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RGGI—Cap-and-Trade for the Electricity Sector

An Update on the Regional Greenhouse Gas Initiative

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The Regulatory Assistance Project

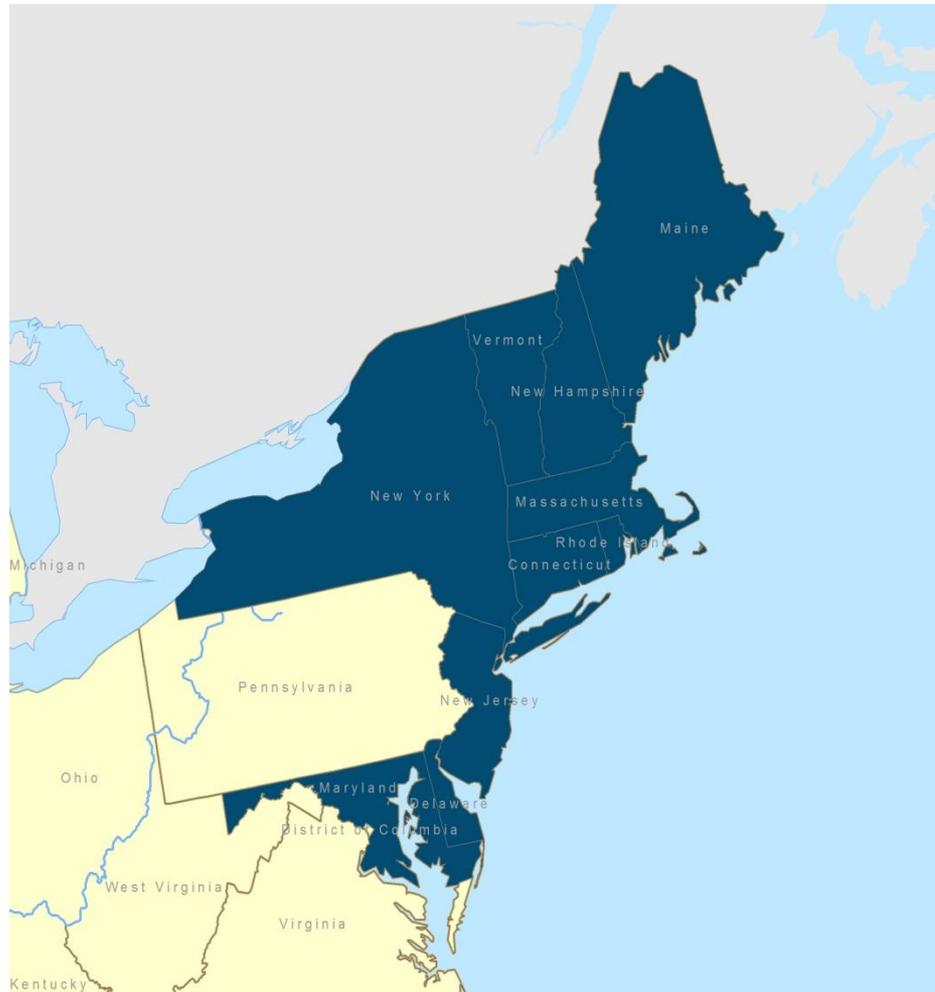
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Themes

- The Program's Origin
- RGGI: a Model for electric generation cap-and-trade
- Why RGGI is a good model

The Regional Greenhouse Gas Initiative



The Original Idea: A Modest Program to Model for Federal Action

- “We did it with SO₂ so let’s do it with CO₂“
- US air regulation based on cooperative federalism—federal standards implemented by the states
- Designed by air regulators and energy regulators from 10 states

Is it Like SO₂ ?

Yes—So No Need to Reinvent the Wheel

- We know how to do cap-and-trade
 - Model Rule
- Emissions Inventory
- Part 75 monitoring (CEMS and Fuel Flow)
- CO₂ Allowance Tracking System (COATS)
- Market Monitoring

Is it Like SO₂ ?

