

Regional Greenhouse Gas Initiative

Its Importance for the Northeast's Future

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Executive Summary

Since the implementation the Regional Greenhouse Gas Initiative (RGGI) three years ago, the ten participating northeastern states have reduced their CO₂ emissions by over 27 percent, putting them years ahead in RGGI's goal to reduce CO₂ emissions overall by 10 percent by 2018. On May 26th, Governor Christie announced that New Jersey would pull out of RGGI after having diverted \$65 million of RGGI funds to the General Fund. New Jersey residents were not able to reap the full energy conservation and clean energy benefits which other participating states have realized. Regional cap-and-trade programs such as RGGI serve as regulatory pilot programs which offer important guides for the development of a national and international cap-and-trade program.

RGGI: The Bottom Line

Governor Chris Christie announced that New Jersey would pull out of RGGI on May 26th, 2011. While doing so, the Governor asserted that the program does not work – despite the fact that the state met its greenhouse gas emissions reduction goal and generated almost \$106 million from the sale of pollution allowances in twelve auctions since 2009 in the midst of a fiscal crisis.¹ As a result of this decision, New Jersey will lose what is already a proven funding mechanism to move towards a clean energy economy and create much needed local jobs. The state is putting itself at an economic competitive disadvantage just when it had started to gain ground in the clean energy race, particularly in solar. New Jersey takes this step at a time when much of the world is moving towards regional collaboration for more effective problem-solving. Since GHGs are not localized pollutants, a regional compact has a greater likelihood of success than individual state actions working in isolated silos. While there is no federal or international cap-and-trade program, the three

current US regional cap and trade programs - RGGI, Midwestern Accord, and WCI - together are filling a crucial intermediary role. Regional programs can provide a necessary and important precedent, model and momentum towards a national and international cap-and-trade program.

In the last six months, several Northeastern states have taken a hard look at RGGI and have reaffirmed its contributions to job creation, energy efficiency, energy security and economic competitiveness.² The Pew Charitable Trust reports that between 1998 and 2007, clean energy jobs grew at 9.1 percent – significantly faster compared to jobs in the overall economy which grew at 3.7 percent.³ Evidence from other global cap and trade programs demonstrates that the long-term benefits of a fully realized and invested funding scheme can generate new investments and decrease emissions substantially.

Regional cap and trade programs provide crucial market signals and long-term regulatory certainty for the private sector, thereby enabling regions to transition from a fossil-fuel based economy to a clean energy economy in the 21st century. To position the Northeast competitively, it is crucial for the remaining nine participating RGGI states to follow through with both their participation and their allowance funding commitments.

RGGI works when the funds from pollution allowances are invested back into where they were intended: clean energy and efficiency programs, which bring down energy costs to consumers. Unfortunately, this is not what occurred in New Jersey. Rather than use the funds for their purpose, an estimated \$65 million were diverted from the state's RGGI revenues to help balance a \$28.4 billion budget.⁴ When funds generated from pollution allowances are not invested back into efficiency and clean energy projects and are used for general purpose funding instead, the program loses its intention and purpose.

Despite all of this, greenhouse gas emissions targets were met and the program generated funds for twelve successful projects in New Jersey, demonstrating the potential of RGGI to transform the state's economy and the environment.

² Eilperin, Juliet. "New Jersey Governor Chris Christie Pulls out of Greenhouse Gas Effort." May 26, 2011. Available: http://www.washingtonpost.com/national/new-jersey-gov-chris-christie-pulls-out-of-greenhouse-gas-effort/2011/05/26/AGoQUGCH_story.html

³ Pew Charitable Trust. "The Clean Energy Economy." June 2009. Page 15.

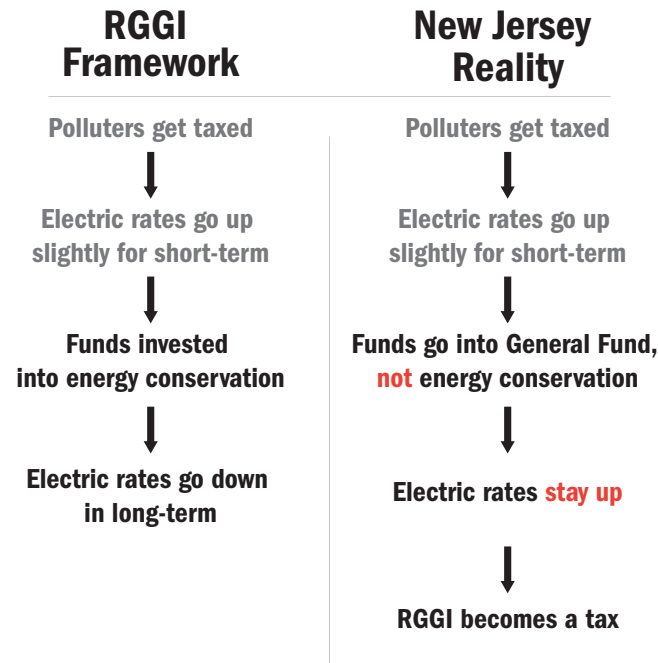
⁴ RGGI. "Investment of Proceeds from RGGI CO₂ Allowances." February 2011. Page 43. Footnote xxi.

