

STATE OF NEW HAMPSHIRE

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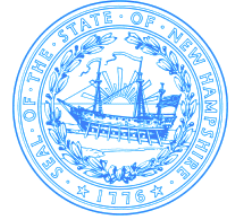
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The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



October 31, 2017

Electric Utility Restructuring Legislative Oversight Committee and
Air Pollution Advisory Committee
Legislative Office Building, Room 304
Concord, New Hampshire 03301

Re: RSA 125-O:21 RGGI annual report required of the Department of Environmental Services (DES) and the Public Utilities Commission (PUC)

Dear Chairman Richardson and Members of the Committees:

New Hampshire Revised Statutes Annotated Chapter 125-O, sections 20 – 29, establishes the state's Carbon Dioxide Emissions Budget Trading Program as part of the Regional Greenhouse Gas Initiative (RGGI). RGGI is a cooperative effort by nine Northeast and Mid-Atlantic States (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont) to reduce greenhouse gas emissions from the electric power generation sector. For more information on RGGI please refer to the website (www.rggi.org).

The statute requires an annual report on the program as follows:

125-O:21 Carbon Dioxide Emissions Budget Trading Program. –

VI. The department and the commission shall report on an annual basis to the air pollution advisory committee under RSA 125-J:11 and the legislative oversight committee on electric utility restructuring under RSA 374-F:5, on the status of the implementation of RGGI in New Hampshire, with emphasis on the prices and availability of RGGI allowances to affected CO₂ sources and the trends in electric rates for New Hampshire businesses and ratepayers. The report shall include but not be limited to:

- a) The number of allowances sold in the RGGI program and the type of entities purchasing allowances;*
- b) The number of unsold allowances in the RGGI program;*
- c) The available price data of allowances from the regional auction and secondary markets;*
- d) Market monitoring reports;*
- e) The CO₂ emissions by affected source, state, and RGGI region;*
- f) The spending of revenues from auction allowances by each RGGI state;*
- g) [Repealed]; and,*
- h) The status of any proposed or adopted federal CO₂ cap and trade program, the impact on New Hampshire's RGGI program, and recommendations for any proposed legislation necessary to accommodate the federal program.*

Overview

Prior to 2013, revenues from RGGI allowance auctions were primarily directed to energy efficiency measures intended to reduce regional electricity demand and CO₂ emissions. House Bill 1490 (Ch. 281, Laws of 2012; effective January 1, 2013) amended RSA 125-O:23 by replacing the greenhouse gas emission reduction fund with the energy efficiency fund, lowering the rebate threshold for auction proceeds to \$1, and allocating the remaining proceeds received by the state from the sale of allowances to Core energy efficiency programs to be administered by the State's electric distribution utilities. Investment of RGGI proceeds toward energy efficiency directly benefits *all* New Hampshire citizens and ratepayers by reducing the overall demand for electricity, which in turn reduces the additional capital investment needed by electricity providers to meet increased demand. In particular, the high cost of both generation and transmission infrastructure necessary to meet "peak" electricity demands are reduced or avoided.¹ Thus, investment in energy efficiency ultimately reduces costs for everybody.

Quarterly RGGI auctions have been conducted for nine years, smoothly and efficiently. The state has received nearly \$124 million to date in allowance auction revenues for energy efficiency investments and ratepayer rebates. Total revenues collected for consumer benefit in the nine RGGI states have totaled over \$2.67 billion to date.

¹ See ISO New England *ISO on Background Energy Efficiency Forecast* presentation (slide 22) at http://www.iso-ne.com/static-assets/documents/nwsiss/pr/2012/ee_forecast_final_12122012_post.pdf

Potential Changes

Amendments to RSA 125-O effective January 1, 2014 were made in order to implement the amended Model Rule, resulting from program changes recommended upon completion of the 2012 Program Review. Similarly, further amendments will be needed in order to implement program changes recommended upon completion of the 2016 Program Review. The department and the commission intend to draft bill language and seek sponsors to propose such changes in the 2019 legislative session.

