Rhode Island State Energy Plan

Renewable Energy Coordinating Board

April 15, 2013

Timeline

Project Phases

Phase I: Research & Data Collection (December 2012 – May 2013) Gather and synthesize the best available energy data; Set measurable goals based on modeling analysis and stakeholder feedback; Design an actionable implementation strategy
Phase II: Preparation of Preliminary Draft Plan (June 2013 – September 2013) Distill research developed during Phase I into a Preliminary Draft Plan
Phase III: Technical & Public Review (October 2013 – March 2014) Vet Preliminary Draft Plan through a technical and public review process; Adopt Plan as State Guide Plan Element

Rhode Island State Energy Plan Scope

- ***Gather Data**: Analyze and quantify the amount, cost, supply, and environmental effects of all forms of energy resources—currently used, and potentially available to use—within all sectors in Rhode Island.*

- ***Set Goals**: Identify measurable targets for providing energy services using a resource mix that meets a set of criteria advancing the health, environmental, economic, and human wellbeing of the people, communities, and environment of Rhode Island.*

- ***Recommend Action**: Design a comprehensive implementation strategy to meet the goals of the Plan through public, private, and individual efforts.*

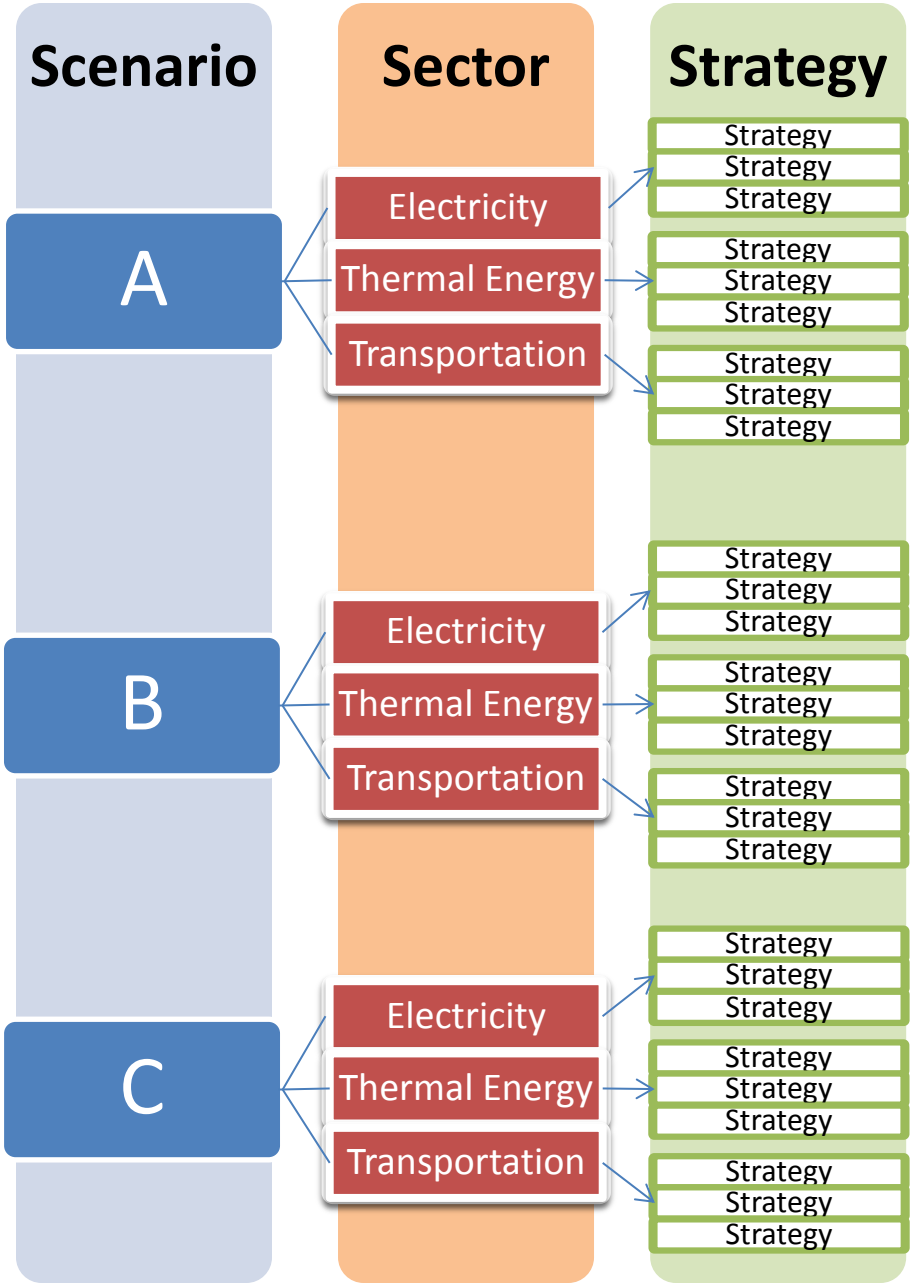
RISEP Vision Statement

VISION STATEMENT
*"In **2035**, Rhode Island will provide energy services across all sectors—electricity, thermal, and transportation—using a secure, cost-effective, and sustainable energy system."*

