

STATE OF NEW HAMPSHIRE



DEPARTMENT OF ENVIRONMENTAL SERVICES

29 Hazen Drive  
Concord, N.H. 03301

DEPARTMENT OF ENERGY

21 S. Fruit St., Suite 10  
Concord, N.H. 03301

November 8, 2022

House Science, Technology, and Energy Committee,  
Senate Energy and Natural Resources Committee,  
and the Air Pollution Advisory Committee  
Legislative Office Building, Room 304  
Concord, New Hampshire 03301

Re: RSA 125-O:21 Regional Greenhouse Gas Initiative Annual Report Required of the  
Department of Environmental Services (DES) and the Department of Energy (DOE)

Dear Committee Members:

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).<sup>1</sup>

The statute requires an annual report on the program:

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

*VI. The department of environmental services and the department of energy shall report on an annual basis to the air pollution advisory committee under RSA 125-J:11, the house science, technology, and energy committee, and the senate energy and natural resources committee on the status of the implementation of RGGI in New Hampshire, with emphasis on the prices and availability of RGGI allowances to affected CO<sub>2</sub> sources and the trends in electric rates for New Hampshire businesses and ratepayers. The report shall include but not be limited to:*

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<sup>1</sup> For more information on RGGI, please refer to the RGGI, Inc. website. See [www.rggi.org](http://www.rggi.org).

- 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 CO<sub>2</sub> 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- g) *[Repealed]; and,*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 CO<sub>2</sub> 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, auction revenues from RGGI allowances were primarily directed to energy efficiency measures intended to reduce regional electricity demand and CO<sub>2</sub> 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 energy efficiency programs 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 energy-related infrastructure, necessary to meet "peak" electricity demands, are reduced or avoided.<sup>2</sup> Thus, investment in energy efficiency ultimately reduces costs for everybody.

Quarterly RGGI auctions have been conducted for more than fourteen years. These auctions have run smoothly, and an independent market monitor has concluded that these auctions have been efficient and have resulted in competitive outcomes. The state has received \$242 million to date in allowance auction revenues for energy efficiency investments and ratepayer rebates. Total revenues collected for consumer benefit in all RGGI states have totaled over \$5.6 billion to date.

### **RGGI Model Rule & Legislation**

The 2012 RGGI Program Review recommended changes to the RGGI Model Rule. Subsequently, amendments to RSA 125-O, effective January 1, 2014, were enacted to

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<sup>2</sup> See SB 125 (2017) Committee to Study Transmission, Distribution, Generation and Other Costs in the State's Electricity System Final Report; <http://www.gencourt.state.nh.us/statstudcomm/reports/1337.pdf>.

implement the amended RGGI Model Rule. Similarly, in the 2019 legislative session, further amendments were enacted to implement most of the recommended 2016 RGGI Program Review Model Rule changes. There were two Model Rule changes, namely the 2021 budget step down and the Emissions Containment Reserve (ECR), which New Hampshire did not implement. Additional changes could be considered during the ongoing 2021 RGGI Program Review.

With respect to additional states participating in the program, New Jersey began participating in the program on January 1, 2020. Virginia began participating in the program on January 1, 2021. Pennsylvania was to begin participating in the program on July 1, 2022, but that participation is subject to ongoing litigation. North Carolina is also considering participation.

### **Trends in Electric Rates**

The cost of CO<sub>2</sub> emissions allowances is a very small part of overall electricity bills. With respect to New Hampshire, in 2021, RGGI allowance proceeds amounted to \$33 million, of which approximately \$29.5 million<sup>3</sup> was refunded to customers.<sup>4</sup> Therefore, the net compliance cost, excluding the amount refunded to customers, was \$3.5 million.<sup>5</sup>

When divided by New Hampshire's 2021 actual kWh sales usage of approximately 10.85 billion kilowatt-hours (kWh), the net rate impact is \$0.00032 per kWh,<sup>6</sup> which, in turn, translates to \$0.21 per month for a typical residential customer.<sup>7</sup> The average cost associated with the CO<sub>2</sub> emissions cap accounted for 0.1 percent of an average residential customer bill.<sup>8</sup> 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 the monthly average regional wholesale price for electricity relative to the monthly average natural gas price.<sup>9</sup> Regional average wholesale electricity prices serve as a reasonable proxy for New Hampshire zonal prices. This figure illustrates that wholesale electricity prices in New Hampshire and the region are a function of natural gas prices.<sup>10</sup>

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<sup>3</sup> Auctions 51, 52, 53, and 54.

<sup>4</sup> See Commission Order No. [25,664](#), May 9, 2014 (Docket No. DE 14-048), which provides guidance defining how refunds are distributed to customers.

<sup>5</sup> Note: \$33 million - \$29.5 million = \$3.5 million net compliance cost

<sup>6</sup> Note: \$3.5 million divided by 10.85 billion kWh = \$0.00032 per kWh net rate impact (0.032 cents/kWh)

<sup>7</sup> Based on 650 kWh per month (i.e., 650 kWh x \$0.00032 = \$0.21).

