New York Customer Electricity Bill Analysis: 91 Cap Bank Model Rule Case

May 24, 2013

Agenda

- Overview of Analysis
- Analysis Group Methodology
- Assumptions Development and Sources
  - Model Assumptions
  - State Assumptions
- Results

IPM 91 Cap Bank Model Rule Case

- The **IPM 91 Cap Bank Model Rule and 91 Cap Alt Bank Model Rule cases** were released on February 7, 2013.
- The **IPM 91 Cap Bank Model Rule Case** incorporated the program elements included in the *Updated Model Rule* released on February 7, 2013.
- The customer electricity bills analysis has been updated to reflect the IPM modeling results for the **IPM 91 Cap Bank Model Rule Case**.
- This presentation provides an analysis of the potential change in the average monthly customer electricity bill based on changes from the **IPM Reference Case** to the **IPM 91 Cap Bank Model Rule Case (91 Cap Bank MR Case)**.

Methodology

- **Analysis Group Analysis:**
  - Calculates the potential change in the average monthly electricity bill on a residential, commercial, and industrial customer class average basis (change from IPM Reference Case to 91 Cap Bank MR Case).
  - Includes adjustment to customer class average consumption each year based on total energy efficiency (EE) savings in that customer class
  - Includes adjustment to the average monthly bill by customer class as a result of investments in direct bill assistance
- **Does not account for:**
  - Savings due to fossil fuel EE investments
  - Savings on customer bills post-2020 due to EE investments made during the IPM modeling period (2012-2020)

Methodology – Average Monthly Bill Impact Calculation

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$/kWh x Monthly kWh = $/Month

Energy Rate

- Reflects wholesale electricity prices – affects competitive supply offers and standard offer/default service rates
- Modeled by ICF for reference and policy scenario through 2020
- IPM model prices reflect impact of lower load (GWh) due to investments in energy efficiency
- Same for all customer classes

Delivery (T/D) Rate

- Reflects cost of delivery of electricity to end-use customer, including transmission, distribution, customer charges, etc.
- Based on 5-year averages, using public data reported by distribution companies to EIA
- Calculated for each customer class

Average Monthly Use

- Based on historical consumption, using public data reported by distribution companies to EIA
- Five-year average to smooth out annual weather-driven variations
- Includes adjustment to customer average usage (GWh) due to investments in energy efficiency
- Average calculated for each customer class

Average Monthly Bill

- Product of combined customer-class average energy and delivery rates, and average customer class monthly consumption
- Adjusted for direct bill assistance refunds for each customer class

Average Monthly Bill *Impact*

- *Difference* in average monthly bill, between Reference case and Policy Case

Does not account for :

- Savings on customer bills post 2020 due to EE investments made during the IPM modeling period (2012-2020)
- Savings due to fossil fuel EE investments

Model Assumptions – Electricity Rates & Average Monthly Usage

- **Electricity Rate Assumptions ($/kWh)**
  - **Energy Rates:** IPM model output; prices reflect impact of lower load (GWh) due to investments in energy efficiency
  - **Delivery (T/D) Rate:** 5-year average rates from U.S. Energy Information Association (EIA)

- **Average Monthly Usage Assumptions**
  - **Historical Usage Data:** 5-year averaged data from EIA
  - Adjustment made to customer average usage (GWh) due to investments in energy efficiency

State Assumptions – Projected Proceed Investments

- Cumulative projected proceeds for NY in the **IPM Reference case** are **$602.07 Million** (2010$)**.**
- Cumulative projected proceeds for NY in the **91 Cap Bank MR Case** are **$1,537.00 Million** (2010$), representing an additional **$934.93 Million** (2010$) in proceeds compared to the Reference Case.
  - Annual proceeds were calculated by multiplying the estimated number of allowances projected to be purchased at auction by the projected CO_2 allowance price.
  - For the IPM reference case, calculation assumes that the market purchases enough allowances to meet demand based on emissions, minus the 47M banked allowances from first control period spread over the time horizon.
  - For the 91 Cap Bank MR case, calculation assumes in 2012 that the market purchases allowances to meet demand based on emissions. For 2013, assumes that the market is made aware of new policies in 2013 and assumes market purchases 100% of available allowances. Post 2013, assumes that the market purchases all available allowances.

State Assumptions – Projected Proceed Investments

- **Projected Proceed Investments:** States made assumptions on how projected additional proceeds from the 91 Cap Bank MR Case may be invested in the following categories:
  - Electric EE
  - Fossil Fuel EE
  - Clean & Renewable Energy
  - GHG Abatement & Climate Change Programs
  - Direct Bill Assistance
  - Admin/Other

State Assumptions – Projected Proceed Investments

- **State Proceed Investments:** The table below provides the breakdown of how each state assumed to invest the additional proceeds in the 91 Cap Bank MR Case (through 2020) compared to the Reference Case.