RISEP Directional Objectives

PLAN CRITERIA	DIRECTIONAL OBJECTIVES	POSSIBLE METRICS
SECURITY	A. **ADEQUACY.** Plan to meet overall energy supply needs	Supply=Forecasted Demand
	B. **SAFETY.** Increase the safety of energy conversion and use	Risk, frequency, and length of supply disruptions; Fuel diversity; Capacity and # of storage or backup power systems
	C. **RELIABILITY.** Increase the system's ability to withstand disturbances	
	D. **RESILIENCY.** Increase the system's ability to rebound from disturbances	
COST-EFFECTIVENESS	E. **AFFORDABILITY.** Lower overall energy bills	Annual expenditure (total, by sector, and per capita)
	F. **STABILITY.** Reduce the impacts of energy price volatility on consumers	Derivative of price, energy cost variance
	G. **ECONOMIC GROWTH.** Grow and maintain a healthy state economy	Gross State Product, annual in-state energy expenditure
	H. **EMPLOYMENT.** Increase employment	Job-years
SUSTAIN-ABILITY	I. **CLIMATE.** Reduce greenhouse gas emissions from energy consumption	CO_2, CH_4, N_2O emissions
	J. **AIR QUALITY.** Reduce criteria pollution from energy consumption	SO_2, NO_x, particulate matter emissions
	K. **WATER USE & QUALITY.** Reduce the water impacts of energy consumption	Water use & quality indicators
	L. **LAND & HABITAT.** Reduce the impacts of energy projects on ecosystems	Area of land use conversion
	M. **HUMAN HEALTH.** Reduce the impacts of energy consumption on human health	Mortality, labor loss

Modeling Analytical Framework



Directional Objectives (Criteria)

1	2	3	4	5
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+ +	+ +	-	-	-
+	- -	- -	+ +	+
-	+ +	-	+	+
+ +	- -	- -	+ +	-
+	- -	-	+	+
+	+	+ +	-	-
-	+	+ +	- -	-
+ +	+ +	-	-	+

Preliminary Findings

TASK 1: BASELINE

TASK 1 - *Baseline*

Whole Energy System

- In **2010**, Rhode Island consumed **199,000 Billion BTUs** of energy. This fuel consumption cost **$3.6 billion** and generated **11 million tons** of C02 emissions

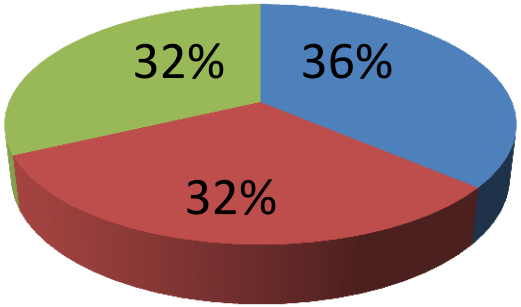
Sector	Consumption (Billion BTU)	Expenditure (Million $)	Carbon Emissions (Metric Tons)
Electricity	72,132	$ 1,097.80	2,934,632
Thermal	63,269	$ 1,108.90	3,909,238
Transportation	63,627	$ 1,378.20	4,486,604
Total	**199,028**	**$ 3,584.90**	**11,330,473**

Source: EIA SEDS, EIA-923

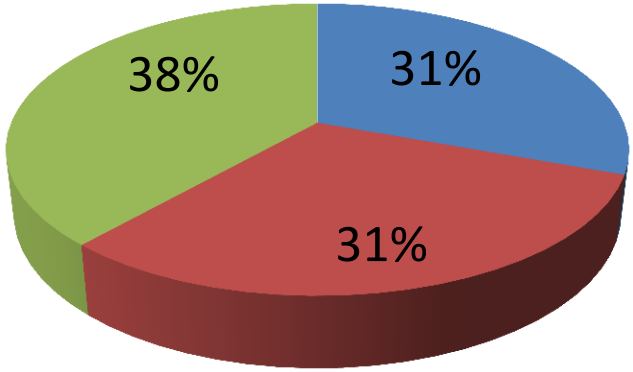
TASK 1 - *Baseline*

Whole Energy System

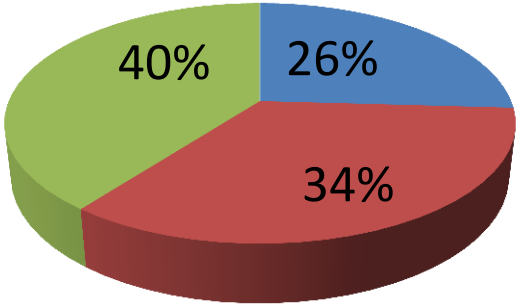
Consumption (Billion BTU)



