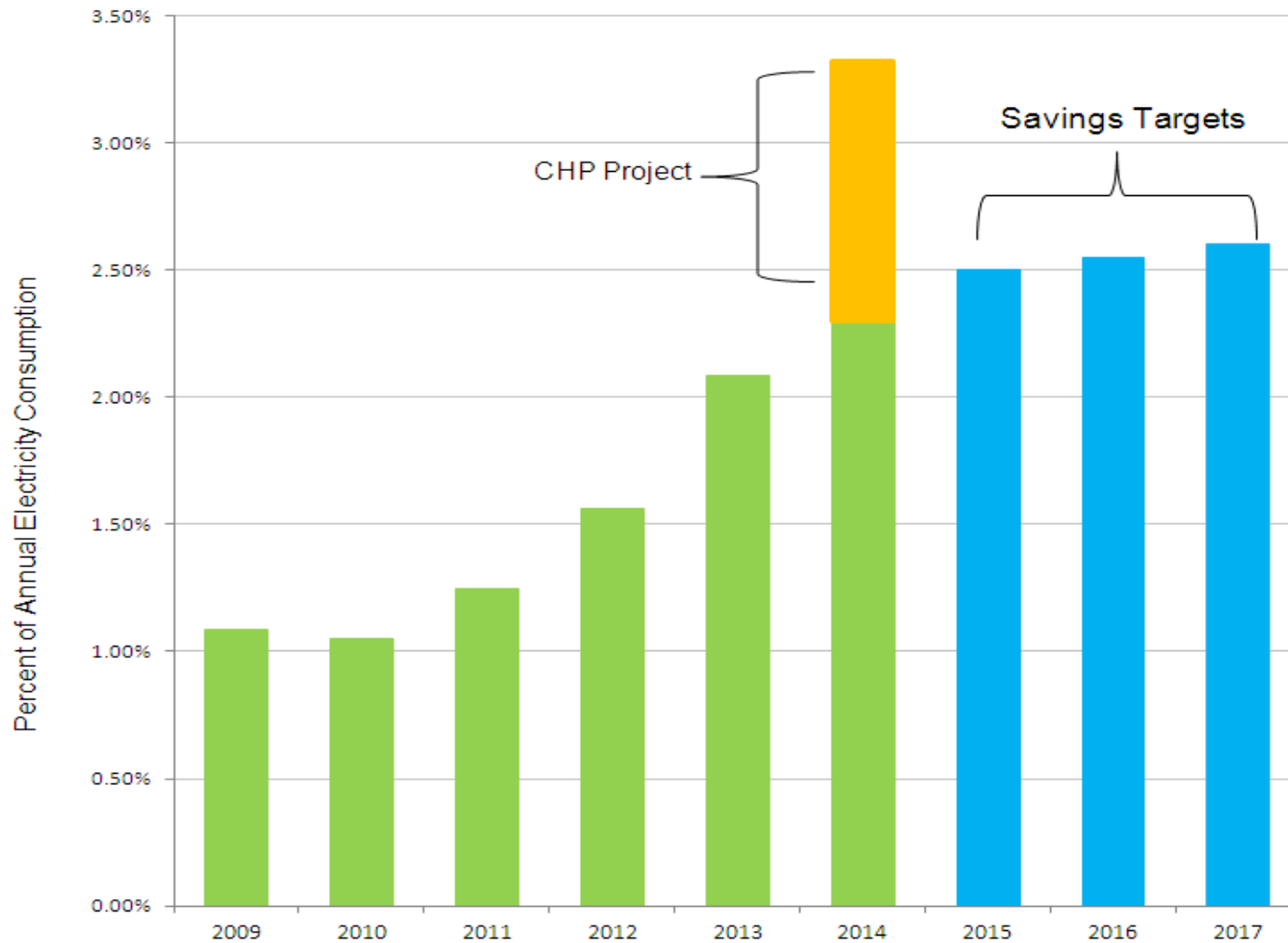
EE Stakeholders & Relationships



Program Cycle



RI Electric Savings Goals



Energy Efficiency Products and Services

Products

rebates

- lighting (CFLs & LEDs)
- refrigerators
- boilers
- hot water heaters
- thermostats
- air conditioners
- heat pumps
- smart power strips
- computer monitors & other electronics