¹ RGGI. "Auction 12 State Proceeds and Allowances." Available: http://www.rggi.org/docs/Auction_12_State_Proceeds_and_Allowances.pdf

What Is RGGI?

The Regional Greenhouse Gas Initiative (RGGI) is the first market-based regulatory program in the United States to reduce greenhouse gas emissions. Ten northeastern and mid-atlantic States – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey (prior to withdrawing), New York, Rhode Island and Vermont – capped and committed to reduce CO₂ emissions from the power sector 10 percent by 2018.

States sell emission allowances through auctions and invest those proceeds back in consumer benefits: energy efficiency, renewable energy, and other clean energy technologies and conservation programs.



Regional Greenhouse Gas Initiative, Inc. (RGGI, Inc.) is a 501(c)(3) non-profit corporation created to support development and implementation of the Regional Greenhouse Gas Initiative (RGGI). RGGI, Inc.'s exclusive purpose is to provide administrative and technical services to support the development and implementation of each participating state's CO₂ Budget Trading Program.⁵ RGGI, Inc.'s states that its activities include the:

- Development and maintenance of a system to report data from emissions sources subject to RGGI, and to track CO₂ allowances;
- Implementation of a platform to auction CO₂ allowances;
- Monitoring the market related to the auction and trading of CO₂ allowances;
- Providing technical assistance to the participating states in reviewing applications for emissions offset projects; and
- Providing technical assistance to the participating states to evaluate proposed changes to the states' RGGI programs.⁶

RGGI is simple: It charges polluters who generate carbon emissions that exceed a modest cap and invests the money back into programs that conserve energy.

How Cap-and-Trade Works

To reduce emissions of greenhouse gases, the RGGI participating states – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont – are using a market-based cap-and-trade approach that includes:

- A multi-state CO₂ emissions budget (“cap”) that will decrease gradually until it is 10 percent lower than at the start;
- Requirements for fossil fuel-fired electric power generators with a capacity of 25 megawatts (MW) or greater to hold allowances equal to their CO₂ emissions over a three-year control period;
- Allocating CO₂ allowances through quarterly, regional CO₂ allowance auctions;
- Investing proceeds from the CO₂ allowance auctions in consumer benefit programs to improve energy efficiency and accelerate the deployment of renewable energy technologies;
- Allowing offsets (greenhouse gas emissions reduction or carbon sequestration projects outside the electricity sector) to help companies meet their compliance obligations;
- An emissions and allowance tracking system to record and track RGGI market and program data, including CO₂ emissions from regulated power plants and CO₂ allowance transactions among market participants.⁷

A ten percent reduction from the starting point is a modest approach. The EU cap-and-trade program, for instance, has a target of 20 percent reduction in emissions from 1990 levels by 2020. RGGI's phased and modest approach to reductions in the CO₂ cap enables electricity providers to plan ahead and invest in lower-carbon alternatives to avoid sharp electricity impacts and provides predictable market signals and regulatory certainty for the private sector.⁸

RGGI, Inc. has no regulatory or enforcement authority. All such sovereign authority is reserved to each participating state.

