
Regional Greenhouse Gas Initiative (RGGI; “Reggie”) Modeling for Carbon Pricing Instruments

Will Space

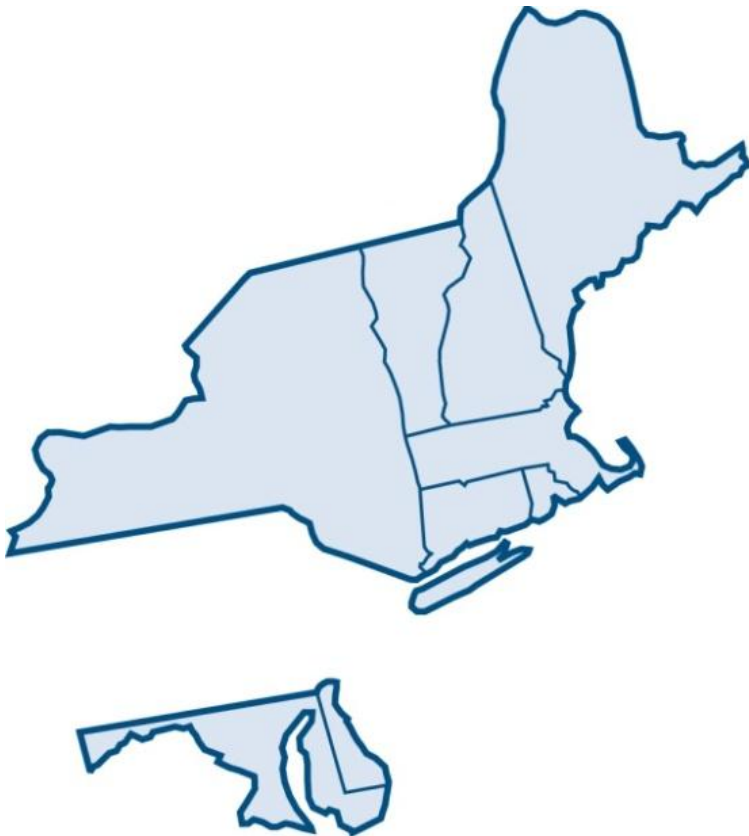
Massachusetts Department of Environmental Protection

Washington, DC

April 25, 2013



Regional Greenhouse Gas Initiative



- Cap and trade for carbon dioxide emissions from power plants in 9 US states
- In effect since 2009; changes effective in 2014
- Prices have ranged between \$2 - \$4 per metric ton CO₂
- Cap will fall by 2.5% per year 2015 - 2020

Economic Impacts

Analyses indicate that proposed changes would:

- Result in a modest increase in allowance prices, with allowances expected to be priced at approximately \$4 (\$2010) per allowance in 2014 rising to approximately \$10 (\$2010) per allowance in 2020.*
- Have a minimal net impact to consumer's electricity bills. Overall, the average electricity bill for residential, commercial, and industrial customers is projected to increase by less than 1 percent.*
- Generate an additional \$2.2 billion (\$2010) for reinvestment. These investments in energy efficiency and renewable energy save consumers money, create jobs and enhance energy security, and drive further emission reductions.*