Expenditure (Million $)



Carbon Emissions (Metric Tons)

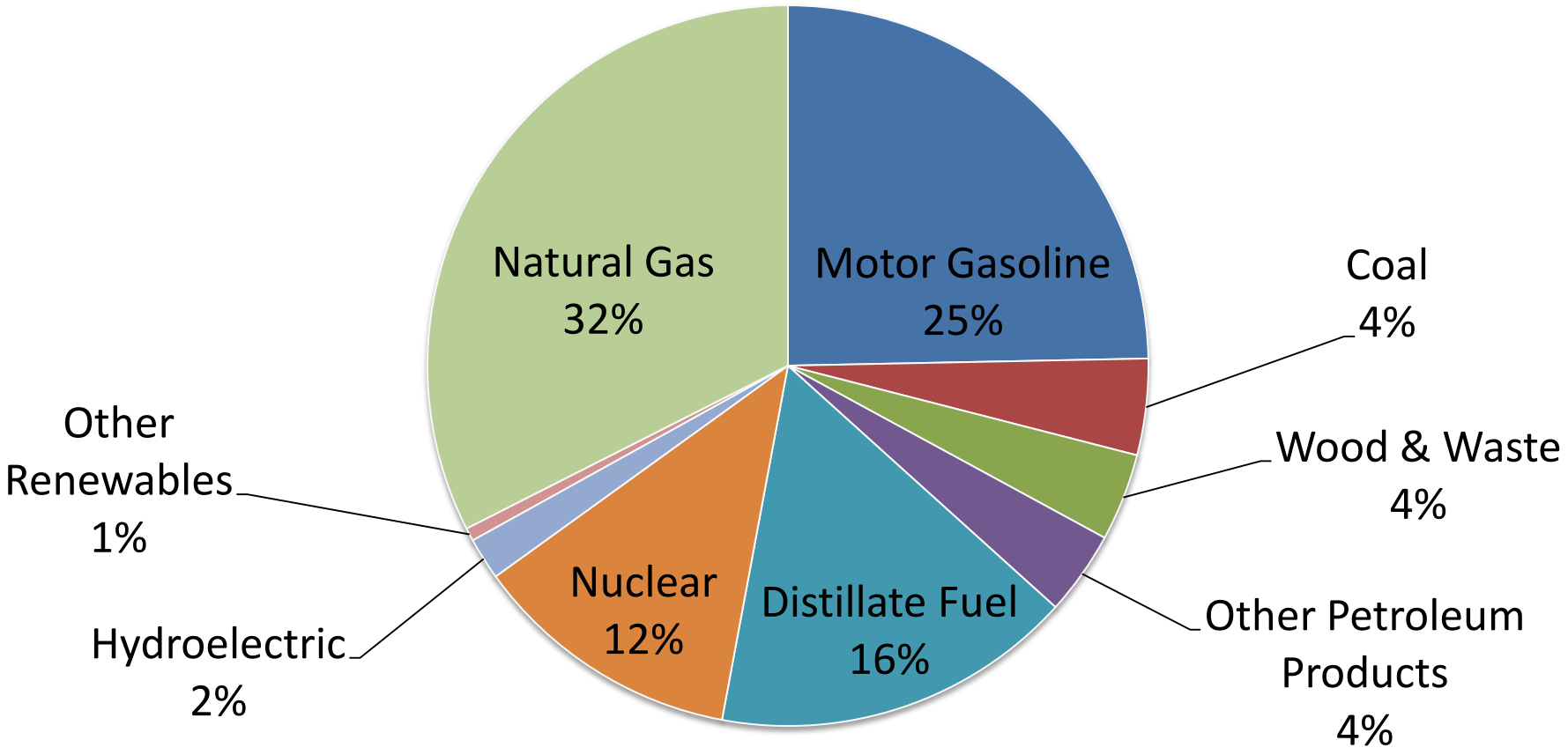


Electricity Thermal Transportation

TASK 1 - *Baseline*

Whole Energy System

Rhode Island Fuel Consumption 2010 - All Sectors

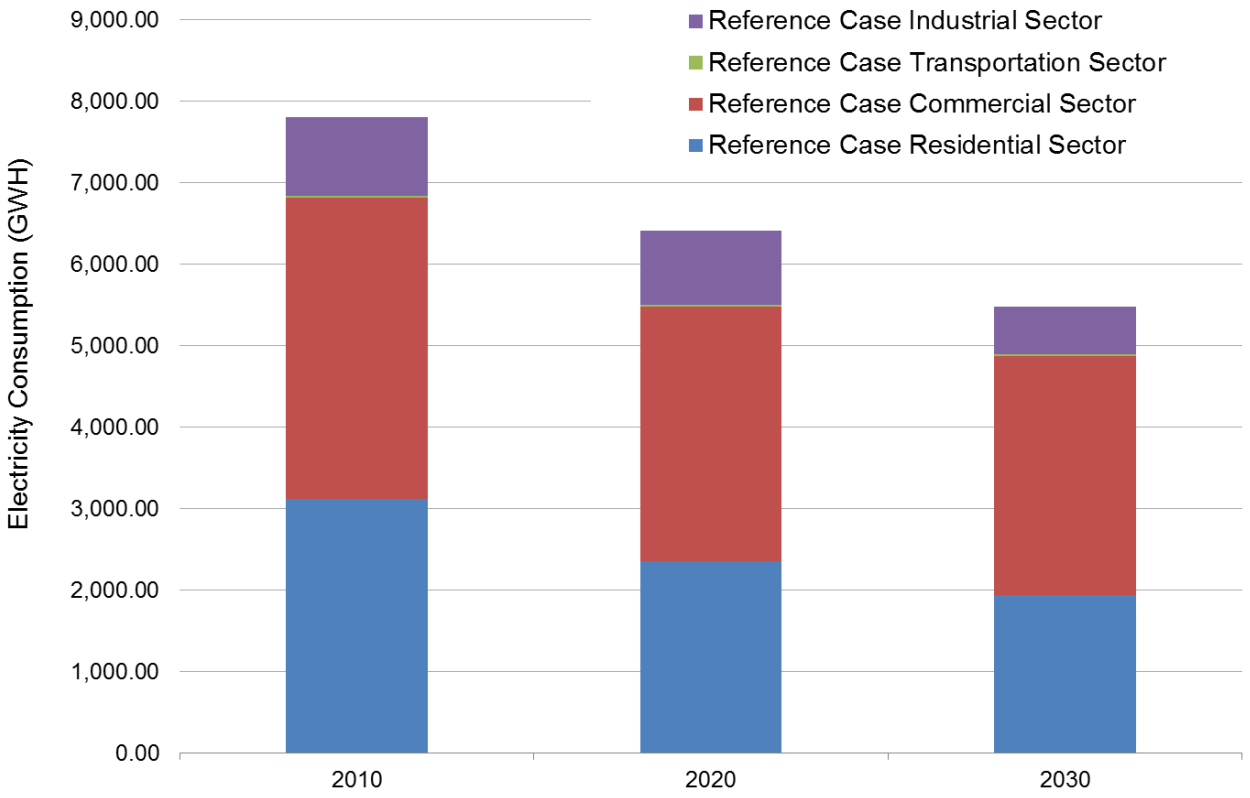