State	Electric EE Investments	Fossil Fuel EE Investments	Clean & Renewable Energy Investments	Direct Bill Assistance	GHG Abatement & Climate Change Programs	Admin/ Other	Total
Connecticut	50.0%*	19.5%*	23.0%*	0.0%*	7.5%*	0.0%	**100%**
Delaware	65.0%	10.0%	0.0%	5.0%	15.0%	5.0%	**100%**
Maine	68.0%*	13.0%	0.0%	14.0%	0.0%	5.0%*	**100%**
Maryland	46.0%	0.0%	10.5%	40.0%	$1M	3.5%	**100%**
Massachusetts	94.0%	6.0%	0.0%	0.0%	0.0%	0.0%	**100%**
New Hampshire	25.3%*	25.3%*	0.0%	46.2%*	0.0%	3.2%*	**100%**
New York	16.0%	59.0%	0.0%	0.0%	10.0%	15.0%	**100%**
Rhode Island	95.0%*	0.0%	0.0%	0.0%	0.0%	5.0%*	**100%**
Vermont	0.0%	98.0%	0.0%	0.0%	0.0%	2.0%	**100%**

* Percentage invested may vary based on annual projected allowance prices.

Results

The following slides show results for New York for the 91 Cap Bank MR Case from 2012-2020, consistent with the IPM modeling timeline.

NY Average Bill Impacts –
IPM 91 Cap Bank Model Rule Scenario Summary Results

RGGI Inc.

NY Monthly Bill Impact for years 2012-2020

	Reference Case	91 Cap Bank MR	
Customer Class	Average Monthly Bill ($2010)	Average Monthly Difference	Percent Difference
Residential	$ 82.62	$ 0.59	0.7%
Commercial	$ 693.42	$ 5.06	0.7%
Industrial	$ 10,657.02	$ 124.32	1.2%

NY Average Bill Impacts –
IPM 91 Cap Bank Model Rule Scenario Residential Results (2012-2020)

RGGI Inc.

Average Bill Impacts
NY Residential Customers

	Average Monthly Bill ($2010)	Difference between Reference Case and Scenario Cases ($2010)	
		91 Cap Bank MR	
Year	Reference Case	Average Monthly Difference ($2010)	Percent Difference
2012	$ 79.33	$ (0.00)	0.0%
2013	$ 80.22	$ (0.01)	0.0%
2014	$ 82.49	$ 0.54	0.7%
2015	$ 82.81	$ 0.73	0.9%
2016	$ 83.98	$ 0.86	1.0%
2017	$ 83.69	$ 0.86	1.0%
2018	$ 83.36	$ 0.86	1.0%
2019	$ 83.71	$ 0.79	0.9%
2020	$ 84.01	$ 0.71	0.8%
Average	$ 82.62	$ 0.59	0.7%

NY Average Bill Impacts –
IPM 91 Cap Bank Model Rule Scenario Commercial Results (2012-2020)

RGGI Inc.

Average Bill Impacts
NY Commercial Customers

	Average Monthly Bill ($2010)	Difference between Reference Case and Scenario Cases ($2010)	
		91 Cap Bank MR	
Year	Reference Case	Average Monthly Difference ($2010)	Percent Difference
2012	$ 640.39	$ (0.03)	0.0%
2013	$ 654.72	$ (0.27)	0.0%
2014	$ 683.16	$ 5.10	0.7%
2015	$ 691.20	$ 6.82	1.0%
2016	$ 707.93	$ 7.87	1.1%
2017	$ 709.47	$ 7.58	1.1%
2018	$ 710.39	$ 7.28	1.0%
2019	$ 718.17	$ 6.19	0.9%
2020	$ 725.37	$ 5.00	0.7%
Average	$ 693.42	$ 5.06	0.7%

NY Average Bill Impacts –
IPM 91 Cap Bank Model Rule Scenario Industrial Results (2012-2020)

RGGI Inc.

Average Bill Impacts
NY Industrial Customers

	Average Monthly Bill ($2010)	Difference between Reference Case and Scenario Cases ($2010)	
		91 Cap Bank MR	
Year	Reference Case	Average Monthly Difference ($2010)	Percent Difference
2012	$ 8,938.54	$ (0.59)	0.0%
2013	$ 9,401.15	$ (3.89)	0.0%
2014	$ 10,168.11	$ 118.13	1.2%
2015	$ 10,484.93	$ 159.76	1.5%
2016	$ 10,987.45	$ 186.08	1.7%
2017	$ 11,154.02	$ 183.09	1.6%
2018	$ 11,303.04	$ 179.95	1.6%
2019	$ 11,598.40	$ 159.30	1.4%
2020	$ 11,877.55	$ 137.03	1.2%
Average	$ 10,657.02	$ 124.32	1.2%