Services

incentives

- energy assessments
- engineering studies for large buildings
- home energy reports
- weatherization (insulating and air sealing)
- testing & inspection for new construction
- combined heat & power
- refrigerator recycling
- financing options

- **EnergyWise** — single family energy audits and technical
- **Multifamily Programs:** Income eligible, Residential and Commercial: Comprehensive energy services, including incentives for heating and cooling equipment, lighting and appliances
- **Income Eligible:** lighting and appliances, heating and weatherization
- **Residential Home Energy Report Program**
- **Energy Star Lighting:** discounts for CFLs and LEDs
- **Energy Star Products:** discounts for high efficiency appliances and electronics
- **Energy Star HVAC:** high efficiency central AC rebate

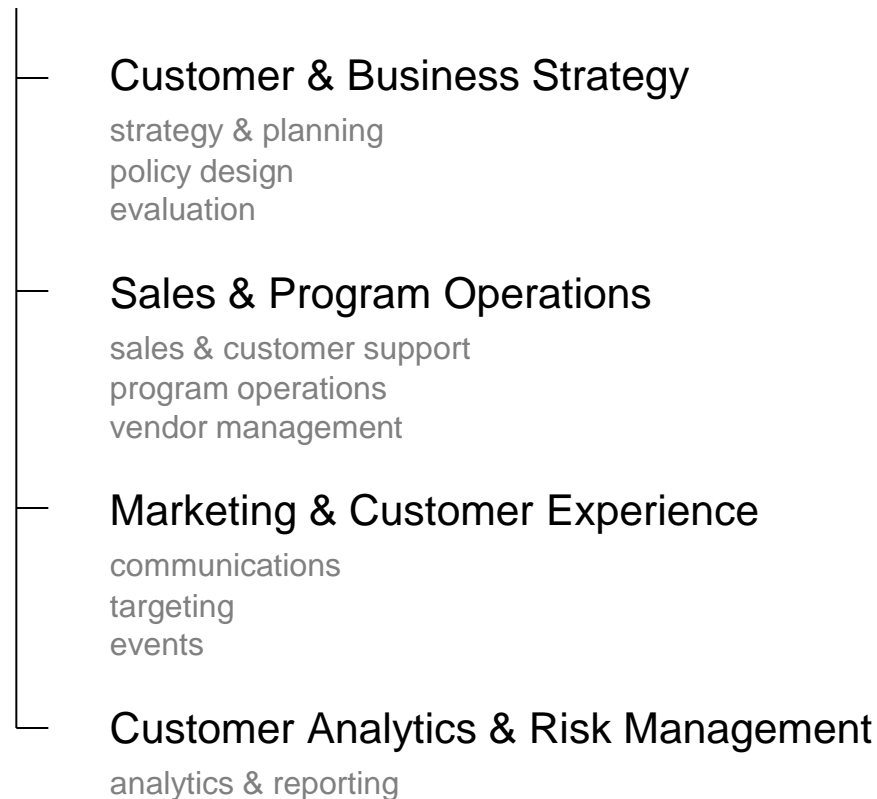
Commercial and Industrial Programs

- Small Business Direct Install: Direct installation of energy efficient lighting
- Large Commercial Retrofit: Promotes installation of equipment such as lighting, motors, HVAC, thermal envelope and custom measures
- Large Commercial New Construction: promotes energy efficient design and construction practices in new and renovated commercial, industrial and institutional buildings
- Commercial and Industrial Products Pilots

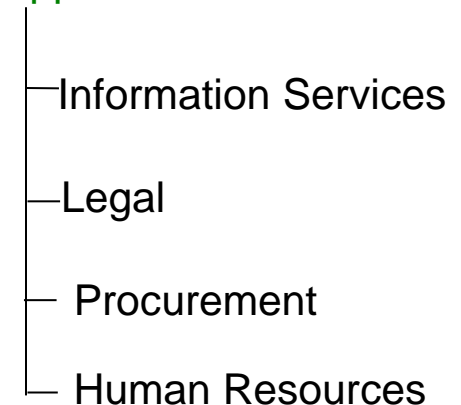
View from the Utility Program Administrator