Actually, Not Entirely

- Where are the Compliance Options?
 - the scrubbers?
 - the low sulfur coal (Powder River)?
 - integrated utilities to pay for this?
- The cheapest way to scrub a ton of CO₂ today is to avoid emitting it in the first place – energy efficiency.

The Program Highlights

- The RGGI Memorandum of Understanding (MOU) sets out the essential elements of a proposed model rule, adopted by each participating state (read: political support).
- Coverage: Fossil fuel-fired electric power plants 25 megawatts and larger (approximately 250 units)
- 3-Year Compliance Period
- Effective Date: January 1, 2009 (planning started in 2003)

Highlights cont.

- Allocation largely through quarterly allowance auctions
- Reserve Price \$1.93
- Approximately \$ 1,093,377,848 in revenues to date
- Cap based on historical emissions (2000-2002)
 - Total Reduction in Emissions Cap: 10 percent below 2009 levels by 2018
 - Timing of Reductions:
 - 2009-2014, cap stabilizes emissions
 - 2015-2018, cap reduces by 2.5 percent each year

Highlights – MOU

- Comprehensive 2012 Review of
“all components of the Program.”
 - Program Success
 - Program Impacts (price and system reliability)
 - Additional Reductions
 - Imports and Emissions Leakage
 - Offsets

MOU cont.

- Allowance allocation:
 - as determined appropriate by each Signatory State, provided
 - each Signatory State agrees that 25% of the allowances will be allocated for a consumer benefit or strategic energy purpose.
- This includes:
 - the use of the allowances to promote energy efficiency, to directly mitigate electricity ratepayer impacts, to promote renewable or non-carbon-emitting energy technologies, to stimulate or reward investment in the development of innovative carbon emissions abatement technologies with significant carbon reduction potential, and/or to fund administration of this Program;