Trends in Electric Rates

The cost of CO₂ emissions allowances is a very small part of overall electricity bills. On average, the costs associated with the CO₂ emissions cap accounted for 0.19 to 0.55 percent of average residential electricity bills across the region.² With respect to New Hampshire, in 2016, RGGI allowance proceeds amounted to \$15.1 million, of which approximately \$11.7 million was refunded to customers.³ Therefore, the net compliance cost, excluding the amount refunded to customers, was \$3.4 million. More specifically, when divided by New Hampshire's 2016 actual kWh sales usage of approximately 10.7 billion kWh, the rate impact is \$0.000318 per kWh (\$3.4 million divided by 10.7 billion kWh) which, in turn, translates to 21 cents per month for a residential customer.⁴ The net compliance costs are offset by strategic reinvestment in energy efficiency measures which reduce demand for electricity and give households and businesses better control over their energy bills.

Figure 1 shows New Hampshire's monthly average wholesale prices for electricity versus natural gas prices.⁵ This figure shows that the cost of electricity in New Hampshire generally trends similarly to the cost of natural gas. Information to prepare this figure was taken from the U.S. Energy Information Administration (EIA) and ISO New England (ISO-NE) websites.⁶

² Source: 2014 RGGI Annual Report.

³ Reference Commission Order [No. 25,664](#), May 9, 2015 (Docket DE 14-028).

⁴ The amount of 21 cents is calculated based on an average monthly kWh usage of 650 kWh x \$0.000318.

⁵ The electricity prices in Figure 1 reflect the monthly average locational marginal price (LMP) for New Hampshire (excluding capacity and ancillary service charges, as well as distribution and transmissions charges), consistent with the 2014 Report.

⁶ Sources are as follows: <http://www.eia.gov/dnav/ng/hist/n3050nh3M.htm> and <https://www.iso-ne.com/isoexpress/web/reports/pricing/-/tree/zone-info>.