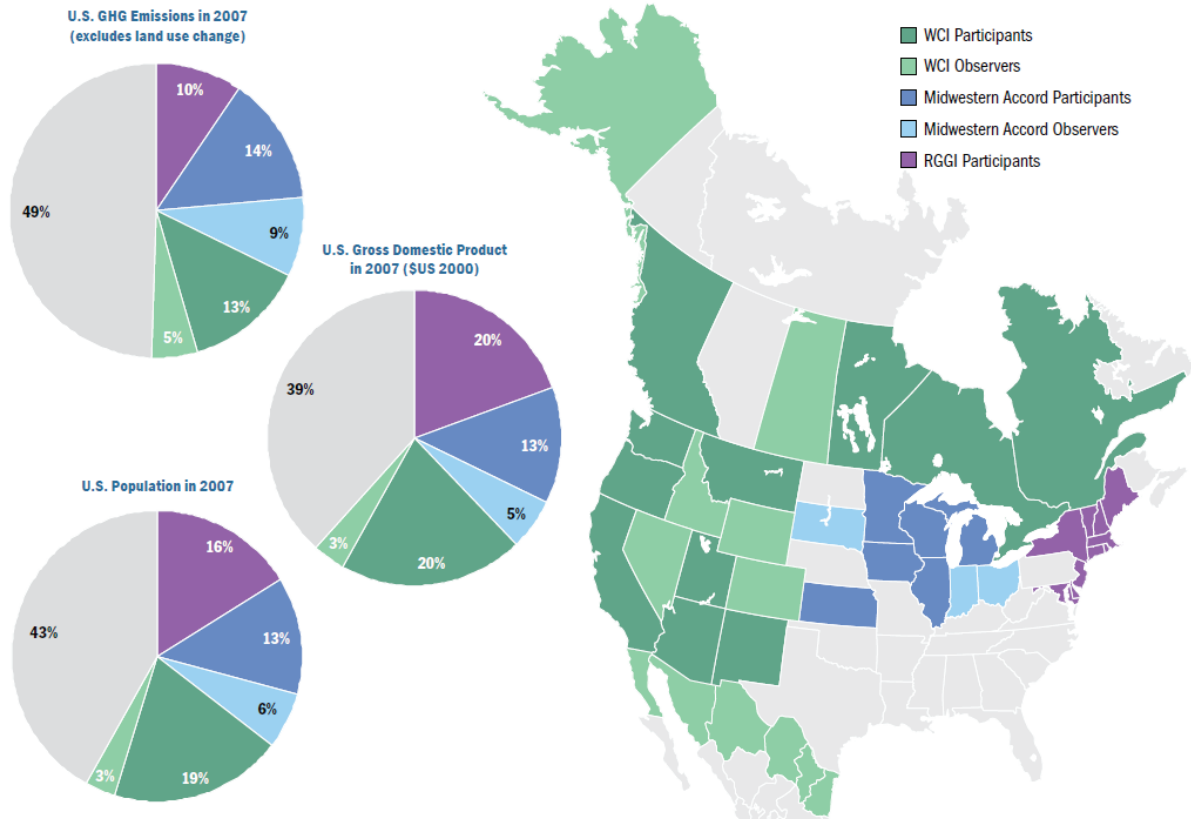
⁵ RGGI. Available: <http://www.rggi.org/rggi>

⁶ RGGI. Available: <http://www.rggi.org/rggi>

⁷ RGGI. Program Design. Available: <http://www.rggi.org/design>

⁸ RGGI. Program Design. Available: <http://www.rggi.org/design>

Regional Cap-and-Trade Programs



Climate Analysis Indicator Tool (CAIT US) Version 4.0. (Washington, DC: World Resources Institute, 2011). Source: World Resources Institute

RGGI is One of Many Effective Regional Cap-and-Trade Programs

New Jersey is positioning itself and the Northeast at a competitive disadvantage by backing out of RGGI. Regional cap-and-trade models have proliferated around the world with models in Australia, the EU, the Western United States and Canada. Above is a map of the regional cap and trade models just in the United States alone.

Twenty three U.S. states have actively participated in the design and/or implementation of three regional cap-and-trade programs to reduce greenhouse gas emissions, including:

- The Regional Greenhouse Gas Initiative (RGGI);
- The Midwestern Greenhouse Gas Reduction Accord (Midwestern Accord);
- The Western Climate Initiative (WCI);
- Four Canadian provinces are also active participants; and
- Five U.S. states, five Mexican states, and one Canadian province are observers of the WCI.

Together, the active U.S. state participants in all three regional cap-and-trade programs make up 51 percent of U.S. GHG emissions, 61 percent of overall U.S. GDP, and 67 percent of the U.S. population.⁹

Strengths

Much Needed Regional Policy and Funding Mechanism in a Federal and International Policy Void

- RGGI is the first regional market-based regulatory program in the United States to reduce GHGs and is the only one of its kind in the Northeast.
- In the face of an international and federal policy void which continues to fail at placing a price on carbon, the Northeast is poised to continue to benefit.
- Starting with Governor Pataki in 2003, the tri-state region was at the heart of the creation of RGGI, thereby symbolizing an important regional cooperative model.
- At a time of fiscal crisis, RGGI has been a key funding mechanism for New Jersey to drive clean energy investment for the state when funding from elsewhere is and will be unlikely.

Economic Development Strategy

- RGGI is a funding mechanism and a clear and long-term policy commitment which is spurring innovation in the clean energy economy and creating green jobs in each state.