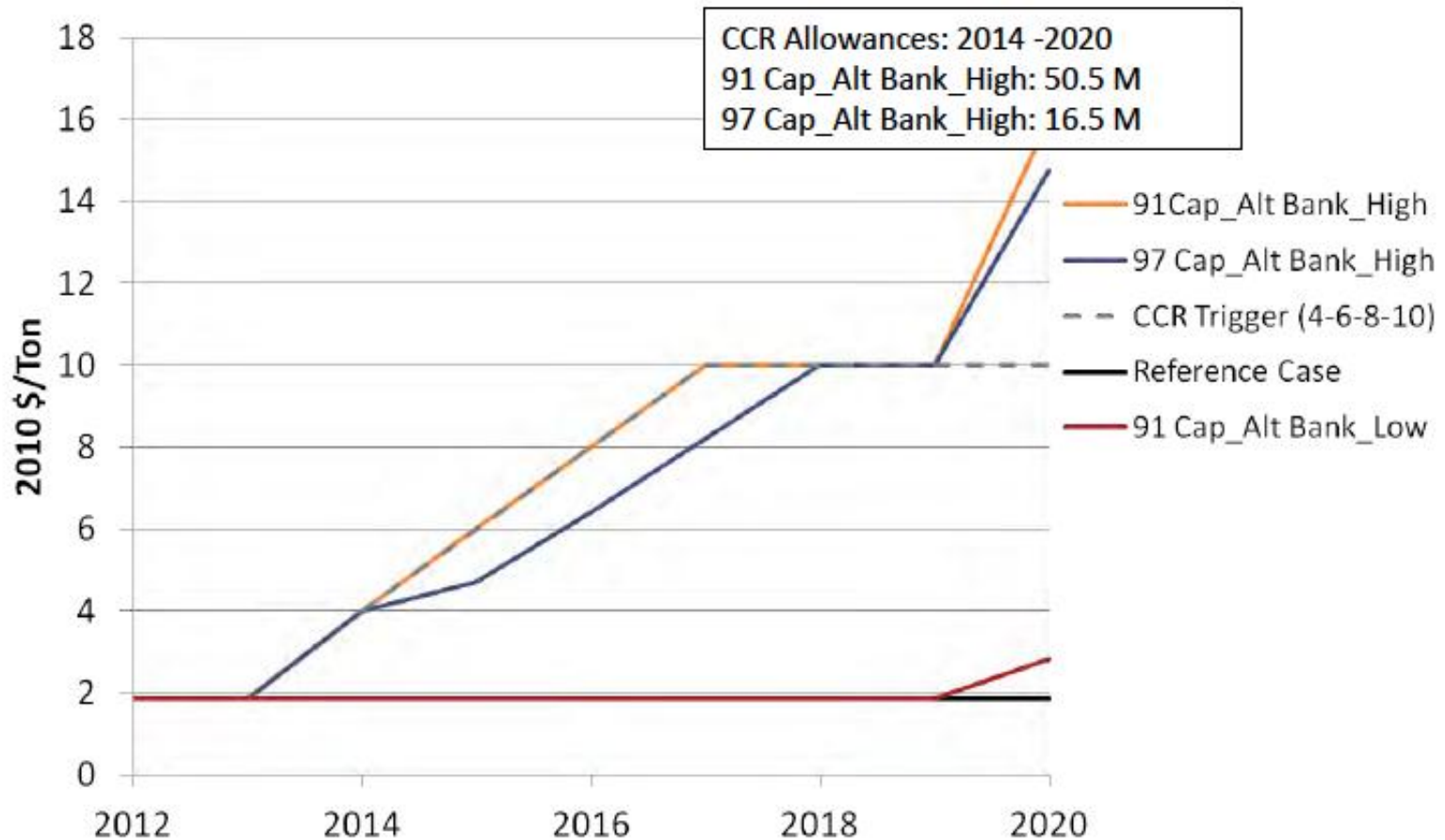


Modeling Proposed Changes

- Electric sector modeling to estimate allowance and wholesale electricity prices for various caps
 - Using IPM, an electric sector model also used by EPA to model SO₂ and NO_x trading programs
- Bill impacts analysis (retail prices)
 - by Analysis Group, considering allowance pass-through costs and savings from EE investment
- Macroeconomic modeling to estimate impacts on economic output, jobs, etc.
 - Using REMI (Regional Economic Models, Inc.)



IPM Modeling Results



Bill Impacts

RGGI Average Monthly Bill Impact for years 2012-2020

Customer Class	Reference Case	91 Alt Cap	
	Average Monthly Bill (\$2010)	Monthly Difference (\$2010)	Percent Difference
Residential	\$ 79.68	\$ 0.23	0.3%
Commercial	\$ 593.15	\$ 5.01	0.8%
Industrial	\$ 6,600.67	\$ 64.66	1.0%



REMI Modeling Results

Summary of Regional Economic Impacts, 2012-2040

Scenario	91 Cap Bank
Cumulative Change in Gross State Product (\$2010)	\$8.2 Billion
Percent Change from Business-As-Usual	0.0%
Business-As-Usual Regional GSP:	\$48,000 Billion
Cumulative Change in Employment (Job-Years)	124,800
Percent Change from Business-As-Usual	0.0%
Business-As-Usual Regional Employment:	941,000,000
Cumulative Change in Real Personal Income (\$2010)	\$6.8 Billion
Percent Change from Business-As-Usual	0.0%
Business-As-Usual Regional Real Personal Income:	\$43,000 Billion



Economic Impacts of EE Investments



The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States

Review of the Use of RGGI Auction Proceeds from the First Three-Year Compliance Period

Paul J. Hibbard
Susan F. Tierney
Andrea M. Okie
Pavel G. Darling

1.3
BILLION
in energy bill savings across the region¹

1.6
BILLION
in net economic benefit to region¹

16
THOUSAND
job-years created¹



RGGI Press Release

The changes will help Massachusetts meet its ambitious greenhouse gas reduction targets, and enable our state to boost its investment in energy efficiency programs to create jobs in the clean energy economy and save our consumers money on their electric bills.

- Kenneth Kimmell, Commissioner, Massachusetts Department of Environmental Protection



RGGI: Additional Information

- RGGI web page: <http://www.rggi.org/>
- Massachusetts RGGI implementation: <http://www.mass.gov/dep/air/climate/rggi.htm>
- Contact: william.space@state.ma.us



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