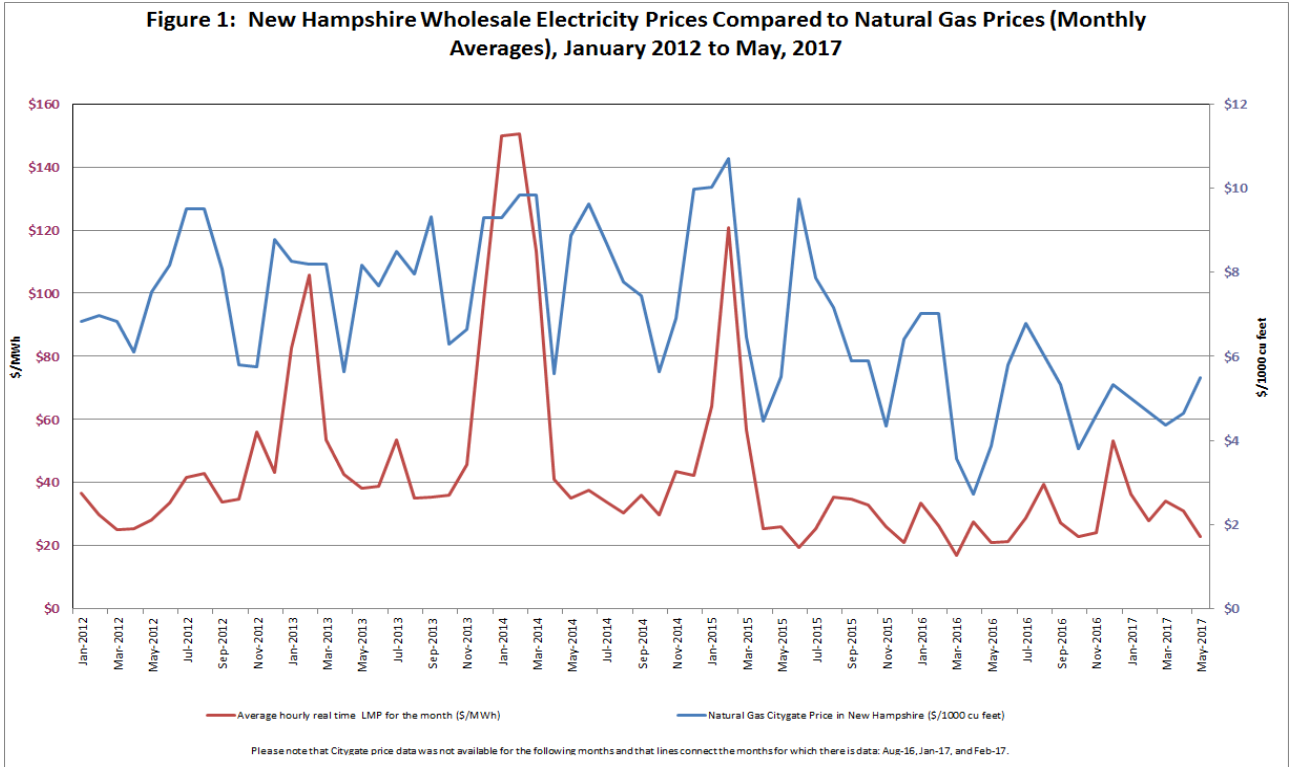
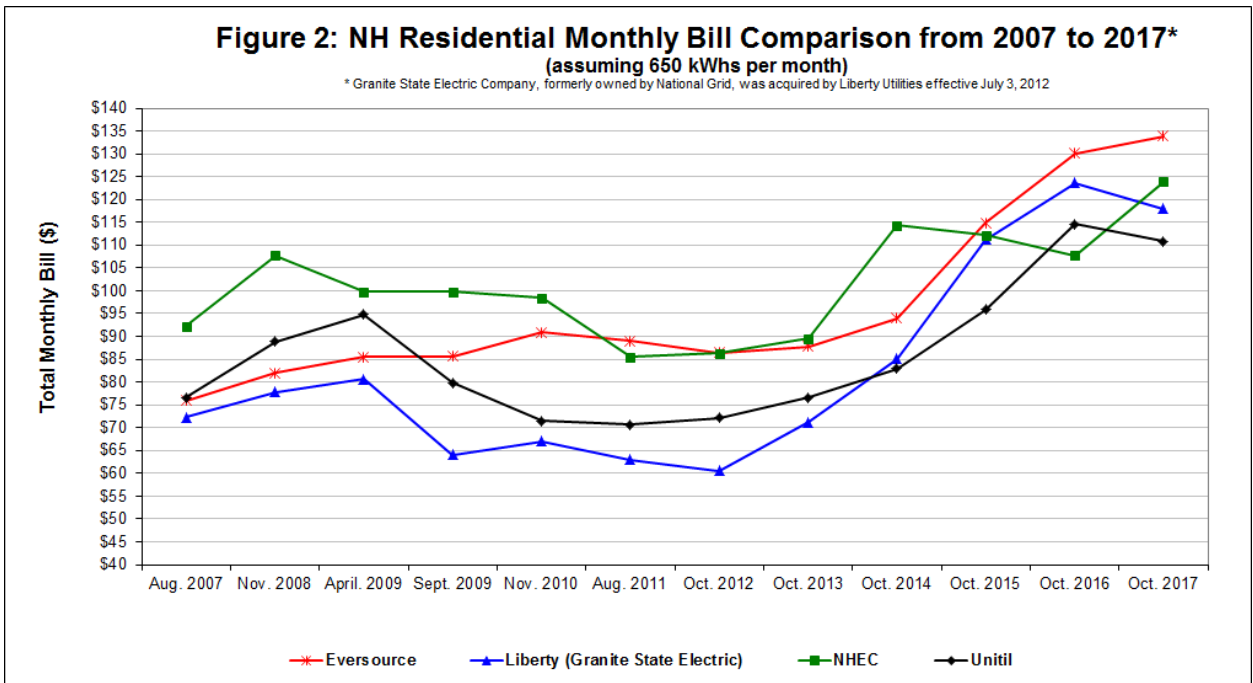