⁹ World Resources Institute. "Regional Cap and Trade Programs." Available: <http://www.wri.org/map/regional-cap-and-trade-programs>

- The Environmental Defense Fund reports that more than \$282 million from venture capitalists has been invested into New Jersey's clean energy businesses.¹⁰
- New Jersey's Clean Energy Office assumes a factor of 4.09 solar jobs created for every megawatt of solar installed.¹¹
- The Center for American Progress' Economic Benefits of Investing in Clean Energy study found that "for every \$1 million in public program spending (from ARRA and ACESA), solar creates 165 percent more jobs than oil and natural gas [and] for every \$1 million in public program spending, solar provides 13.7 jobs compared to 5.2 in oil/natural gas and 6.9 in coal."¹²

Real Carbon Dioxide Reductions

- Carbon dioxide emissions in the ten states are below the cap they set.
- According to the Natural Resources Defense Council, RGGI has helped bring climate change pollution in our region down by 30 percent.¹³

Bi-Partisan Support

- It's a moderate program that has a phased approach and has benefited from bi-partisan support.
- RGGI is an unprecedented regional policy collaboration among 10 Northeastern states.

Challenges

State-by-State Funding Allocation

- Each state agreed to a memorandum of understanding that at least 25 percent of the auction proceeds would go towards reducing energy usage. In other words, the funds have not been constitutionally dedicated to energy efficiency programs, thereby allowing the governor and lawmakers to use them for budget purposes. Making funds constitutionally dedicated, which would be the next step in protecting RGGI money, requires a two-thirds vote by the Legislature and the approval of state voters.¹⁴

10 Environmental Defense Fund. "Clean Energy Jobs in New Jersey." Available: http://www.edf.org/documents/9995_CleanEnergyJobs-NJ.pdf

11 Gruen, Abby. "Solar power surge in New Jersey, can it be a jobs engine?" August 22, 2010. Available: <http://abbygruen.wordpress.com/2010/08/22/solar-power-surge-in-new-jersey-can-it-be-a-jobs-engine/>

12 Center for American Progress and Political Economy Research Institute. "The Economic Benefits of Investing in Clean Energy." June 18, 2009. Available: http://www.americanprogress.org/issues/2009/06/clean_energy.html

13 NRDC. NRDC Report: RGGI is Cutting Pollution, Lowering Bills and Creating Jobs on the East Coast. Available: http://switchboard.nrdc.org/blogs/dbryk/new_report_rggi_is_cutting_pol.html

14 Peters, Joey. "The RGGI Raid: How Cap-and-Trade Revenues Went to Fix State Budgets." June 26, 2010. Available: http://switchboard.nrdc.org/blogs/dbryk/new_poll_strong_support_for_rg.html

Limited to Electricity Producers

- RGGI covers only a single sector – electricity generation. While this is a critical sector, the EU emission trading scheme includes all large industrial facilities, including those that generate electricity, refine petroleum, and produce iron, steel, cement, glass, and paper.
- In order for a more robust clean energy economy to develop in the Northeast, RGGI should consider extending to all sectors.

New Jersey RGGI Funds: Building a Better Community

- Since the start of the program in 2008 through 2010, \$29.6 million in funding has been awarded to 12 projects in New Jersey, including combined heat and power facilities and commercial-scale photovoltaic systems, with the majority of funding provided through no-interest loans.
- The 12 combined heat and power and solar photovoltaic projects represent 29.6 megawatts of new, clean electric generation capacity which are projected to generate more than 167,000 megawatt-hours of electricity per year, enough to meet the equivalent annual electricity needs of more than 19,600 typical New Jersey households, and are projected to avoid 84,000 metric tons of CO₂ emissions per year and 1.7 million metric tons of CO₂ emissions over the lifetime of the projects.¹⁵
- RGGI has financed a new solar power array which is projected to save more than \$4 million over the next 15 years at William Paterson University. Those savings will help the University keep tuition low, thereby increasing educational opportunities for New Jersey residents.¹⁶
- RGGI investments are enabling the new University Medical Center of Princeton hospital (under construction) to keep medical costs down by underwriting a power system that is more than twice as efficient as a conventional one.¹⁷

The map (right) shows the location of each of the 12 projects funded from RGGI funds in New Jersey and the number of typical New Jersey homes powered by the generation from these 12 clean energy projects.

