

Essential Lessons from the Regional Greenhouse Gas Initiative

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As Congress considers how to combat climate change, it would do well to look at the Regional Greenhouse Gas Initiative (RGGI), an agreement among 10 Northeastern states to cut greenhouse-gas emissions by promoting energy efficiency.

Building on “cap-and-trade” programs developed in the early 1990s to reduce emissions responsible for acid rain and smog, RGGI (pronounced “Reggie”) has established a system that proves the viability of reducing climate-changing emissions. The secret lies in improving efficiency. Such an efficiency-first approach offers a promising way to cut emissions effectively and affordably.

The RGGI experience strongly suggests that a federal cap-and-trade system can be effective, equitable, and affordable—and that energy-efficiency investments provide the best means of reducing program costs and benefiting all consumers.

Such efficiency investments should be funded through allowance auctions, which also ensure program fairness. The cap should

cover all significant emitters capable of complying with regulations, and the cap level should be based on accurate data.

On these bedrock foundations, responsible climate legislation can be built—and our country can move toward a sustainable and profitable future.

The three most important lessons to draw from RGGI are:

- 1) Set accurate carbon-emissions caps on polluters, using data that reliably predicts future emission levels;
- 2) Use a 100 percent auction to distribute emission-trading allowances; and
- 3) Most importantly of all, reduce the cost of carbon-control programs by using the revenues from emission-permit auctions to fund investments in energy efficiency.

Background

Before considering RGGI's important lessons, let us take a quick look at how the program works. RGGI regulates carbon-fueled power stations with a capacity of 25 megawatts (MW) or more in a densely populated region comprising 10 states (New York, New Jersey, Maryland, Delaware, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire, and Maine).

Carbon-dioxide (CO₂) emissions from the 233 plants covered by RGGI are "capped"—in other words, there is a limit on how much CO₂ those plants can legally emit in any given year. The cap limits the quantity of emission allowances. These allowances can be traded on the open market. This creates a supply-and-demand relationship that puts the market to work reducing pollution. Cleaner plants need fewer allowances than dirty plants, and the market rewards innovative emission-reduction strategies and clean technology.

RGGI caps emissions at projected 2009 levels through 2015, when the cap declines 2.5 percent annually to reduce emissions 10 percent by 2019.

Lesson 1: How to Set the Cap

The ability to cut CO₂ depends, first of all, on the ability to count those emissions. The right emissions data is necessary to set an appropriate cap, as well as determine which emitters should be included in any cap-and-trade proposal.

Deciding which emitters to regulate affects how much control the system has over emissions. Extending coverage as wide as possible provides the greatest opportunity to control emissions and seems most equitable, since any emitter not covered by the cap gains a competitive advantage over regulated emitters.

In practice, however, it would be impossible to regulate each and every emissions source. Furthermore, small emitters can justifiably claim to face a disproportionate administrative burden in complying with regulations. Regulations should thus cover all entities responsible for significant greenhouse-gas (GHG) emissions, so long as the covered entities can comply with reporting, trading, and compliance activities.

RGGI achieves this by limiting its coverage to plants with capacities of 25 MW or greater. Why the 25 MW cut-off point? Because that's the level at which plants are required to report data under the Acid Rain Program, a successful model of a cap-and-trade system. By being able to draw upon this earlier body of data, RGGI gets a valuable head start in gathering the information it needs to count emissions accurately.

The importance of such information cannot be emphasized strongly enough. Setting a concrete, numerical cap in the absence of precise data from regulated sources inevitably leads to inaccuracies and undermines the validity of the system—either by placing the cap too high, thereby degrading allowance value and not achieving the intended environmental outcome, or by placing the cap too low and making reductions excessively onerous.

In the absence of accurate, detailed, current emissions data, legislation should establish a formula for setting the cap based on past emissions or other relevant criteria such as fuel-use data. If nothing else, the formula to calculate the cap level in each year could be based on a percentage of the annual average reported emissions from regulated entities over the last five years.

Based on emissions data from covered entities, RGGI member states negotiated a cap that was slightly higher than historical trends. RGGI designers collected data from

2001-2004, and states selected three of the four years to establish baselines. This selective data submission led states to discard the year with the lowest emissions, resulting in a high estimate of emissions, and accordingly a higher cap.

Since the time that RGGI set its cap, several unanticipated events—including the current economic downturn and increased power plant reliance on natural gas (which produces fewer GHG emissions than other fossil fuels such as oil and coal) —have led to a significant decline in emissions in the RGGI region.

These unforeseen factors, coupled with the fact that the cap was set high to begin with, have led to an outcome where actual 2008 emissions may be as much as 13 percent under the emissions limit set under the RGGI cap. The politically negotiated formulas and an unexpected decrease in emissions indicate that any cap should be based on the best available data. Additionally, projections of future emissions must incorporate various potential scenarios or allow for a mechanism to tighten the cap at a later date.