- “Energy efficiency is a cross-functional effort supported by many teams throughout the utility program administrator; Over 100 people (approximately 45 FTEs) dedicated to engaging with customers, working with trade allies, and developing solutions to deliver on our commitments”

Customer Organization



Support Functions



Customer Case Study: Commercial

○ New Construction

Solution

LEED Gold design

- high efficiency lighting and controls
- high performance insulation
- rooftop HVAC system
- economizers
- premium motors

Customer Benefits

- EE funds covered 62% of project cost
- Payback period of 2 years
- \$118,000 estimated annual savings



Customer Case Study: Large Commercial **nationalgrid**

○ Horizon Solutions, LLC – wholesale distributor of industrial goods

Guiderland Center, NY

Solutions

- high-efficiency fluorescent lighting (T5s, T8s)
- occupancy sensors

Customer Benefits

- 59% of project cost covered by EE incentives
- \$44,874 estimated annual savings



○ Gulf Express – gas station convenience store

Johnston, RI

Solutions

- LED lighting & efficient canopy lights
- controls for walk-in cooler
- high efficiency motors

Customer Benefits

- 74% of project cost covered by EE incentives
- \$8,600 estimated annual savings



Customer Case Study: Residential **nationalgrid**

○ The Shepherd Family's home

Westford, MA

Solutions

- insulation
- air sealing
- efficient lighting (CFLs)

Customer Benefits

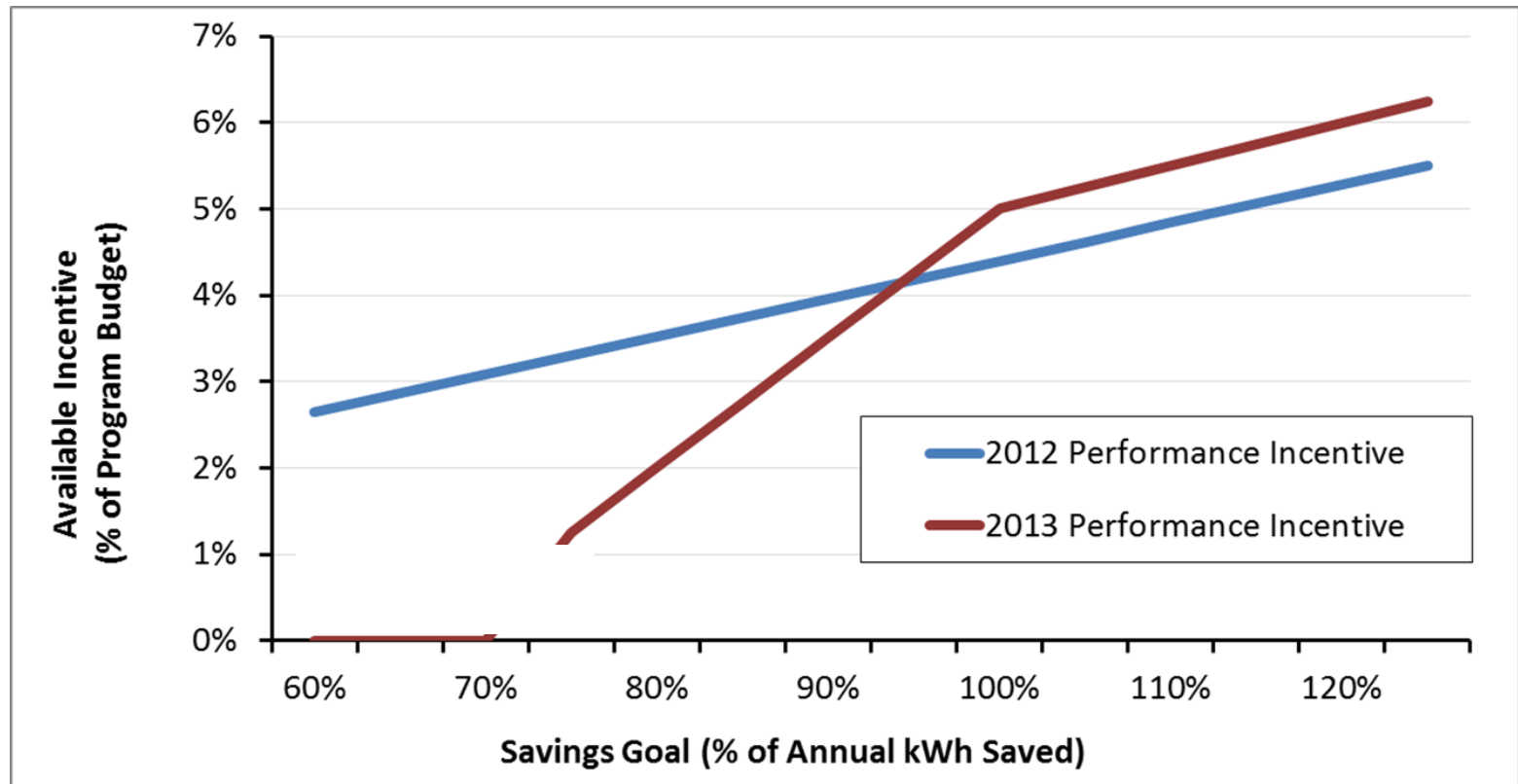
- 73% of project cost covered by EE incentives
- \$228 estimated annual savings



