

Lessons Learned from RGGI

A review of key components of the nation's first mandatory greenhouse gas cap & trade system

Summary Developed and Endorsed By: Environment Northeast, Environment America, Conservation Law Foundation, Union of Concerned Scientists, Clean Water Action, Natural Resources Council of Maine, Natural Resources Defense Council, Appalachian Mountain Club, Environmental Advocates of New York, The Commons, ACEEE, Pacific Forest Trust, Northeast Energy Efficiency Partnerships

The Regional Greenhouse Gas Initiative (RGGI) is the first mandatory greenhouse gas (GHG) cap-and-trade system in the United States. Drawing on the successful trading programs used to reduce emissions responsible for acid rain and ground-level ozone (smog), and on lessons provided by the EU Emissions Trading Scheme (ETS), RGGI incorporates the latest thinking on emissions trading. The development of a greenhouse gas trading system in an American context has provided valuable lessons and highlighted several key elements of a functional cap-and-trade system. This document is designed to inform policy makers about RGGI and some of the motivation and rationale behind design decisions. RGGI is deliberately only a modest first step for a region to take while waiting for serious federal action on a comprehensive and more aggressive climate bill. Although a broader economy-wide bill will require examination of additional issues, there are many RGGI design elements that should be included in a federal climate bill, or for that matter in other regional initiatives. RGGI provides a template for a cap-and-trade system where the “allowances” that will be traded are auctioned instead of provided to polluters for free and where the revenue from that auction is invested to provide benefits to the bill-paying public.

Political Legitimacy

RGGI is a well designed system that enjoys widespread political and public support. Republican and Democratic Governors of all ten states strongly supported RGGI. Laws authorizing and directing state environmental agencies to participate in RGGI successfully passed eight state legislatures. Citizens recognize that RGGI is a necessary response to the threat of climate change, and businesses increasingly recognize the strategic benefit of beginning to build a modern economy that will attract investment in clean technology and promote long term, sustainable economic growth.

RGGI Summary

RGGI regulates fossil fuel-powered electric generating plants with a capacity of 25 megawatts or more. RGGI will limit, or cap, those plants' CO₂ emissions at projected 2009 levels from that year through 2014. It will then lower the cap by 2.5% per year to reduce emissions 10% below 2009 levels by 2019. Power plants must monitor and report emissions and at the end of a compliance period provide allowances or permits equal to their emissions. The cap level limits the quantity of allowances available and this scarcity creates a supply and demand relationship putting the market to work. Cleaner plants need fewer allowances than dirty plants and the market drives innovation and lower emissions. Participating states include Maryland, Delaware, New Jersey, New York, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire, and Maine, making the RGGI region the 7th largest GHG-emitter in the world. While a modest program that will produce emissions reductions from only one sector of the economy, RGGI is an essential step towards a lower carbon future that will drive technological innovation and spur investment in low- and non-carbon energy sources and in energy efficiency while preserving economic growth and minimizing ratepayer impacts.

Importance of a Universal Auction

The distribution of RGGI allowances through an auction is a key component of an economically and politically viable cap-and-trade system. The auctioning of allowances requires polluters to recognize CO₂ emissions as a basic cost of doing business, driving a fundamental shift in the relative valuation of

power from dirty fossil toward low-carbon resources. Equally important, most auction revenues are invested to benefit consumers through expanded energy efficiency programs which reduce consumer's energy demand – saving them money and reducing allowance and power prices.

Auctioning allowances is also necessary to preserve the perception and reality of program fairness—and thereby the political viability of a cap-and-trade system. GHG reduction schemes seek to redress our long-standing disregard for the costs of pollution, and while a growing consensus recognizes the need for action, any solution must place the burden of reform on those most responsible for emissions. Electricity generators account for 24% of CO₂ emissions in the RGGI region and 38% of CO₂ emissions nationwide, and they must lead the way in addressing the costs of pollution. Economists and market participants agree that in competitive markets prices are passed on to consumers whether allowances are allocated free of charge or auctioned. Generators recognize the opportunity cost of allowances (potential revenue through trading or use) and pass this cost on to consumers in prices. If emitters are seen to benefit while consumers gain nothing, then the system loses legitimacy. This exact scenario has played out in Europe, where ‘windfall’ emitter profits have led to plans for much greater use of allowance auctions.

The RGGI auction is open to all participants – by making it universal the states have opened the door to the essential market participants who are needed to provide price hedging and stability through futures contracts and a robust secondary market.