In a federal system, all sources responsible for significant GHG emissions should be covered by the cap-and-trade system, so long as they are as capable of complying with regulations. Legislation should require covered sources to begin collection of emissions data immediately, and require reporting of historical emissions data or an appropriate proxy (such as fuel use) for the previous three to five years. A formula should be developed to establish the initial cap level and a corresponding trajectory for reducing emissions at least 80 percent by 2050, with appropriate adjustments based on science.

In the absence of accurate data, federal legislation should establish a formula for calculating the cap levels over time and leave the final determination of annual cap levels to the EPA rulemaking process.

Lesson 2: The Proper Role of Auctions

Emitters argue that all or a portion of allowances should be allocated free of charge to lessen the financial impact of a cap-and-trade system. This is incorrect for a number of reasons. First, because allowance prices are generally incorporated into emitters' operating costs whether or not they are purchased, the cost increases are passed on to consumers without any corresponding public gain.

Allocating allowances free of charge thus leads to windfall profits for emitters. We must keep in mind that these new emissions allowances are a public resource that should be used for the greatest public benefit. Allocating allowances to emitters squanders this resource and misses the opportunity to channel allowance value to productive uses, such as energy efficiency and other clean-energy choices.

Working from precedents set in the early 1990s by trading programs designed to reduce acid rain, RGGI started with the assumption that allowances would likely be allocated for free, but deeper analysis led to a clear preference for auctions. At the time of RGGI's design, cautionary tales were emerging from Europe that showed the drawbacks of direct allocation. In that market, generators given free allowances were factoring opportunity costs (the opportunity to use, trade, or sell allowances) into their prices, with most generators earning windfall profits that undermined perceptions of fairness and degraded public support for the system.

In light of this lesson, RGGI called for at least 25 percent of allowance value to be used for public benefit. However, after considering the potential uses of auction revenue, RGGI member states exceeded this minimum requirement and elected to auction over 90 percent of allowances to fund programs benefiting consumers.

Although the regulated companies in the RGGI region naturally would have liked to

have gotten allowances for free, most acknowledged that under a federal program an auction would deliver a large benefit in terms of competitive fairness. The lesson is clear: Auctions provide the most equitable means of distributing allowances—as well as the most effective means of financing the transition to a low-carbon economy.

Federal legislation should start from an assumption that all allowances will be auctioned, rather than allocated at no charge to emitters. Plausible reasons may be put forward for states or other entities to receive allowances free of charge for later auctioning on behalf of consumers (for example, to ensure long-term funding of state-supervised programs). So long as their value is preserved for public benefit, this may be acceptable. However, they should *not* be allocated gratis to emitters for use as credits against their obligations under the program.

If specific entities can show that they face a clear and unique burden as a result of climate legislation, (such as an energy-intensive industry facing significant international competition), then the EPA could consider limited, short-term free allocations, so long as they would be used by that entity to ensure full compliance as soon as possible.

Lesson 3 (The Most Important of Them All): Use Auction Funds to Advance Energy Efficiency

Improving energy efficiency is the most effective means of reducing the compliance cost of a cap-and-trade system. Such improvements reduce energy demand and emissions, and thus reduce prices for emissions allowances. These programs provide far more public benefit per dollar invested than rebates, price caps, offsets, or other cost-containment tools. Throughout the country, they have proven that it is cheaper to

save a unit of energy than to purchase additional energy supply.

For all the excitement surrounding clean technology and renewable fuels, efficiency is the best near-term investment for reducing the cost of a cap-and-trade program while also creating jobs, reducing consumer-energy bills, spurring economic growth, and increasing energy independence.¹ After extensive studies, RGGI came to a firm conclusion: that energy efficiency was the best cost-containment tool available, one that would reduce consumers' energy bills and help stimulate the economy—even with new carbon caps in place.

Because of these truths, RGGI states are returning the vast majority of allowance auction revenue to energy efficiency. Approximately 70 percent of RGGI auction revenue is being used to pursue energy savings that will reduce consumer costs and emissions for years to come. This commitment to efficiency is based both on inherent logic and on the extensive studies showing reductions in compliance costs due to efficiency investments.

A federal cap-and-trade system should capture the proven benefits of energy efficiency by dedicating a significant portion of allowance value to energy efficiency—something on the order of 30 percent to 40 percent of allowances in a comprehensive federal program.

Modeling should be conducted that investigates different levels of investment in expanded energy-efficiency programs. This modeling should consider investments in all sectors, including buildings, industry, and transportation. With further proof that efficiency is the best cost-containment tool for a cap-and-trade system, allowances should be allocated to state-approved programs and auctioned to create a steady source of funding for expanding such programs across all fuels and sectors.

Endnote

¹ For more on the benefits of energy efficiency, see: Sosland, Daniel, Derek Murrow, and Samuel Krasnow, "Energy Efficiency as Economic Stimulus," Progressive Policy Institute, December 2008, <http://www.ppionline.org>.