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The Regional Greenhouse Gas Initiative:

What It Means for Maine

by Sondra Bogdonoff

The Regional Greenhouse Gas Initiative (RGGI, pronounced “Reggie”) is the first regional program to address climate change in the United States. RGGI is a formal agreement to implement a flexible market-based program to reduce carbon dioxide (CO₂) emissions from power plants in the Northeast and Mid-Atlantic states. Releases of CO₂ account for four-fifths of global warming pollution, and the power sector is the largest single source of industrial emissions in the U.S.

The governors of Maine, New Hampshire, Vermont, Connecticut, New Jersey, New York, and Delaware signed the RGGI agreement in 2005 after several years of planning, setting CO₂ emission limits for each state and a timetable for emissions reductions. Since then, Maryland, Massachusetts, and Rhode Island have also joined. Although RGGI is a regional plan, each participating state must, by the end of 2008, adopt its own regulations or laws for RGGI to come into effect and make its own decisions on how best to implement the initiative.

RGGI’s bottom line: Total emissions in the RGGI states may not increase from 2009 to 2014, and then must fall by 2.5 percent per year through 2018, so that by 2019 they must be at least 10 percent below the 2009 level. Modeling forecasts suggest that without RGGI, emissions from power plants in the region would grow by seven percent from 2009 to 2019.

Thus, compared to “business as usual,” RGGI is designed to cut emissions by around 17 percent.

HOW RGGI WORKS

RGGI uses a cap-and-trade system where CO₂ emissions from the electricity-generating sector are capped within each state at approximately 2006 levels. Each state then gives, sells, or auctions allowances, one for each ton of CO₂ allowed by the cap. Every regulated power plant is required to have enough allowances to cover its emission limit at the end of each three-year compliance period. Power generators can buy and sell excess allowances in an open market, with the price set by supply and demand. Some plants will be able to cut emissions more easily than others, implementing efficiency measures or by switching to lower carbon-containing fuels. Those that can do so will be able to sell their surplus allowances to those whose costs of compliance are higher, or whose initial allocation proves insufficient. Trading can take place within a state or across state lines within the RGGI region.

RGGI’s cap-and-trade program allows power plants off-site reductions, called “offsets,” as an alternative means of reducing greenhouse gas emissions (other than cutting CO₂ emissions at the power plant itself). (See sidebar, page 144) Permitting offset allowances from other sectors to achieve compliance expands reduction possibilities and provides more flexibility and the likelihood of lower costs.

Electricity generators are allowed to cover up to 3.3 percent of their total emissions by buying offset allowances. This is estimated to be approximately 50 percent of the reductions required by RGGI from their business-as-usual emissions. If the cost for allowances exceeds a defined predetermined limit, RGGI also has a “safety valve” that allows greater use of offsets along with an extension of the compliance period.

RGGI requires each state to sell or auction off a minimum of 25 percent of its allowances and use the proceeds for strategic energy or consumer-benefit purposes such as energy efficiency, rate-payer rebates, or new clean energy technologies. Individual states decide if they want to keep or raise the percentage and the process for determining the specific use of the revenues for the public benefit.

RGGI Offsets

Regulated power plants can meet some of their emissions cap through offsets—allowances that are certified emissions reductions or carbon sequestration that take place outside the electric-generating sector in specified project areas. Carbon dioxide (CO₂) is emitted from other sectors of the economy, mainly through the burning of fossil fuels. Some pollutants, including methane gas, produce a more powerful global warming effect per pound than CO₂ (although they tend to be emitted in far smaller quantities). It is from these other sectors of the economy and these other types of greenhouse gases that offsets are drawn.

Allowable offsets include the following:

- Capturing methane gas that would normally be emitted from landfills and agriculture, and then burning the methane as an energy source (the burning releases CO₂ but this is much less significant than if the methane were released directly to the atmosphere).
- Capturing and recycling sulfur hexafluoride gas, a potent greenhouse gas used in electrical transformers.
- Planting trees, which absorb CO₂ and release oxygen.
- Improving the efficiency of non-power generation uses of natural gas and heating oil, such as heating buildings and hot water.
- Reducing methane emissions from natural gas transmission and distribution.
- (Additional offset allowances, such as forest management, may be added later.)

To be eligible for inclusion in RGGI, offsets have to meet a strict five-point set of standards: offsets need to be real, surplus, verifiable, permanent, and enforceable. Offset projects can take place anywhere in the U.S. as long as the state involved in the project has entered into a memorandum of understanding with the RGGI states that ensures the credibility of the offsets.

Because the pool of potential emission reductions is not limited to power plant improvements or to RGGI states, offsets can create a large pool of additional emission reductions that can help maintain a well-functioning market. The RGGI states are currently developing model application and submittal materials and guidance for use in administering the offset component of RGGI. These materials are expected to be available in early 2009.