New Jersey: A Solar Leader

Eight of the twelve projects funded through RGGI from the start of the program through December 2010 were solar PV projects. In total, \$18,658,625 was invested into solar projects through RGGI. The megawatts of solar created through RGGI made up a share of the total that enabled the state to meet its renewable portfolio standard goals and meet its GHG emissions-reductions goals. New Jersey is now a national competitor in the solar industry and is only second after California in installed

15 RGGI. "Investment of Proceeds from RGGI CO₂ Allowances." February 2011. Page 44-45.

16 NRDC. "New Poll: Strong Support for RGGI in New Jersey." Available: http://switchboard.nrdc.org/blogs/dbryk/new_poll_strong_support_for_rg.html

17 NRDC. Ibid.

NJ RGGI Fund Recipients from the Start of RGGI to Present

Project	Location	RGGI Funds (\$)	Project Type	Solar/CHP (kw or mw)	Converted into KW	Direct Beneficiaries
Anheuser-Busch Inc	Newark	\$11,572,500	loan/grant CHP	7.79 MW	7790	Industry
DSM Nutritional Products	Belvidere	\$3,451,573	loan/grant CHP	7.5 MW	7500	Industry
Warren Hospital	Phillipsburg	\$1,305,173	loan/grant CHP	1.25 MW	1250	Non-profit acute care hospital
NRG Thermal LLC	Princeton	\$5,000,000	loan/grant CHP	4.6 MW	4600	For University Medical Center of Princeton - acute care hospital
WM Renewable Energy LLC	Mount Holly	\$5,000,000	loan Solar PV	2.25 mw	2250	PV for landfill
Elizabeth Industrial Center	Elizabeth	\$2,000,000	loan Solar PV	650 kw	650	Industry/Commercial
Nautilus Solar WPU	Wayne	\$5,000,000	loan Solar PV	3 MW	3000	William Patterson University
South Bertram	Linden	\$2,875,000	loan Solar PV	1 MW	1000	Food service serving hospitals, nursing homes, schools
Hausmann Industries	Northvale	\$670,000	loan Solar PV	190 kw	190	Industry
Merlin Industries	Hamilton	\$1,000,000	loan Solar PV	383 kw	383	Industry
CBS Research/Bais Rivka Rochel School	Lakewood	\$787,500	loan Solar PV	300 kw	300	Students (School funded by CEO of CBS Research)
Puglisi Egg Farms	Howell	\$1,326,125	loan Solar PV	499 kw	499	Agribusiness

Total Clean KW created from RGGI funds

8,272 Total solar kw created

8.272 Total solar mw

29,412 Total kw (solar and CHP)

29.6 Total Megawatts created

167,000 MW hours electricity

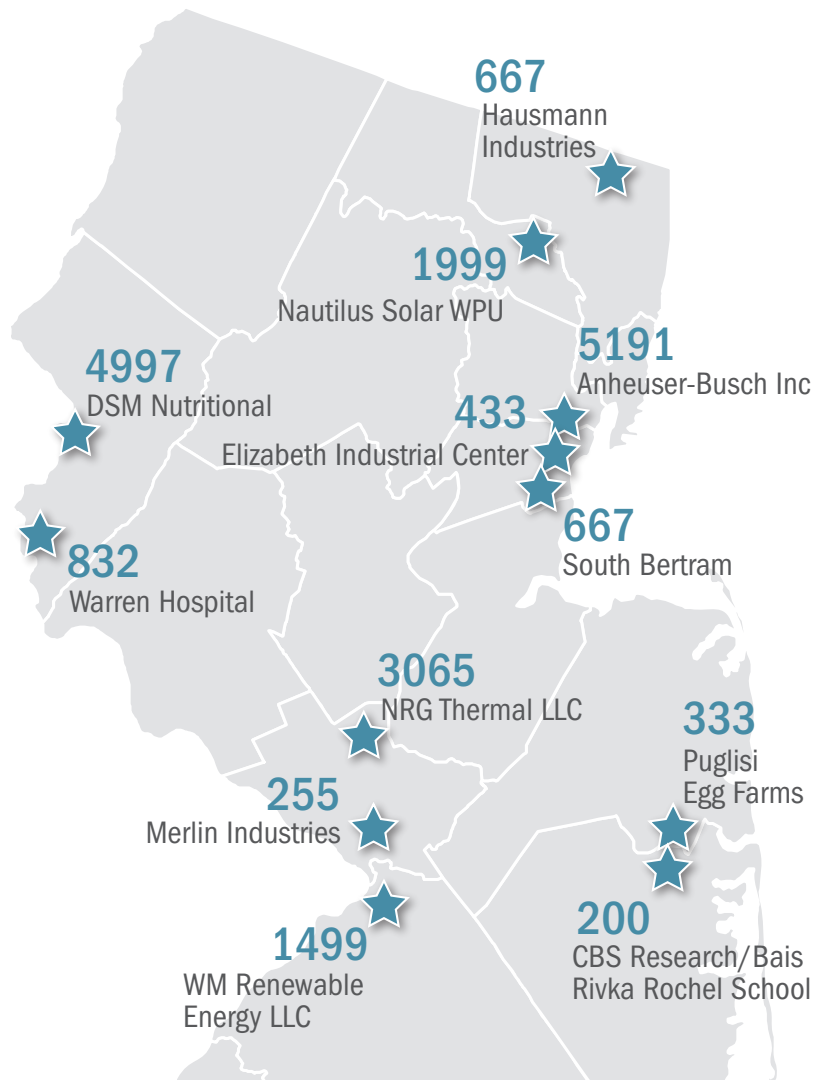
Typical NJ households annual electricity needs fulfilled