Source: EIA SEDS, EIA-923

Preliminary Findings

TASK 2: FORECAST

Rhode Island Electricity Consumption (Shows Electric Efficiency Impacts)



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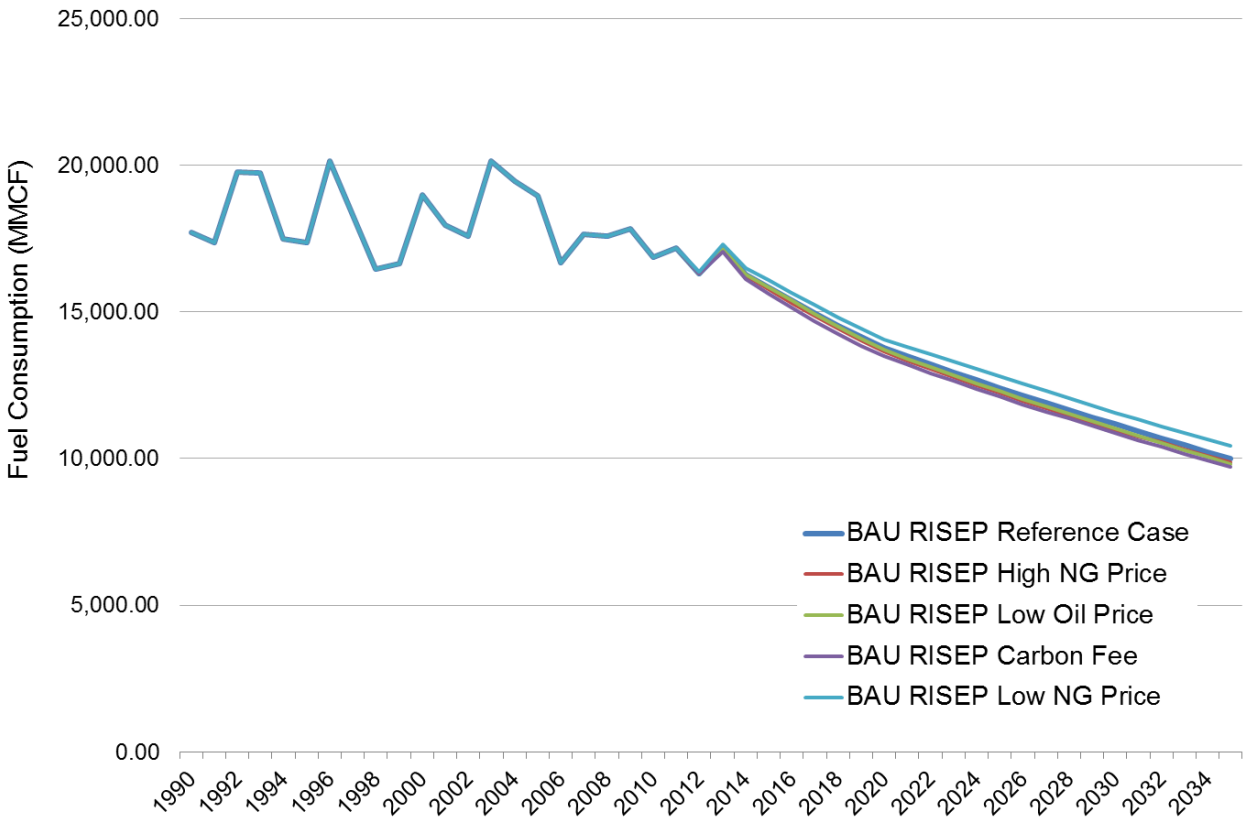
Environment Northeast

