

The Regional Greenhouse Gas Initiative

An Overview of RGGI and its Importance



**Environment
Northeast**

The Regional Greenhouse Gas Initiative (RGGI, pronounced “Reggie”) is a market-based cap and trade program designed to reduce emissions of carbon (CO₂) – a greenhouse gas (GHG) that causes global warming – from electric power plants in the Northeastern and Mid-Atlantic states. It is the first regional agreement to reduce carbon emissions in the United States, and has the potential to make a significant impact. As a region, the Northeast (10 RGGI states) is the 7th largest GHG emitter in the world. RGGI is designed to drive technological innovation and spur investment in lower emission fossil fuel technologies and renewable energy sources. It will create a viable and replicable carbon market in the United States and it could become a model for a national program.



Background

In 2001, the New England Governors and Eastern Canadian Premiers (NEG-ECP) adopted a Climate Change Action Plan, launching the first regional initiative to reduce global warming pollution. The 2001 plan established the goal of reducing economy-wide CO₂ emissions to 1990 levels by 2010, 10 percent below 1990 levels by 2020, and 75-85 percent long-term. RGGI was initiated as follow up to this agreement in April 2003. New York Governor George E. Pataki invited the 11 Northeast governors from Maine to Maryland to participate in the design of a mandatory cap and trade program for CO₂ emissions from power plants—as a first step toward reducing CO₂ emissions from the region.

Key Elements of RGGI

RGGI regulates electric generating plants that burn fossil fuels (coal, natural gas, or oil) with a capacity of 25 megawatts or more. It is designed to stabilize CO₂ levels between 2009 and 2015 and then reduce them by 10% by 2018. Participating states include Maryland, Delaware, New Jersey, New York, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire, and Maine.

In 2005 the original states that adopted RGGI signed a Memorandum of Understanding (MOU) outlining key elements of the initiative. The following year, the states issued a Model Rule, further delineating how the program would work. The states used the Model Rule as a foundation for individual rulemakings or legislation. Each state has until December 31, 2008 to write its implementing regulations or laws.

Key elements of the Model Rule include **state and regional cap levels, the allocation of allowances through auction, and offsets**. For more information on the MOU and Model Rule see www.rggi.org/agreement.htm

What is a Cap and Trade Program?

Cap and trade programs are designed to reduce emissions from a group of emitters, such as power plants, by using the power of the market. Regulators first establish a “cap,” or a limit on the total amount firms can pollute. For RGGI the cap is the maximum amount of carbon dioxide power plants are allowed to put out, collectively, across the region. Total emissions allowed under the cap are then divided into individual permits or allowances, with one permit required for each ton of carbon emitted. Individual facilities must own an allowance for every ton emitted.

Because the cap restricts the amount of carbon that can be emitted, the permits take on a financial value. This is where trading comes in. Companies that do not have enough permits must either cut their emissions or buy spare allowances from others. Dirtier sources requiring more allowances—such as coal plants—may buy permits from cleaner sources, such as natural gas plants, and therefore “pay” the facilities that can reduce their emissions more cheaply. The effect is to decrease emissions at the lowest cost, while allowing companies flexibility in meeting the cap.

Cap and trade programs have reduced or eliminated lead in gasoline, ozone-depleting chemicals (such as CFC’s), nitrogen oxides (NO_x) a primary component of smog, and sulfur dioxide (SO₂), a leading cause of acid rain.

State and Regional Cap Levels: Under the MOU, each state has been assigned a cap (number of tons of emissions) based on a variety of measures, including historical emissions. The regional cap is approximately 188 million short tons of CO₂.

Allocation of Allowances: Each state will distribute the emissions allowances as it deems appropriate. Thus far most have opted to auction 100 percent of the allowances.

Offsets: RGGI provides some flexibility to electric-generators by allowing plant owners to use pollution “offsets” –off-system emissions reduction projects –to meet a small portion of their emissions reductions.