19,600

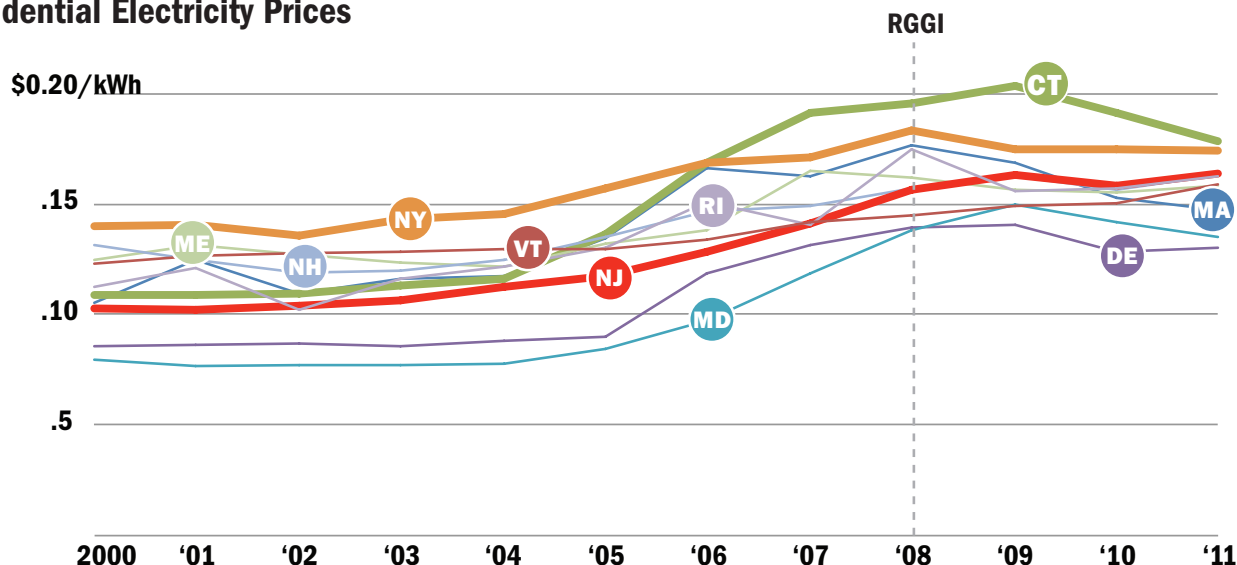
Note: 1,000 kw = 1 MW. Data: RGGI Inc.

Equivalent NJ households annual electricity needs fulfilled by RGGI funded projects

Based on average NJ household electricity consumption.



Residential Electricity Prices



Data: RGGI Inc.

solar capacity. The number of solar jobs in New Jersey now exceeds the number of jobs in the traditional power generation sector, which is in decline.¹⁸ The number of solar jobs is expected to grow by 27 percent in 2011 compared to an estimated national solar job growth rate of 19 percent in 2010.¹⁹ There are now an estimated 300 solar development firms with a presence in New Jersey, employing over 4,000 full-time employees.²⁰ Without a doubt, New Jersey's SREC program is at the heart of the solar job creation in the state. However, RGGI provided an additional and much needed strong and clear policy commitment by the state to solar projects and other clean energy investments.

Participating States Have Benefited from RGGI Funds

RGGI funds were invested back into clean energy projects in participating RGGI states which are creating jobs, lowering energy costs for low and middle income residents, saving states money, lowering energy consumption, and providing economic spillovers for the state.