Thermal Sector – Residential Sector Natural Gas Consumption – Shows NG Efficiency Impact



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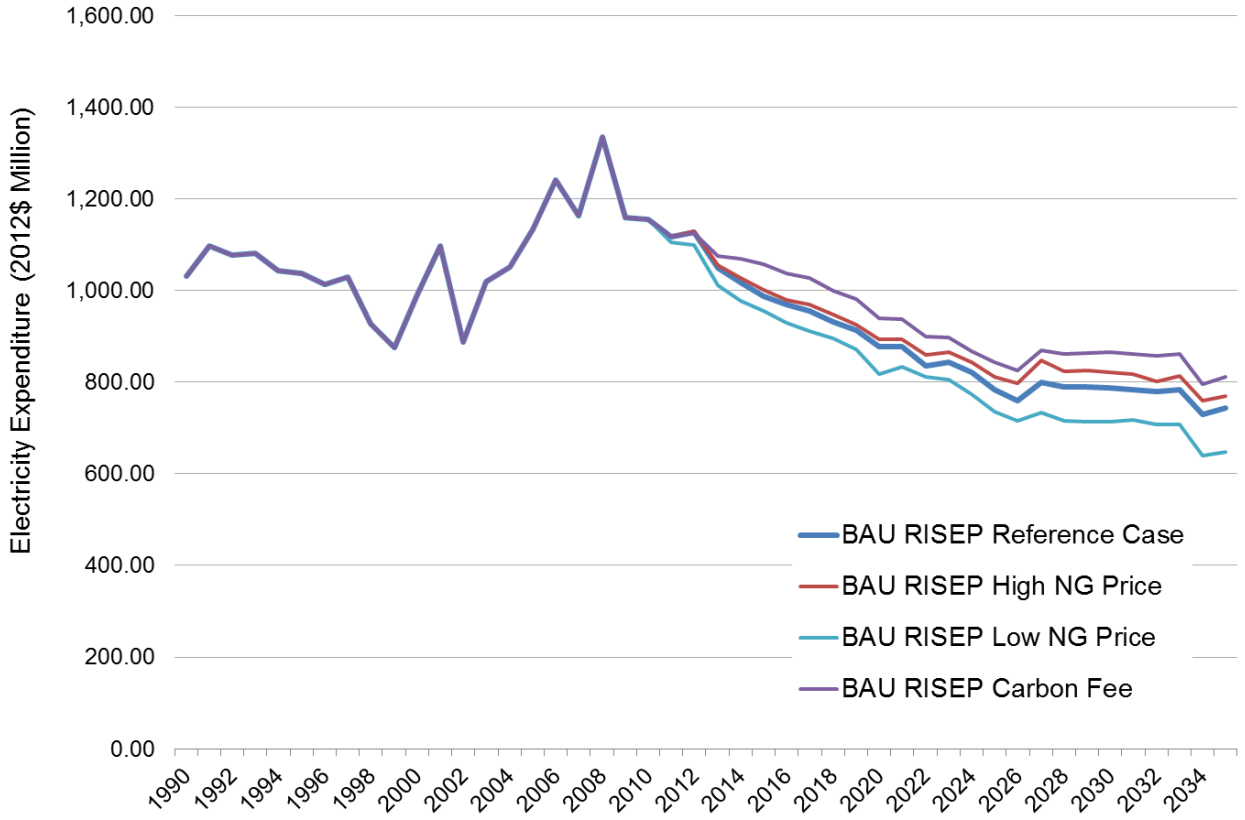
Rhode Island Electricity Expenditure (Shows RGGI Impact)