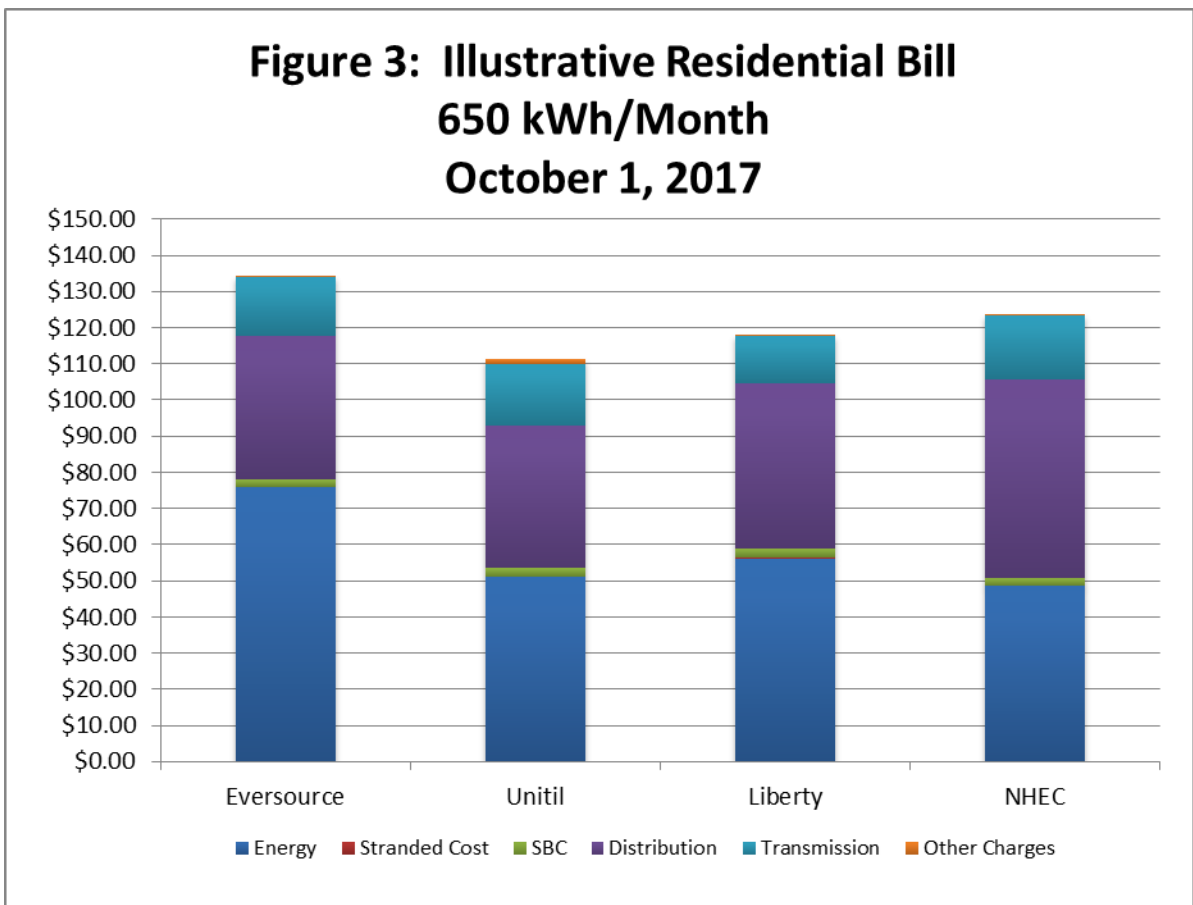