- The RGGI funded Green Jobs-Green New York is providing low-interest loans to low-income homeowners and renters for property upgrades which have cut residents energy costs by an estimated \$600 million and supported training programs for 6,000 workers.²¹ New York's Revised Operating Plan commits \$112 million in CO₂ allowance proceeds to weatherization and job training programs called for in the Green Jobs/Green New York Act of 2009.²²

- RGGI has enabled the ten participating states to invest more than \$110 million into programs that help low- and middle-income households in the region with their energy bills, both through direct assistance and through programs that weatherize low-income homes.²³
- In Massachusetts, one RGGI-funded weatherization program has enabled low-income households to save an average of \$500 a year on their energy bills by replacing inefficient old furnaces and boilers with economical, high-performance ones.²⁴
- In 2009, Efficiency Vermont's programs resulted in incremental energy savings of more than 85,000 megawatt-hours and generated an estimated \$65.3 million in lifetime economic benefits for the state of Vermont. In 2009, Efficiency Vermont's residential and commercial programs generated \$2.4 in benefits for every dollar invested.²⁵
- In New Hampshire, RGGI is funding a new building analyst course at Lakes Region Community College, and five other locations statewide, that establishes a new certification program for energy auditors.²⁶ Through July 2010, these programs created energy efficiency training opportunities for 170 workers across the state.²⁷

Have Electricity Rates Increased Under RGGI? No.

Critics claim that electricity rates have spiked due to the implementation of RGGI and that businesses, such as Ocean Spray, have fled New Jersey to Pennsylvania because of high energy costs. Analysis of state electricity rates demonstrates, however, that there has been no statistically significant increases in elec-

6 The Solar Foundation. "National Solar Jobs Census 2010: A Review of the US Solar Workforce." October 2010. Available: <http://www.thesolarfoundation.org/sites/thesolarfoundation.org/files/Final%20TSF%20National%20Solar%20Jobs%20Census%202010%20Web%20Version.pdf>

19 The Solar Foundation. Ibid.

20 "New Jersey Solar Cost Experience." Page 1.

21 NRDC Report: RGGI is Cutting Pollution. Ibid.

22 RGGI. "Investment of Proceeds from RGGI CO₂ Allowances." February 2011. Page 45.

23 NRDC Report: RGGI is Cutting Pollution. Ibid.

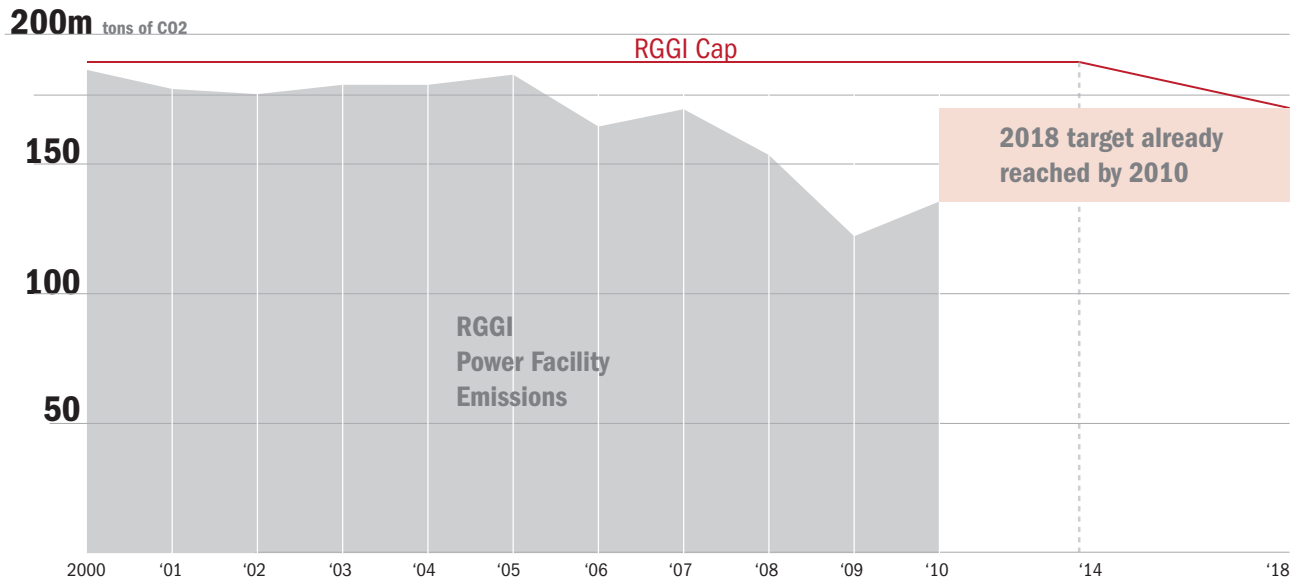
24 NRDC Report: RGGI is Cutting Pollution. Ibid.