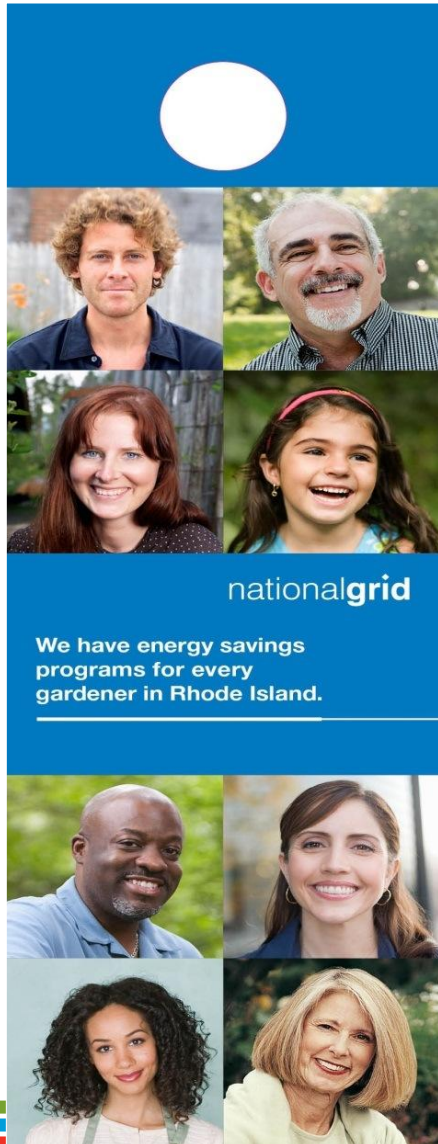
RI Electric Benefits and Budgets

Electric Programs	2015	2016	2017
<i>Annual MWh Savings</i>	193,603	197,475	201,347
<i>Annual MW</i>	31.447	32.209	32.181
<i>Total Lifetime Benefits</i>	\$282,875,002	\$303,660,783	\$316,528,156
<i>Total Spending</i>	\$86,741,232	\$86,052,775	\$90,867,248
<i>Benefit Cost Ratio</i>	2.61	2.82	2.76
<i>Cost of saved energy per lifetime kWh*</i>	\$0.055	\$0.052	\$0.053
<i>EE Program charge per kWh</i>	\$0.00966	\$0.00997	\$0.00941

Performance Standards Example: Rhode Island



Energy efficiency programs



- ❑ RI energy efficiency programs #1 in the US according to ACEEE
- ❑ Nearly 20,000 residential RI customers had a home energy audit in 2013
- ❑ Partnered with US Department of Energy to develop an energy utility curriculum for Community College of Rhode Island students
- ❑ The energy efficiency programs created annual electric bill savings of \$21.2 million and annual gas bill savings of \$4 million for RI customers in 2013

Courtesy of National Grid

QUESTIONS?