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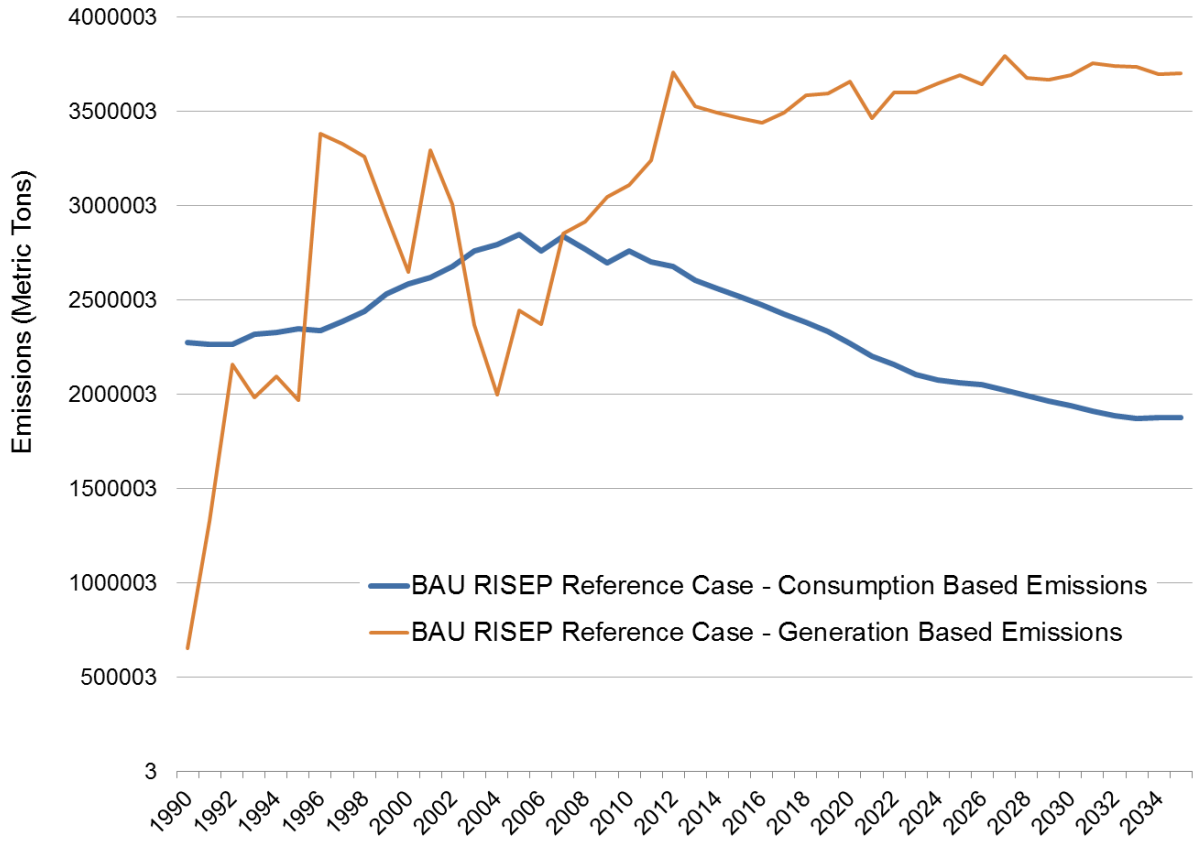
Electric Sector Consumption vs Generation Based Emissions