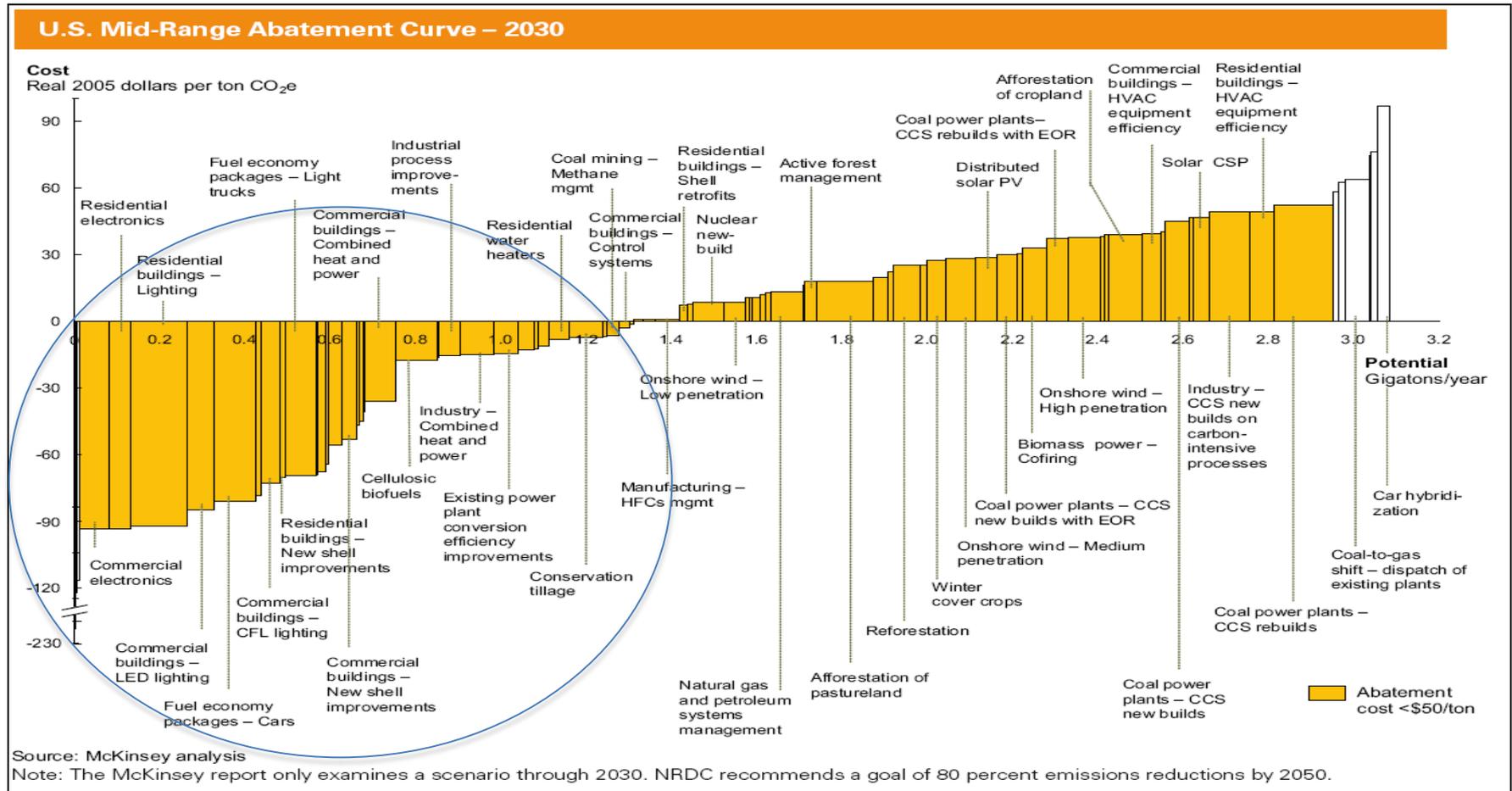
The Revenue Side of RGGI: States determined that price alone will not achieve program goals.

- Extensive modeling of end-use energy efficiency found:
 - Carbon allowance prices drop 25%
 - Need for new fossil capacity drops 33%
 - Customer bills drop 5 percent (Industrial) to 12 percent (Residential)
 - And even greater EE investments (quite attainable) would yield greater savings