<sup>8</sup> Based on \$0.21 per month divided by an average monthly electric bill for a residential customer of approximately \$191 (see Figure 3) equals 0.1 percent.

<sup>9</sup> Consistent with prior reports, electricity prices reflect the regional monthly average locational marginal price (excluding capacity and ancillary service charges, as well as distribution and transmissions charges).

<sup>10</sup> Information to prepare this figure was obtained from U.S. Energy Information Administration and ISO New England. See: <https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm> and <https://www.iso-ne.com/isoexpress/web/reports/pricing/-/tree/zone-info>.

**Figure 1:** Regional Average Wholesale Electricity Prices (Real-time Average Hub LMP) Compared to Regional Natural Gas Prices (Henry Hub Monthly Averages), January 2015 to August 2022.

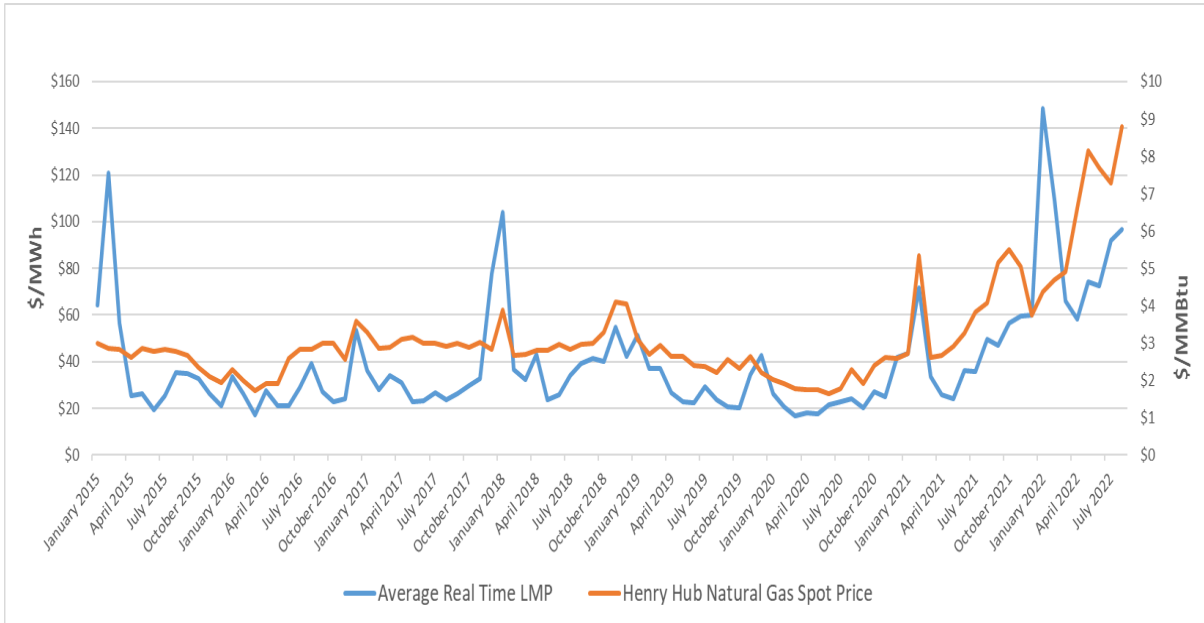
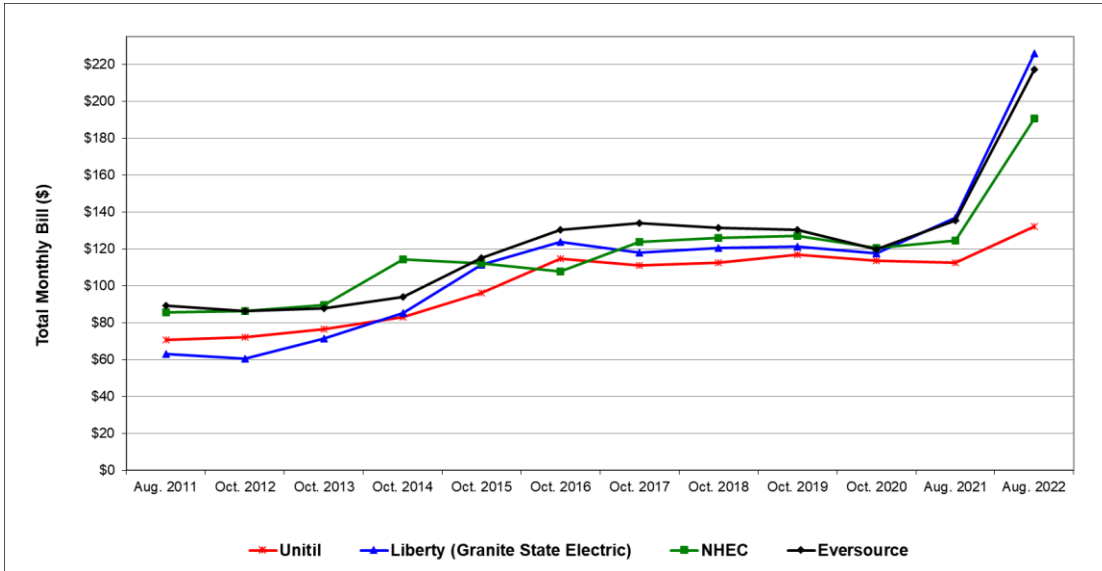