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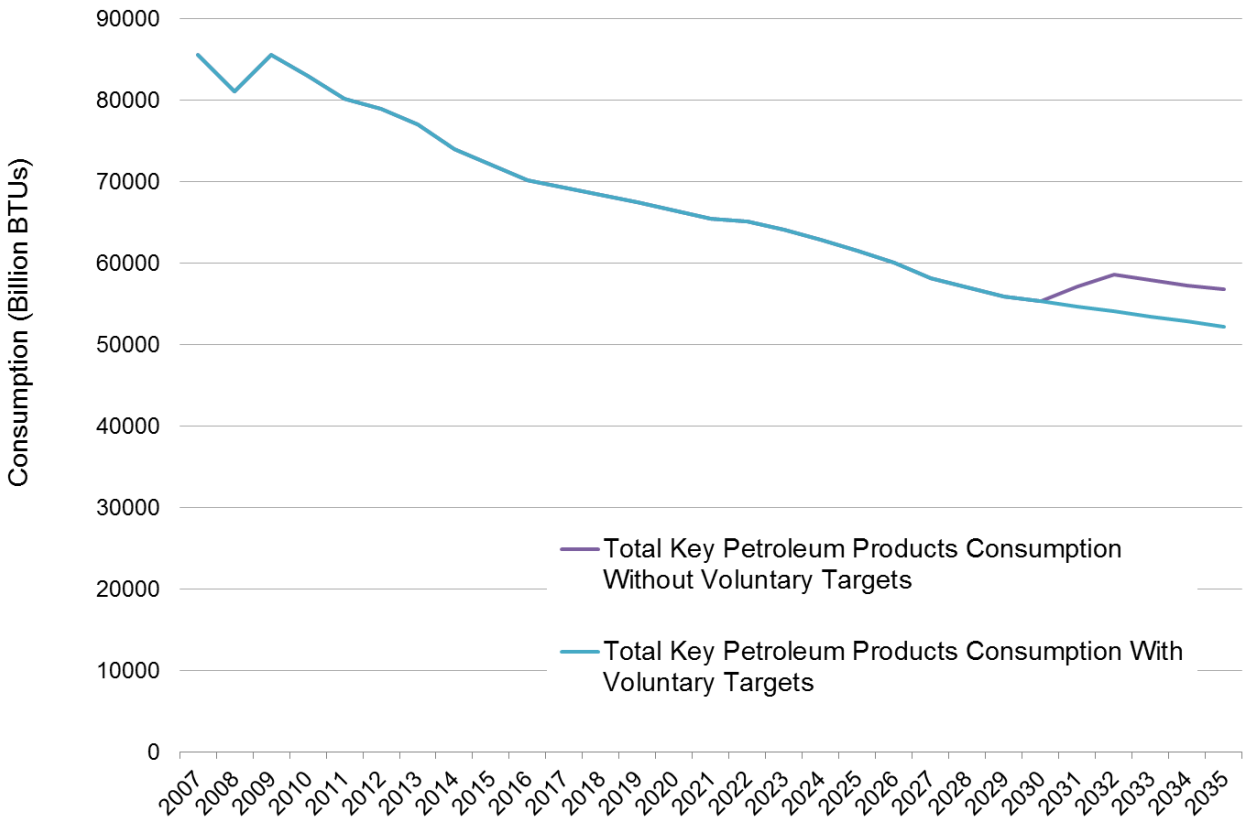
Environment Northeast

Petroleum Consumption Voluntary Targets Impact



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Environment Northeast

What's Next

Scenario Modeling

- Strategy identification and scenario development

Current Sceanrio: Scenario 2 - Environmental Leader

#	STRATEGY	SECTOR	SELECTED? (binary)	Directional Objective Weightings for Scenario: 20% SECURITY (B. Safety, C. Reliability, D. Resiliency)	10% COST EFFECTIVENESS (E. Affordability, F. Stability)	10% ECONOMIC DEVELOPMENT (G. GSP Growth, H. Employment)	60% SUSTAINABILITY (I. Climate, J. Air Quality, K. Water Quality, L. Land & Habitat, M. Human Health)	0% PARTICIPATION (N. Choice, O. Information)	Composite Score Based on Current Weighting
1	Increase Energy Efficiency Awareness and Recognition	Electric	0	2.0	7.0	1.0		4.0	1.8
2	Advance Energy Efficiency Measures in New Construction	Electric	0	4.0	6.0	10.0		1.0	4.8
3	Advance Energy Efficiency Measures in Existing Construction	Electric	1	7.0	5.0		5.0	4.0	5.9
4	Advance Energy Efficiency for Appliances	Electric	0	4.0	10.0	1.0	4.0	10.0	4.3
5	Set/Maintain Energy Efficiency Targets for Utilities	Electric	1	10.0			7.0	10.0	7.9
6	Promote Use of Combined Heat and Power Equipment	Electric	0	4.0	7.0	4.0	4.0	1.0	4.3
7	Deploy Smart Grid Technologies and Programs at a Large Scale	Electric	1			6.0	4.0	10.0	5.5
8	Increase T&D efficiency	Electric	1	10.0	4.0	4.0	4.0	1.0	5.2
9	Increase Renewable Energy Awareness and Recognition	Electric	0		1.0	4.0	1.0	7.0	1.3
10	Promote the Development of Solar PV Projects	Electric	1	4.0	1.0	7.0	6.0	7.0	5.2
11	Promote the Development of Wind Projects	Electric	1	4.0	4.0	7.0	6.0	1.0	5.5
12	Promote the Development of Biomass Projects	Electric	1	7.0	4.0	7.0	4.0	1.0	4.9
13	Promote the Development of Hydro Projects	Electric	0	4.0	1.0	4.0	1.0	1.0	1.9

2013 OER and Administration Energy Legislation - Updates

Commissioner Marion S. Gold
Chris Kearns
Office of Energy Resources
Monday, April 15, 2013

OER/Administration
2013 Energy Legislation

- FY2014 State Budget - Renewable Energy Fund (REF) Transfer to the OER (H-5127, Budget Article 8)
- Regional Greenhouse Gas Initiative (RGGI) – DEM & OER Administrative Funds (H-5812, S-642)
- Distributed Generation Contracts (DG) Program – (H-5803, S-641)
- The Energy Reform Act of 2013
- Property Assessed Clean Energy (PACE) – Residential Program

Renewable Energy Fund Transfer

- Governor Chafee's FY2014 State Budget recommended the transfer of the REF from the EDC to the OER.