Figure 2 provides monthly residential bill comparisons for New Hampshire’s four electric utilities for the years 2007 through 2017 based on a typical residential bill. The bill comparison is based on a “snapshot” using the rates in effect as of a specific month, most recently based on October 2017 rates. Information to prepare this graph was taken from the tariffs as posted to the Commission website, on the Electric Division webpage.



A residential customer bill is comprised of a monthly customer charge, plus volumetric energy, stranded cost, system benefits charge (SBC), distribution, transmission and other charges. As shown in Figure 2, the average residential customer electricity bill has generally increased over the past 10 years. This trend is primarily due to increased transmission and distribution charges.

Figure 3 provides a graph showing the components of an average monthly residential bill as of October 1, 2017 for New Hampshire’s four electric utilities. It indicates that average monthly residential bills in New Hampshire are in the range of \$111 to \$134 per month. The average monthly bills are based on an estimated monthly residential usage of 650 kWh per month.⁷

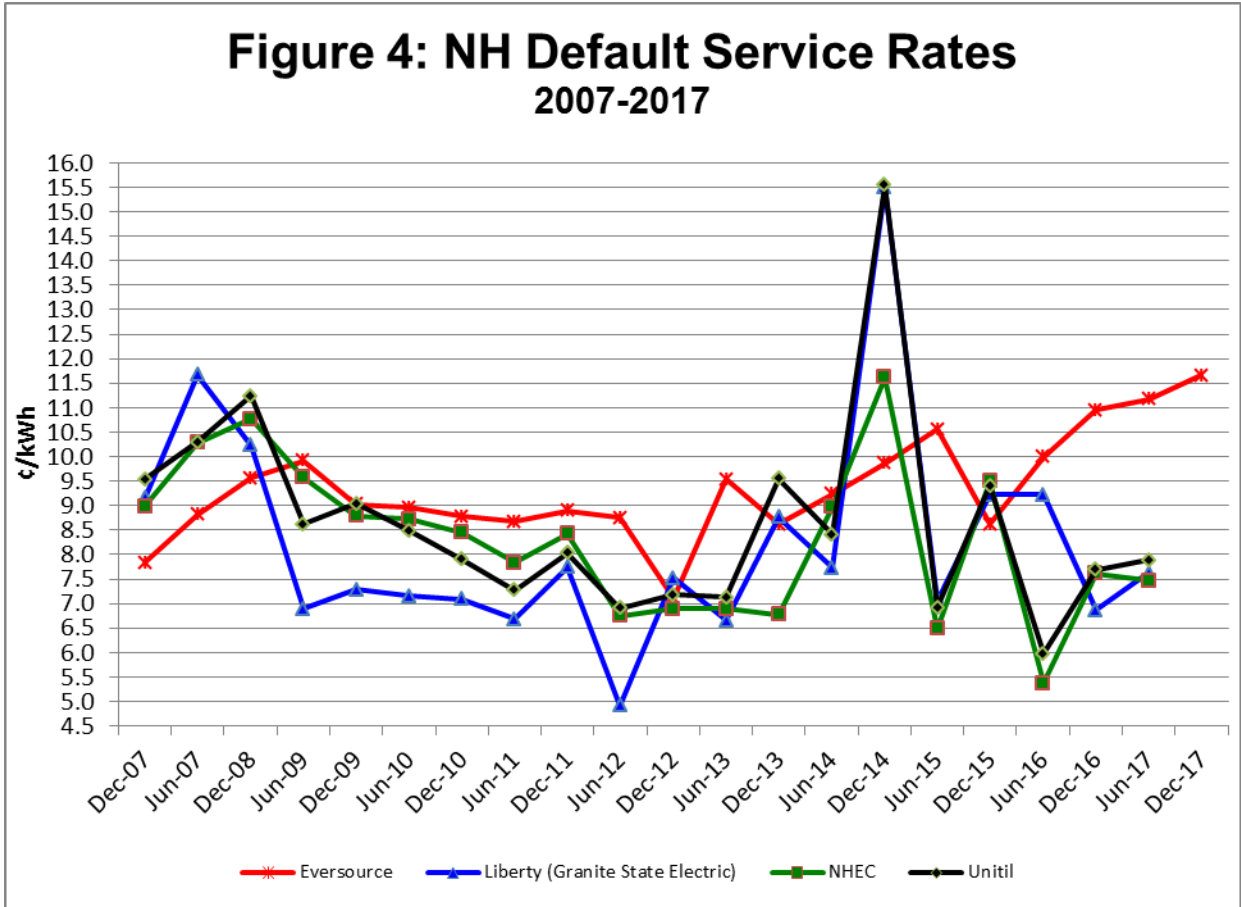


The largest component of electricity costs is the energy component which for customers who choose to receive that service from their electric distribution utility is known as Default Service. Default Service rates are a good indicator of market conditions,

⁷ Historically, the average monthly kilowatt hours (kWh) used by New Hampshire households was estimated to be 500 kWh. The household average monthly kWh is estimated to have risen to 650 kWh over the past several years; and, this change is reflected in Figure 2 and Figure 3.

especially the rates of Unitil and Liberty as they go out to the market two times per year for bids to provide default service to customers.

Figure 4 provides a comparison of the Default Service rates for New Hampshire’s four electric utilities for the years 2007 through 2017.⁸



⁸ For the year 2017, Default Service rates are available only for Eversource at this time.

Allowance Auctions and Sales Information

New Hampshire's current (2017) CO₂ base budget is 4,401,665 tons (or allowances) per year. The base budget will be lowered by 2.5% in 2018 and each year thereafter.

During the first five years (2009 – 2013) of the program, a large bank of privately held allowances was accumulated. This raised concerns that this bank could be used to allow emissions to creep back up above current levels if there were no further adjustments. Therefore, per RSA 125:O, this bank will be gradually reduced by the application of adjustments to the base budget. The adjusted 2017 NH budget is 3,259,302 allowances.