Setting the Cap Level

The most fundamental decision in the design of a cap-and-trade system is the total amount of pollution that will be allowed under the system – the setting of the cap. An appropriate cap value is essential to achieving meaningful emissions reductions while preventing adverse economic impacts. While the RGGI cap was set based on emissions data collected from 2001 to 2004, political negotiations also played a role in the cap setting process. In addition to the political process, lower-than-expected growth in energy consumption (due to weather and economic conditions), and more generation from lower emitting power plants has created a cap that is high in relation to current regional emissions. This problem may or may not be short-term in nature and may have been partially mitigated by setting an auction reserve price (see below). Future cap-and-trade programs should carefully examine their cap levels to avoid undermining the foundation of the system. ”Cap inflation” is a fundamental problem of these programs, and it can only be averted by adherence to impartial, data-driven methodologies for setting the cap. RGGI allowance prices will likely be low which means the RGGI states should ratchet down the cap more quickly than initially planned. Low allowance prices will delay the investments in the clean energy revolution needed to achieve deep emissions reductions. The larger lesson is to set the cap based on careful examination of the emissions from those polluters being regulated and to require the cap to be adjusted down in order to achieve the emissions levels science tells us are needed.

Use of a Reserve Price and Auction Monitoring

The states have set a minimum price for RGGI allowances (a “reserve price”) of \$1.86 for RGGI's initial September and December 2008 auctions. The reserve price begins to address the over-allocation of the cap; it also guards against bidding collusion, and ensures minimum funding levels for emissions reduction programs. By setting a floor on allowance prices, a reserve price ensures a robust market and prevents bidders from driving allowance prices toward zero.

Attention to auction design and market monitoring are necessary to prevent gaming of the system. RGGI allowances are auctioned in small lots (no more than 25% of a single year's allowances will be offered in any one auction), and no individual or consortium of individuals may purchase more than 25% of allowances at any auction.

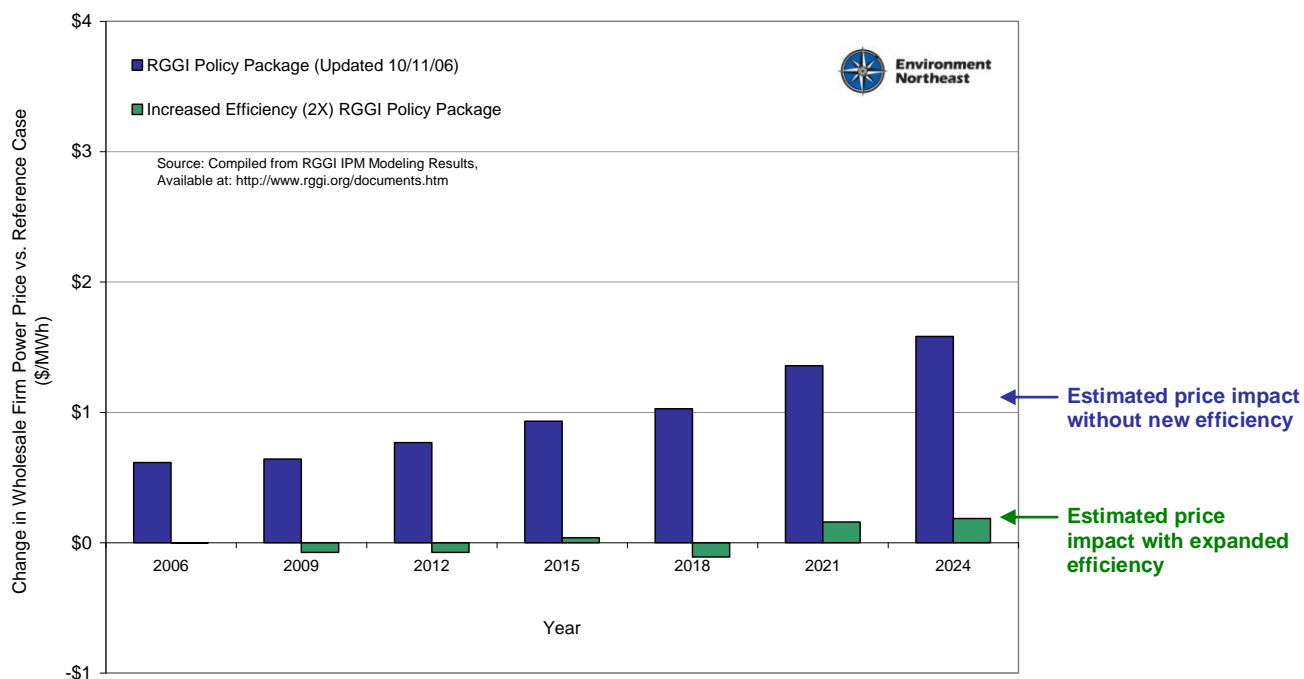
These kind of efforts to prevent market manipulation are essential elements of a well designed auction and market and provide a valuable model to begin the process of shaping carbon cap and trade programs.