25 RGGI. "Investment of Proceeds from RGGI CO₂ Allowances." February 2011. Page 52.

26 NRDC Report: RGGI is Cutting Pollution. Ibid.

27 RGGI. "Investment of Proceeds from RGGI CO₂ Allowances." February 2011. Page 42.

RGGI Emissions Targets



Data: RGGI Inc.

tricity prices in New Jersey since the implementation of RGGI in 2008. In fact, electricity prices have leveled off and even gone down in some states compared to prices before 2008. The same is true for all participating RGGI states. Data shows that electricity prices – residential, commercial and industrial – did not spike due to RGGI. If the northeast states intend to lower energy costs over the long-term for ratepayers, investments into more efficient systems need to be made now.

Have GHG Emission Targets Been Met Under RGGI? Yes.

It is important to note that emission rates fluctuate from a myriad of inputs: increased generation from non-emitting sources, fuel-switching to natural gas, the decrease in natural gas prices, electricity consumption, extreme weather events (heat waves) and overall economic performance. Emission rates were dropping in the state before RGGI was enacted but continued to do so since RGGI was implemented in 2008. Given these interacting factors, the relationship between RGGI and decreased emissions correlate but the complexity of inputs renders it difficult to point to a causal relationship between RGGI and decreased emissions. RGGI is one crucial mechanism among many to lower the region's emissions. Current data from 2008 to present shows that emissions overall have decreased in the RGGI region.²⁸

Since its implementation three years ago, RGGI states – some of the country's biggest CO₂ emitters – have reduced their CO₂ emissions by over 27 percent, putting them years ahead in RGGI's goal to reduce CO₂ emissions overall by 10 percent by 2018.

Conclusion

In New Jersey, RGGI funds were redirected to the general fund, rather than the clean energy projects they were intended for. As a result, taxpayers did not see as many of the energy cost saving benefits as they would have had all RGGI funds been directed back into the clean energy industry. Nevertheless, because of RGGI, the state met its GHG emission reductions targets, demonstrating the strong potential of the program. Since its implementation three years ago, RGGI states (some of the United States' biggest CO₂ emitters) have reduced their CO₂ emissions by over 27 percent, positioning themselves years ahead in RGGI's goal to reduce CO₂ emissions overall by 10 percent by 2018. There was no major spike in electricity prices from the start of RGGI in 2008 to present. In fact, electricity prices leveled off and even declined for some some participating RGGI states. RGGI is one funding mechanisms in New Jersey's tool box that has enabled it to become a leader in clean energy nationally, and the solar industry specifically, in the last few years.

Moving forward, it will be crucial for the nine remaining participating states to commit to: (1) a long-term policy with RGGI, and (2) reinvesting RGGI funds back into clean energy projects for the benefit of ratepayers and the business community. The cooperation in regional programs, such as RGGI, in combating GHG emissions and air pollution – a migratory and trans-regional problem – cannot be emphasized enough. Regional cap-and-trade programs provide crucial market signals and regulatory certainty for the private sector as regions transition from a fossil-fuel based economy to a clean energy economy in the 21st century. Moreover, regional cap-and-trade programs like RGGI, WCI, and the Midwestern Accord serve as regulatory pilot programs which offer important guides for the development of a national and international cap-and-trade program.

²⁸ Environment Northeast. "RGGI Emission Trends." Available: http://www.env-ne.org/public/resources/pdf/ENE_RGGI_Emissions_Report_110502_FINAL.pdf

RPA's New Energy Policy Program

RPA's new energy policy program aims to build a robust regional clean energy economy as a regional, national and international economic and security imperative through the scaling up of smart, efficient, and clean energy technologies and policies.

The aim of this Tri-State Regional Energy Program is to build a robust regional clean energy economy which:

- moves the region away from fossil fuels and towards renewables
- decreases energy consumption per capita and per unit of GSP through efficient use
- provides green jobs to low/middle/high income citizens
- increases the economic competitiveness/prosperity of the region
- moves the region towards energy independence (local production and independence from imported fossil fuels)
- decreases environmental health hazards
- reduces greenhouse gases (GHGs)
- addresses the social inequity of energy in the region (location of polluting facilities and reliability)



Regional Plan Association is America's oldest and most distinguished independent urban research and advocacy group. RPA prepares long range plans and policies to guide the growth and development of the New York- New Jersey-Connecticut metropolitan region. RPA also provides leadership on national infrastructure, sustainability, and competitiveness concerns. RPA enjoys broad support from the region's and nation's business, philanthropic, civic, and planning communities.

RPA's current work is aimed largely at implementing the ideas put forth in the Third Regional Plan, with efforts focused in five project areas: community design, open space, transportation, workforce and the economy, and housing.

For more information about Regional Plan Association, please visit our website, www.rpa.org.

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