Auction (Vintage)	Date	Allowances	Price	Revenue
1-14 (2009-2011)	9/25/08 - 12/7/11	14,479,101	\$3.51 to \$1.86	\$33,431,577
15-26 (2012-2014)	3/14/12 – 12/3/14	14,530,449	\$1.93 to \$5.21	\$43,426,203
27-2015	3/11/15	848,829	\$5.41	\$4,592,165
28-2015	6/3/15	943,809	\$5.50	\$5,190,950
29-2015	9/9/15	848,829	\$6.02	\$8,251,602
30-2015	12/2/15	848,830	\$7.50	\$6,366,225
31-2016	3/9/16	820,469	\$5.25	\$4,307,462
32-2016	6/1/16	913,075	\$4.53	\$4,136,230
33-2016	9/7/16	820,469	\$4.54	\$3,724,929
34-2016	12/7/16	820,469	\$3.55	\$2,912,665
35-2017	3/8/17	792,817	\$3.00	\$2,378,451
36-2017	6/7/17	882,443	\$2.53	\$2,232,581
37-2017	9/6/17	792,817	\$4.35	\$3,448,754
Total				\$123,877,404

New Hampshire has participated in 36 regional auctions to date. New Hampshire specific auction details are presented in Table 1. A regional total of 855,152,831 allowances have been sold in 37 auctions. Another 156,405,811 allowances that were offered for sale went unsold. An additional 5 million Cost Containment Reserve allowances were sold in March 2014 and 10 million Cost Containment Reserve allowances were sold in September 2015. 76% of the allowances have been purchased by compliance entities and their affiliates.

Market Monitoring Reports

A market monitor evaluates each auction of RGGI allowances. To date no issues of significance have arisen. The attached Market Monitor Report for Auction 37 was prepared for the RGGI states by Potomac Economics. It states:

In summary, the results of our monitoring of RGGI Auction 37 raise no material concerns regarding the auction process, barriers to participation in the auction, or the competitiveness of the auction results.

CO₂ Emissions Trends

Table 2 provides emission rates from New Hampshire sources from 2008 to 2016 in tons of CO₂.

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Eversource aka PSNH (Merrimack, Schiller Units 4 & 6, Newington)	4.03	3.43*	3.61*	2.66*	1.59*	1.83*	1.58*	1.22	0.4 + 0.1 + 0.05 = 0.55
Granite Ridge aka Calpine	1.97	1.71	1.45	1.69	2.10	1.51	1.53	1.99	1.44
Essential Power Newington	1.09	0.63	0.84	1.18	0.94	0.32	0.45	0.61	0.57
Total	7.10	5.77	5.90	5.53	4.64	3.65	3.57	3.82	2.55
* PSNH received 3,564,718 2009 allowances (early reduction & Clean Power Act (CPA) bonus), 2,500,000 2010 allowances (CPA bonus), 2,500,000 2011 allowances (CPA bonus), 1,500,000 2012 allowances (CPA bonus), 1,500,000 2013 allowances (CPA bonus), and 1,500,000 2014 allowances (CPA bonus)									

Emissions from the RGGI region for 2016 in tons of CO₂ are provided in Table 3.

Table 3: 2016 emissions from the RGGI region in tons of CO₂

State	CO ₂ Emissions	State	CO ₂ Emissions	State	CO ₂ Emissions
CT	7,681,343	DE	4,042,227	MA	11,564,113
MD	18,332,243	ME	1,562,749	NH	2,546,809
RI	2,829,861	VT	2,678	NY	30,666,016
				Total	79,228,039
				Budget	86,506,875

Use of Auction Revenue by Each RGGI State

The Regional Investment report of RGGI CO₂ Allowance Proceeds, 2015 posted at http://www.rggi.org/rggi_benefits, provides an overview of each participating state's activities. The report estimates that investments of RGGI auction proceeds to date are projected to return \$2.3 billion in lifetime energy bill savings to 4.6 million participating households and 21,400 businesses in the region. These investments are projected to offset the need for approximately 9 million megawatt hours (MWh) of electricity generation, save more than 28 million British Thermal Units (mmBTU) of fossil fuels, and avoid the release of approximately 5.3 million short tons of carbon dioxide (CO₂) pollution into the atmosphere over their lifetime. These benefits are limited to the direct benefits arising from specific 2015 projects, and do not include larger macroeconomic effects that may occur as a result of the RGGI cap and market signal.