The Role of Energy Efficiency

Investing in energy efficiency is the most cost-effective way to achieve emissions reduction goals. Efficiency investments reduce both demand for electricity and emissions, while reducing electric bills for consumers and businesses, and they have significant system-wide benefits: lower demand depresses wholesale electric energy prices, reduces allowance prices, reduces peak demand, and improves reliability, thus lowering energy and capacity costs to consumers.

The figure below shows the results of extensive electric sector modeling for RGGI and illustrates the benefits of investing in efficiency, with lower energy consumption reducing both the demand for (and the market price of) emissions allowances and the underlying cost of electricity.

RGGI Region Wholesale Electric Prices With and Without Expanded Efficiency Investments



Efficiency programs put real dollars in consumers’ pockets; money that can be spent on other parts of the economy. Most states spend billions of dollars yearly on imported fossil fuels, while under-investing in low-cost efficiency. Spending on efficiency improvements supports local energy service companies, and installers and retailers of efficient equipment. The broad benefits of energy efficiency are recognized in the RGGI states, with most having committed to invest the majority of auction proceeds in expanded energy efficiency programs.

Building on Supporting Clean Energy Policies

An important lessons from RGGI is that GHG reductions in the power sector depend in large measure on a foundation of clean energy policies, including energy efficiency programs, renewable portfolio standards, building codes, appliance standards, and the like. In most cases these programs can deliver GHG reductions more effectively and at lower cost to consumers than a stand-alone cap-and-trade system that relies solely on high carbon prices to drive change. The RGGI cap is designed to build on,

and expand state clean energy policies. Investing some auction proceeds in renewable energy development to reduce the carbon intensity of the grid likewise brings substantial benefits, including local economic development, reduced electricity costs, and additional environmental benefits. Luckily, the flexibility afforded states under the fixed regional cap is one of RGGI's greatest advantages. Different states are endowed with different renewable and energy efficiency resources, and RGGI promotes development of these resources by making them more competitive in comparison to fossil generation and by providing a funding source through the sale of emissions allowances. Rather than inhibit the development and expansion of complementary policies, RGGI bestows upon state initiatives both legitimacy and robust revenue streams for clean energy policies that benefit local communities and the region as a whole.

Treatment of Voluntary Renewable Energy Markets

Voluntary renewable energy ("green power") purchases have been a major tool for businesses, institutions, and households to support renewable energy development and reduce their environmental impacts. This major source of investment should continue to deliver emission reductions beyond those driven by the cap. The importance of the green power market is acknowledged in the RGGI states' decisions, in all but one case, to retire RGGI allowances commensurate with the carbon value of voluntary renewable energy purchases in their states. A similar mechanism for retiring allowances to protect the emissions-reducing integrity of voluntary efforts – like renewable energy purchases – should be a component of all future carbon cap-and-trade programs.

Offsets

The RGGI offset program is very rigorous and is designed to ensure high-quality offsets equal to emissions reduction from power plants in the system. The quality and integrity of offsets included in a cap-and-trade program are essential to delivering real emissions reductions. The RGGI offset process was also developed in a way to streamline administrative review, although regulators are still finding offset design and oversight to be time consuming. All of the five offset project types (landfill methane, agricultural methane, afforestation, fossil fuel end use efficiency improvements, and SF₆ emission reductions from the electric power sector) fall outside of the capped sector and will thus result in emission reductions in addition to the required reductions from the electricity sector. Offset projects must pass integrity evaluations that guarantee real, verifiable, additional, permanent and enforceable emissions reductions. This integrity is assessed in a streamlined manner through the use of performance standards for project evaluation. Performance standards promote administrative simplicity by replacing the subjective assessments of project developers with straightforward evaluations of compliance with clear standards.

The RGGI program includes a quantitative limit on offsets use to ensure that at least 50% of emissions reductions come from the electric power sector, while still allowing for the use of offsets to mitigate the effects of allowance price volatility. Offset use is initially limited to 3.3% of a generator's compliance obligation, with the potential for increases in the limit if the price of allowances remains high.¹

Conclusion

RGGI now represents the "state of the art" in GHG cap-and-trade design, and includes thoughtful design improvements that can be used as a model in other program designs. As the discussion continues at the federal level (and among other regions) on the design of climate legislation, RGGI should provide motivation and guidance for policy makers representing the 10-state region and beyond. The region will already be under a cap-and-trade program, and a comprehensive federal program will level the playing field across the country.

¹ There is a diversity of opinion within the groups that developed this summary about whether quantitative limits for offsets should be included in a federal cap-and-trade program.