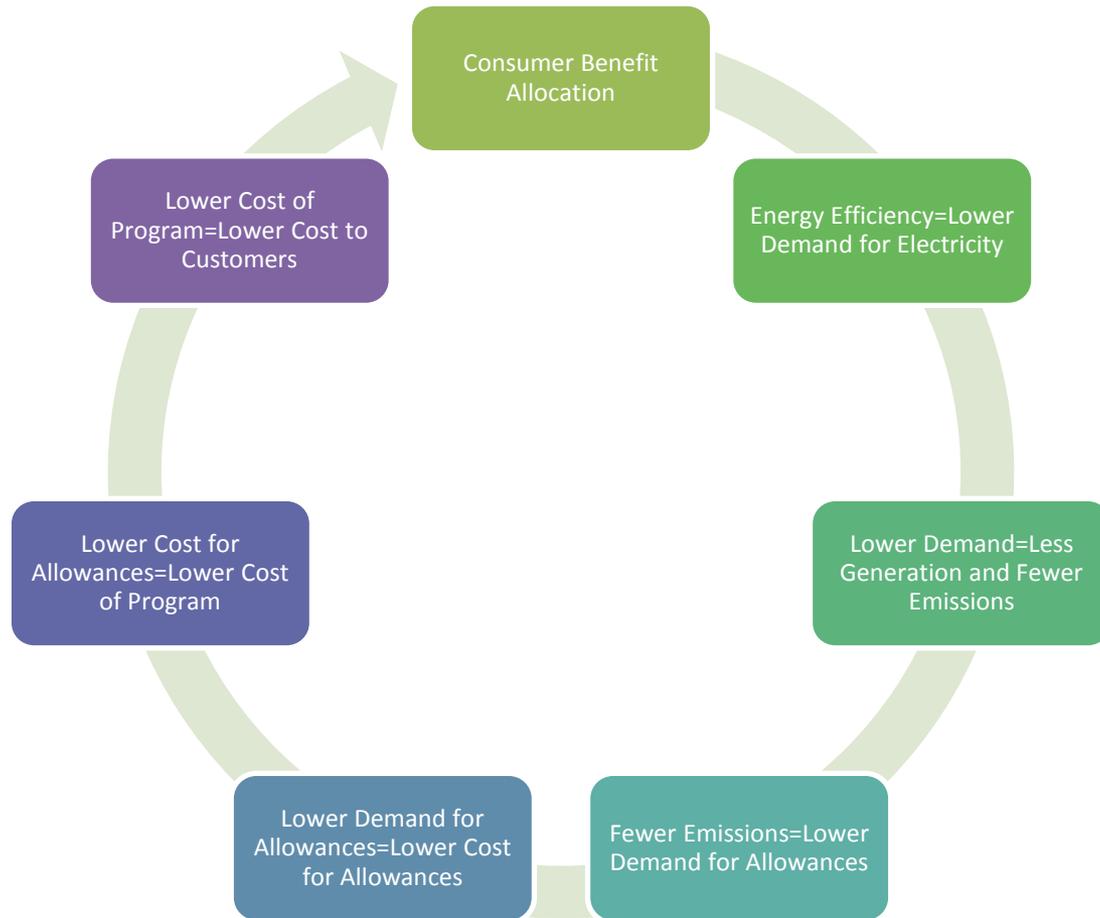
Mitigation – Investment

- A price on carbon creates a signal, but RGGI's cap is not binding
- Reserve price \$1.93
- Approximately \$ 1,093,377,848 in revenues to date
- Over half of this is spent on energy efficiency programs

Many Efficiency Resources at Low Cost



Effects of Efficiency Investment in a Carbon Cap-and-Trade Program



Conclusions

- Cap-and-Trade is an evolving policy and regulators have to be willing to be flexible with it.
- Electric sector cap-and-trade for CO₂—it is less about the price per ton, and more about allowance revenue investment:
 - Yes a cap creates a price signal: i.e., it imposes costs on emissions, (and, thereby, creates value in emissions reductions)
 - But RGGI state clean energy programs address barriers to clean energy development through programmatic investment (traditionally state-led activity).

Resources

- RGGI Information
<http://www.rggi.org/about/documents>
- *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*
http://www.analysisgroup.com/uploadedfiles/publishing/articles/economic_impact_rggi_report.pdf
- *Electricity Energy Efficiency Benefits of RGGI Proceeds: An Initial Analysis*, October 5, 2010, Max Chang, David White, Lucy Johnston, and Bruce Biewald <http://www.synapse-energy.com/Downloads/SynapseReport.2010-10.RAP.EE-Benefits-of-RGGI-Proceeds.10-027.pdf>
- *Energy Benefits Resulting from the Investment of 2010 RGGI Auction Revenues in Energy Efficiency*, February 28, 2012, Max Chang, David White, Patrick Knight, and Bruce Biewald <http://www.synapse-energy.com/Downloads/SynapseReport.2012-02.RAP.RGGI-Energy-Efficiency-Benefits.10-027A.pdf>
- *Images and How We Remember History*, http://www.huffingtonpost.com/david-farnsworth/images-and-how-we-remember_b_604784.html
- Regional Greenhouse Gas Initiative, Environment Northeast, <http://www.env-ne.org/programs/detail/regional-greenhouse-gas-initiative>

About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power and natural gas sectors. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at www.raponline.org



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