Use of RGGI Proceeds in NH

House Bill 1434 (Ch. 182, Laws of 2008; effective June 11, 2008) created the State's Greenhouse Gas Emissions Reduction Fund (GHGERF), to be funded with the proceeds from quarterly auctions of the State's CO₂ budget allowances and administered by the PUC. The GHGERF offered a competitive grant program in 2009 and 2010, awarding \$31 million for 36 energy efficiency projects/programs.⁹

During fiscal year 2017, two of these competitive grant programs, which created revolving loan funds (RLF) for energy efficiency projects, continued to operate. The New Hampshire Business Finance Authority (BFA) continues to manage a \$2 million RLF and the New Hampshire Community Development Finance Authority (CDFA) is managing a \$1.5 million RLF directed towards municipalities. Currently nearly all funding allocated to the RLFs is committed. A brief summary of each RLF follows:

- The Municipal Energy Reduction Fund (MERF), administered by the CDFA, provides financing to fund improvements to the overall energy efficiency performance of a municipality. During the period of June 30, 2016 through July 1, 2017, there were seven Municipal Energy Reduction Fund (MERF) loans in repayment status with a total balance of \$1,096,574. This includes one loan for \$275,000 that was disbursed to the City of Claremont for a street lighting project during this period. Other loans in repayment during this period include the Cities of Dover, Franklin, and Manchester, Towns of Gilmanton and Sandwich, and the Manchester Housing Authority. There were no loan defaults recorded for MERF loans during this period. Since July there have been two MERF loans approved for a total of \$62,730 and our pipeline includes one MERF loan for \$47,970.
- The Business Energy Conservation Fund, administered by the BFA, is a revolving loan program for businesses and non-profit organizations to finance energy

⁹ Details for each grant award are available at the PUC's website <http://www.puc.nh.gov/Sustainable%20Energy/GHGERF.htm>.

efficiency improvements. BFA has used the revolving loan funds to make 17 different loans, including the re-lending of funds repaid to BFA from early borrowers in the program. This has resulted in \$6,365,000 in combined lending to borrowers as diverse as Vitex Extrusions in Franklin, to the Concord YMCA, to Gorham Paper and Tissue in New Hampshire's north country. These loans have enabled these companies, who employ many hundreds of employees, to have better control over the cost of their power which is essential to remaining competitive in today's economy. Out of the 17 loans made to date, only one loan went into default. Funds are made available to relend to new companies as previous loans are repaid to BFA. The most recent loans were made in FY 2017 to the Concord YMCA and Vitex Extrusions, mentioned above. The current balance available for lending with this program is approximately \$550,000, but changes frequently as new loans are made or previous loans are repaid.

In 2012, the legislature enacted HB 1490, a provision which replaced the GHGERF with the Energy Efficiency Fund (EEF). The bill also placed a cap of \$1 for each RGGI CO₂ allowance sale, and directed that any proceeds above the cap be rebated to electric ratepayers in the form of bill assistance. The legislation directed the PUC to allocate remaining RGGI revenues to the Core energy efficiency programs administered by the State's electric distribution utilities, beginning in 2013.

In 2013, the New Hampshire legislature enacted SB 123, requiring the PUC to allocate 15% of these funds to the Core low-income weatherization program, and directing the electric utilities to set aside up to \$2 million of the remaining RGGI funds for Core municipal and local government energy efficiency projects.

SB 268, enacted in June 2014, directed that any RGGI proceeds remaining after the rebate to ratepayers and the set-asides for the low-income core efficiency program and municipal and local government energy efficiency projects be allocated "to all-fuels, comprehensive energy efficiency programs administered by qualified parties which may include electric distribution companies as selected through a competitive bid process." The legislation directed the PUC's Electric Division to conduct a competitive bid process and the Electric Division issued Request For Proposal (RFP) #14-004 for this purpose on November 25, 2014. The PUC completed the selection process and awarded a contract to Eversource on behalf of the four New Hampshire electric utilities (i.e. Granite State Electric, Eversource, NH Electric Cooperative and Unutil Energy Systems) to administer the all-fuels comprehensive energy efficiency programs.

Proposed Federal Program Impacts

Power plants account for roughly one-third of all domestic greenhouse gas emissions.

New Hampshire and the RGGI States continue to work together to demonstrate that RGGI, a market-based program with greater flexibility for sources, is a working model for national legislation. On June 2, 2014, EPA proposed Clean Air Act standards to cut carbon pollution from existing power plants in order to combat climate change and

improve public health. On August 3, 2015, EPA finalized those standards. On February 9, 2016, the Supreme Court stayed implementation of the Clean Power Plan pending judicial review. The US Supreme Court could consider the legality of the Clean Power Plan potentially in 2017. For more details, please see <http://www2.epa.gov/cleanpowerplan>.

Rather than comply with a rate-based requirement, states may prefer a more flexible alternative compliance program like RGGI. Power plants are familiar with similar programs for other pollutants. Other non-RGGI states (e.g., New Jersey, Virginia, etc.) may seek to implement RGGI, or RGGI-like programs. Thus, the geographical area for RGGI could be expanded, consistent with the original intent of RGGI.