Potential Impact of RGGI

In 2003, emissions from the RGGI states were greater than emissions of all but five countries reporting under the Framework Convention on Climate Change.

2003 CO₂ Emissions from Fossil Fuels (Million Metric Tons)

Nation	Emissions
United States	5,807.71
China	3,897.98
Russia	1,602.35
Japan	1,244.29
India	1,041.95
Germany	862.71
10 RGGI States	624.88^A

A: Emissions from RGGI States: CT 42.2; DE 17.2; MA 87.0; MD 78.8, ME 23.2; NH 20.5; NJ 123.7; NY 214.3; RI 11.4; VT 6.5.
Source: EIA (<http://www.eia.doe.gov/environment.html>)

With power plants comprising roughly 30 percent of emissions in the region, RGGI has the potential to significantly lower greenhouse gas levels in the U.S.

How Will We Achieve the RGGI Goals?

The electricity sector will be able to reduce emissions and achieve the RGGI cap by:

- Improving end-use energy efficiency in the residential, commercial, and industrial sectors
- Transitioning to cleaner fossil fuels
- Investing in more efficient generation and transmission technologies
- Increasing the use of renewable forms of electricity, such as wind, sustainable biomass, and solar
- Utilizing new carbon capture and sequestration (CCS) technologies (once such systems and storage locations become available)
- Potentially investing in a limited number of offsets (emissions reductions in other sectors) if such projects prove to be cheaper than direct emissions reductions

Economic Benefits and Costs of RGGI

Electrical generators are likely to pass on the costs of the allowances to electricity consumers; however, these costs will be distributed among millions of customers. The impact on individuals' electric bills will be small while the benefits to public health and the environment will be large.

The direct electricity cost increase due to RGGI will be modest, ranging from 0.3% to 0.6% in 2015 and resulting in a bill increase in the range of \$3-\$16 per year for the average household in 2015.

- In addition, designing expanded energy efficiency programs to be the RGGI framework (as most states have) will reduce consumer costs and create jobs and economic growth in the region.
- Studies have shown that investments in end-use energy efficiency programs (as a result of, or in conjunction with RGGI) are projected to be so effective in reducing total electricity usage by households that they will mitigate any cost increase associated with RGGI.
- Finally, RGGI is projected to have a *positive* impact on the regional economy, ranging from a 0.01% - 0.02% increase in economic growth, primarily due to the benefits of investment in energy efficiency technologies.

How the RGGI States are Addressing "Leakage"

Imposing emission limits on power plants in the RGGI states could lead to increased electricity imports from outside the region. This could increase power plant emissions in areas exporting electricity to RGGI and reduce the emissions benefit of the program. To address this problem signatory states are investigating policy solutions such as emissions standards for electricity imports, and long-term contracting and transmission upgrades to spur development of renewable energy.

RGGI Stakeholder Group

Environment Northeast is one of the 24 member Stakeholder Group that was selected by the RGGI states to represent electric generator, environmental, consumer, and other affected interests in the Northeast and Mid-Atlantic regions. Since RGGI's inception, the Stakeholder Group has been working closely with the RGGI Staff Working Group, comprised of about 15 representatives from state environmental and energy-related agencies to design the RGGI program.



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Rockport, ME / Portland, ME / Boston, MA / Providence, RI / Hartford, CT / Charlottetown, PE, Canada
www.env-ne.org

Derek Murrow, Director Policy Analysis, 203-495-8224, dmurrow@env-ne.org
Peter Shattuck, Research Analyst, 857-636-2502, pshattuck@env-ne.org

Environment Northeast is a nonprofit research and advocacy organization focusing on the Northeastern United States and Eastern Canada. Our mission is to address large-scale environmental challenges that threaten regional ecosystems, human health, or the management of significant natural resources. We use policy analysis, collaborative problem solving, and advocacy to advance the environmental and economic sustainability of the region.