Offsets are a new market that can potentially provide economic opportunities for businesses and agriculture. For example, a landfill that does not currently capture methane gas could begin to do so and flare it, consuming the methane gas and reducing its impact. The methane reduction, net the additional CO₂ from flaring, would qualify as an offset allowance that could be sold to anyone looking for an offset allowance to either meet their compliance needs or for investment. The same would be true for a cattle feedlot that gathered manure and used an anaerobic digester to prevent methane emissions from going into the air.

Although a modest first step, RGGI's cap-and-trade program provides an important model for state policymakers, Washington lawmakers (where Congress is considering the design of a national response), and internationally, where efforts such as the Kyoto protocol, an international treaty on climate change, and the European Emission Trading System, are already underway. It also provides a testing ground for development of new technologies and possible new offset markets.

RGGI IN MAINE

Maine's total emissions allocation is 5.95 million tons, or 5.95 million allowances. RGGI affects only fossil-fuel-fired electricity-generating units having a rated capacity equal to or greater than 25 megawatts. Starting in January 2009, each of Maine's six regulated generating plants will need to determine and report their CO₂ emissions and will need to purchase enough allowances to cover its emissions for each three-year compliance period.

Consistent with RGGI's policy framework, each state adopts its own laws and regulations to meet their unique needs. In Maine, the Maine legislature formally enacted RGGI as the Regional Greenhouse Gas Act of 2007 (Public Law 2007, chapter 317). The act empowers the Maine Department of Environmental Protection (DEP), Bureau of Air Quality, to establish allocations limits, sell or auction allowances, and establishes the Energy and Carbon Savings Trust,

appointed by the Maine Public Utilities Commission, to collect revenue from the sale of allowances and disburse those funds.


Through a series of public meetings and discussions with multiple stakeholders, the Maine DEP decided emission allowances would be auctioned for public benefit and developed rules for the program, including allocation of allowances, licensing, compliance, and reporting requirements, emission offset project provisions and auction arrangements. The Energy and Carbon Savings Trust will develop rules to determine the process for distributing allowance auction revenues. To assist in the development, coordination and integration of planning for the state's energy conservation efforts, the Energy Conservation Board was also established and will provide advice and counsel to the Public Utilities Commission and the trust on energy conservation and CO₂ reduction matters.

In September 2008, the Northeast held the first auction of allowances. At this first auction, allowances sold for \$3.07 each, well within the projected price range of \$1.86 to \$10 each. Maine sold more than 870,000 allowances and raised more than \$2.6 million. The 10-state RGGI region has a total of 188 million allowances to sell by 2011, the end of the first compliance period. The second auction was December 17th, 2008, with additional auctions held quarterly.

Under Maine's RGGI program, the state will use 100 percent of the proceeds from selling its allowances for public benefit, well beyond the required 25 percent. The funds, to be used for carbon reduction and energy conservation, will be distributed toward residential, commercial, and industrial energy-efficiency improvements. For the first three years of the program, at least 85 percent of funds in the trust must go toward measures that reduce electricity consumption while no more than 15 percent can be used for measures for fossil fuel conservation. A portion of the initial round of funding will go towards home-weatherization and heating-efficiency programs for low-income Mainers. Most of the Northeast states already have state-mandated programs that help pay for energy-efficiency measures. Over time, these programs have been shown to save consumers more on their electric bills than they cost.

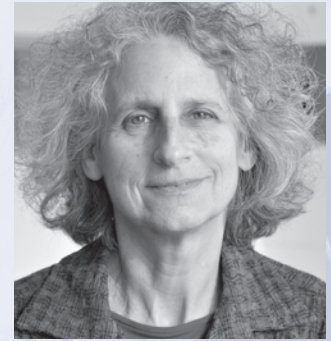
It is projected that there could be a small increase in electricity costs to the RGGI power plants to cover the expense of buying allowances. To protect consumers from any unanticipated increase in electrical rates as a result of the allowance auctions, any auction proceeds in excess of \$5 per allowance, will be returned as "RGGI relief" in the form of direct rebates as a credit on monthly utility bills.

The primary goal of RGGI is to reduce the region's contribution to global warming. But there are also other benefits, including promoting energy efficiency and low-carbon resources, establishing a carbon price, encouraging innovative technologies, developing new offset markets, and modeling a greenhouse gas cap-and-trade program. The lessons from RGGI can help pave the way to a mandatory program of greenhouse gas reduction for the nation.

For more information and to stay current on Maine's RGGI program, the Maine DEP maintains a very informative Web site on RGGI at www.maine.gov/dep/air/greenhouse/rggi.htm. Other Web sites with useful information include the Regional Greenhouse Gas Initiative (www.rrgi.org), Pew Center on Global Climate Change (www.pewclimate.org), and Environment Northeast (www.env-ne.org/public/resources/pdf/ENE_RGGI_offset-design.pdf) 

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