



RGGI Region Projected Household Bill Impacts

Summary of Results

- The IPM model projects increases in electricity prices as a result of the RGGI policy scenarios which, by themselves, would increase the household electric bill.
- However, policies to deliver meaningful end-use energy efficiency measures (both through RGGI and due to other state energy efficiency policies) are effective in sufficiently reducing total electricity usage by households so as to overcome the price increase impact of RGGI - resulting in a net reduction in expenditures on average across households.
 - RGGI consumer allocation support for energy efficiency programs
 - State appliance/equipment energy efficiency standards (such as recently enacted by CT, MA, NJ, NY, and RI)
 - Improved building energy codes (such as recently enacted/under consideration by DE, ME, NJ, NY, VT)
 - Increased performance by existing ratepayer-funded energy efficiency programs



Projected RGGI Region Household Bill Impacts

Before Energy Efficiency Savings	Household Bill Impact (\$/yr)		After Energy Efficiency Savings	Household Bill Impact (\$/yr)			
	2015	2021		Participating Households*		If all EE savings distributed equally across all households	
Direct Impact of RGGI due to retail price change	2015	2021	Impact of RGGI after assumed EE Programs resulting in reduction in household energy usage	2015	2021	2015	2021
Standard REF Case			Standard REF Case				
Package	2.90	5.45	Package	-92.54	-153.67	-30.51	-50.24
Package + Fed	36.84	45.99	Package + Fed	-61.95	-119.81	2.26	-12.04
Package + 2X EE	0.77	2.16	Package + 2X EE	-189.59	-314.99	-65.85	-108.84
Hi Emissions REF Case			Hi Emissions REF Case				
Package	16.02	22.44	Package	-86.15	-147.43	-19.74	-37.02
Package + Fed	31.93	38.04	Package + Fed	-71.60	-133.97	-4.31	-22.17

See notes on the next two slide for explanation of analysis.

* Assumes 35% Participation rate across households reached over time

Negative numbers in the household bill impact columns indicate that projected bill savings due to improved end-use energy efficiency exceed the projected increase in bills due directly to RGGI retail price impact.



Explanation of Analysis

Data Sources and Assumptions

Bill impact considers change in residential retail price and reduction in energy expenditures by the residential sector due to Energy Efficiency measures as projected by the corresponding IPM scenario run. Household data (typical bills, households) from 2003 EIA at: www.eia.doe.gov/cneaf/electricity/esr/table1abcd.xls#Table1!A1. Analysis does not consider escalation in energy expenditure or number of households over time. The RGGI regional results presented are based on the averaging (weighted by consumption) of state-level modeling in IPM and household data from EIA. The full set of regional economic impact results including REMI modeling is available in the Stakeholder presentation available at (<http://www.rggi.org/documents.htm>).

Achieved End-Use Energy Efficiency under RGGI Policy Scenarios is assumed to be incremental to IPM Reference Case

Incremental end-use energy efficiency savings were modeled as part of the RGGI Policy Scenarios for multiple reasons. There is uncertainty regarding how much of current and future energy savings due to ratepayer funded energy efficiency programs are incorporated into and fully captured by the ISO load forecasts used in the reference case modeling. A number of RGGI participating states have also enacted or are moving to enact improved building codes and energy efficiency standards for appliances that will reduce load growth and also lower household electricity bills. The Staff Working Group has also proposed that RGGI allowance revenue be used in part to fund additional support for end-use energy efficiency programs. The RGGI Policy Scenario runs do not directly model the impact of such a consumer allocation dedicated to end-use energy efficiency.



Energy Efficiency Modeling

The IPM model was allowed to select end-use energy efficiency options on an economic basis as an alternate means of meeting regional energy and generation capacity requirements. A limit was placed on the amount of energy efficiency "resource" (MW and MWh) that the model could select at a level equivalent to what was assumed could be achieved based on a specified level of programmatic spending. The limit was developed based on a funding level of \$513 million per year (approximately equal to the current aggregate level of state spending on energy efficiency in the nine-state region). Twice this spending level is assumed for the "2x" energy efficiency scenario. The IPM model projects and allocates the resulting energy savings in each customer class – 42% to residential, 46% to commercial, and 12% to industrial. These residential savings are distributed to typical households in the data presented.

Achieved incremental end-use energy efficiency in the RGGI Policy Scenario runs can be viewed as indirectly representing a portfolio of a number of policies and mechanisms, including:

- Implementation of a RGGI consumer allocation, with the majority of the revenue dedicated to energy efficiency
- Enactment of appliance and equipment energy efficiency standards (such as recently enacted by CT, MA, NJ, NY, and RI)
- Upgrade of building energy codes (such as recently enacted/under consideration by DE, ME, NJ, NY, VT)
- Increase in existing state energy efficiency funding (e.g., NJ) and improvement in performance on a \$/MWh saved basis
- Appliance and equipment energy efficiency standards mandated through the federal Energy Policy Act of 2005