- Hearings in both the House and Senate Finance Committees - March. Strong support from the energy community, environmental organizations, and the Energy Council of Rhode Island (TEC-RI).

- The Senate introduced legislation (S-0735): transfer 20% of the REF to the OER on an annual basis. Hearing held in the Senate Finance Committee - April.

- The OER, DOA Director, and Governor's Office look forward to dialogue with the Senate and House re: opportunities surrounding transfer of the REF to the OER.

Regional Greenhouse Gas Initiative

- Allow OER and DEM to use the RGGI administrative funds for RGGI and also climate change, renewable energy, and energy efficiency objectives.

- Hearing in Senate Environment and Agriculture Committee - April. Strong support from the energy and environmental community.

- Environmental community recommends minor changes to maximize the amount of RGGI administrative funding that the OER and DEM could receive. The OER and the DEM fully support these amendments.

- The amended legislation was sent to the Senate Policy Office for introduction.

- **The legislation is scheduled for a hearing in the House Finance Committee on Tuesday, April 23rd at 1 p.m.**

Distributed Generation Contracts Program

- Hearings in House Environment and Senate Environment and Agriculture Committees - April. Legislation was supported but the environmental and energy community recommended an expansion of the DG programs MW system size.

- The Senate legislation was Sub A'd last week and passed out of Committee. Scheduled for a Senate floor vote on Wednesday, April 24th.

- The DG legislation would accomplish the following:
  - Increase transparency and oversight by the OER in monitoring the DG program.
  - Require NGRID at the end of each DG enrollment to provide the applicant with written feedback on the evaluation of applicant's project proposal and reason for denial (if requested).

Distributed Generation Contracts Program

- Requires competitive bidding for the small DG projects to decrease the cost of the DG program. The small DG MW allocations would be separated from the large DG MW allocations in each enrollment.

- Provides the opportunity for appropriately sited small-scale hydropower projects to participate in the DG program.

- Provides flexibility in what the DG project is required to produce in its submitted DG application. A project would need to produce 90% of what is proposed in the application.

- Allows any unused kWh or MW to be eligible for use after 2014. This language was inserted in the event that any DG projects awarded in 2012, 2013, or 2014 are unable to become operational, the kWh or MW could be re-directed to new projects.

The Energy Reform Act of 2013

- The Chafee Administration's objectives in the Energy Reform Act of 2013 legislation are the following:

- Improve the State's energy security, by diversifying energy portfolio for electric generation. The State is heavily dependent on natural gas (97% percent) for electric generation.

- Allows for opportunities to coordinate regional procurement opportunities, with both utility scale federal offshore wind and large-scale hydropower opportunities.

- Continues to promote and expand Distributed Generation opportunities.

The Energy Reform Act of 2013

- The legislation proposes the following:
- Updates the eligibility date of projects being eligible for Renewable Energy Credits (REC) from December 31, 1997 to January 1, 2005.
- Adds large-scale hydropower as an eligible renewable energy resource under the RES law.
- Does **NOT** allow large-scale hydropower to be eligible for REC under either the RES or LTC law. Large-scale hydropower is **NOT** allowed to participate in the RES program.
- Requires the electric distribution company to solicit proposals under the LTC law for large-scale hydropower opportunities, for a potential Power Purchase Agreement (PPA) up to 150 MW.

The Energy Reform Act of 2013

- Requires the electric distribution company to select the most commercially reasonable project, in consultation with the OER, and submit that PPA proposal to the Public Utility Commission (PUC) for review and potential approval. This would be done in a transparent and public PUC docket process.

- Extends and expands the successful DG Program from its current expiration date of December 30, 2014, to December 30, 2018.

- Adjusts the DG Standard Contract from fifteen (15) to twenty (20) years.

- Adds eighty megawatts (80MW) of nameplate capacity to the DG program.

- This legislation includes the DG language that is in the Senate Sub A DG legislation that passed out of the Senate Environment and Agriculture Committee.

Property Assessed Clean Energy

- The residential PACE program legislation should be introduced in both the House and Senate after the General Assembly recess.
- The PACE program would provide an innovative financing program for homeowners to pursue energy efficiency and renewable energy program upgrades on their property.
- This would be a voluntary program for municipalities to participate in. The PACE program would NOT be a mandate on municipalities.
- The PACE program would utilize available federal energy funds; no ratepayer or general revenue needed.

The Energy Reform Act of 2013 & PACE

- The OER, DOA Director's Office, and the Governor's Office look forward to meeting with the following stakeholders over the next two weeks, in discussing the bills and securing their passage this legislative session:

  - **The Senate and House Policy Office's**
  - **National Grid**
  - **Environmental Organizations**
  - **TEC-RI**
  - **Renewable energy businesses**
  - **Municipal officials**
  - **Electrical Unions**

Questions/Comments