Proposed revisions to the state's RGGI program are being considered in the context of the statutorily required 2016 comprehensive review of New Hampshire's RGGI program (pursuant to RSA 125-O:27). On August 23, 2017, the participating RGGI states proposed revisions to the RGGI Model Rule. After a dozen or more stakeholder meetings, the 2016 RGGI program review concluded that the regional cap needed to be reduced to a level more reflective of current emissions in order to "lock in" the environmental gains of the past few years and to continue to send the appropriate market price signals to encourage further reductions necessary to achieve long term climate goals. These proposed revisions would lower the regional cap in 2021 to 75,147,784 tons, which will decline by 2.275 million tons per year through 2030. The states have proposed implementing the annual cap decline collectively, but the 2021 cap includes an additional 752,431 tons of reductions that only seven states will implement (ME & NH are excluded). There will also be additional adjustments to account for the full bank of excess allowances at the end of 2020. Also, seven states (ME & NH are excluded) will implement an Emissions Containment Reserve (ECR). 10% of the allowances in states' budgets will be withheld from auctions to secure additional emissions reductions, if prices fall below \$6.00 in 2021 (rising by 7% annually thereafter). All nine states will continue to implement the Cost Containment Reserve (CCR), but the size will be lowered from 10 million to 10% of the cap, and the CCR trigger will be \$13.00 in 2021 and rise by 7% annually. Since 2008, the RGGI program has demonstrated that a market-based approach to limiting CO₂ emissions in the electricity generation sector can make significant environmental progress while enhancing economic growth.

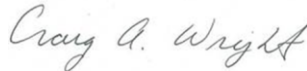
Implementing RGGI for New Hampshire makes sense both economically and environmentally. Because New Hampshire is part of a regional electric market, we are directly affected by the decisions made by other states. If New Hampshire alone were to discontinue its participation in RGGI, it would still incur the costs of the RGGI program without receiving any financial benefit. The RGGI program helps to continue our work toward energy independence and a cleaner environment.

Although RGGI is clearly intended to reduce CO₂ emissions in order to address climate change, it is important to understand that it was only after significant study and debate that New Hampshire opted into RGGI as a "no regrets" policy that directly benefits the state both economically and from an energy independence perspective. These

conclusions remain fundamentally sound today, whether one believes that climate change induced by emissions of greenhouse gases from human activity is occurring or not. While both the DES and the PUC participated in the development of RGGI, we did not endorse enactment of a New Hampshire statute until we were certain that the program would meet our state's needs and would not impose economic hardship on New Hampshire's citizens and ratepayers. New Hampshire was one of the last states to become a participant in RGGI, and we did so only after a University of New Hampshire economic study confirmed that New Hampshire would be better off participating in RGGI than not, and that RGGI would have a net *positive* impact on New Hampshire's economy as well as help to stabilize and, over the longer term, reduce the state's electricity costs. Even then, New Hampshire's enabling legislation includes several safeguards to additionally protect the state from potential unintended consequences of any significant market volatility. Therefore, we are proposing to postpone introduction of requested legislative changes resulting from the 2016 Program Review until the 2019 session, in order to be certain that said changes are adopted in all eight other RGGI States first. Another Program Review will be initiated in 2021.

If you have any questions or need further information, please contact: Michael Fitzgerald, Assistant Director, DES, Air Resources Division (271-6390, michael.fitzgerald@des.nh.gov), Joe Fontaine, Air Resources Division Trading Programs Manager (271-6794, joseph.fontaine@des.nh.gov), or Karen Cramton, Director, PUC, Sustainable Energy Division (271-2431, karen.cramton@puc.nh.gov).

Sincerely,



Craig A. Wright
Director, Air Resources Division, DES



Karen Cramton
Director, Sustainable Energy Division, PUC

Attachments: Market Monitor Report for Auction 37

cc: Rep. Douglas Thomas Rep. Herbert Richardson Rep. Michael Vose
Rep. Chris Christensen Rep. Richard Barry Rep. Jacqueline Cali-Pitts
Rep. Robert Backus Sen. Jeb Bradley Sen. Kevin Avaré
Sen. Martha Fuller Clark Rep. Herbert Vadney
Sen. Dan Feltes To be named, Governor's designee
Michael Fitzgerald, Designee of the Commissioner of Environmental Services
Commissioner John Barthelmes, Dept of Safety