Figure 2 provides monthly residential bill comparisons for New Hampshire’s four electric utilities for the years 2011 through 2022 based on a typical residential bill. The bill comparison is based on a “snapshot” using the rates in effect as of a specific month.<sup>11</sup>

<sup>11</sup> Figure 2 is derived from individual utility residential tariffs as posted to the Commission website and in applicable dockets. See <https://www.puc.nh.gov/Regulatory/companies-regulated-tariffs.htm#elec>

**Figure 2: New Hampshire Residential Monthly Bill Comparison from 2011 to 2022 (Assuming 650 kWh per month)<sup>12</sup>**



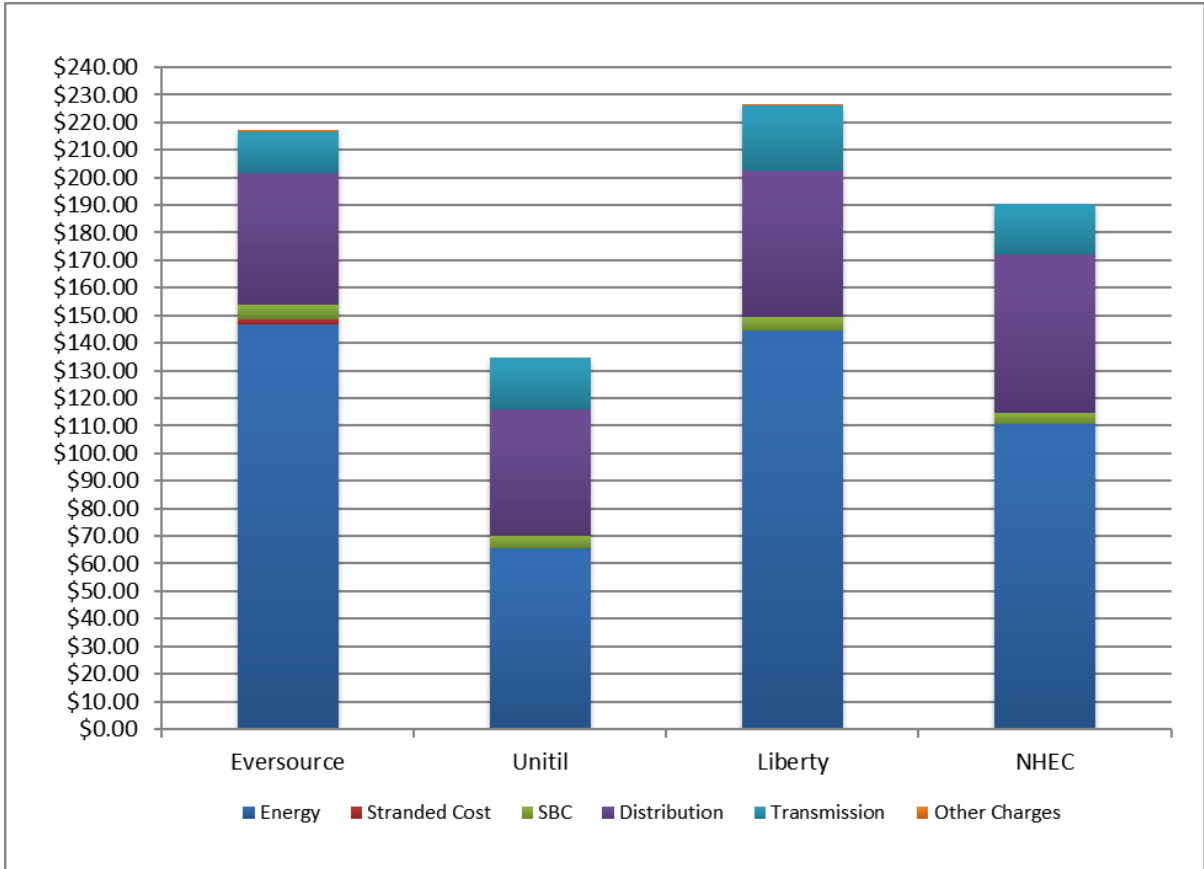
\* Granite State Electric Company, formerly owned by National Grid, was acquired by Liberty Utilities effective July 3, 2012

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

A typical residential bill for a customer using 650 kWh per month in New Hampshire is in the range of \$132 to \$225 per month, depending on the utility. Figure 3 on the next page provides a chart showing the breakdown, by component, of a typical monthly residential bill as of August 1, 2022 for each of New Hampshire’s four electric utilities.

<sup>12</sup> Historically, the average monthly kWh used by New Hampshire households was about 500 kWh. Since 2015, the household average monthly kWh is estimated at 650 kWh, and this estimate is reflected in Figure 2 starting in 2015 and in Figure 3.

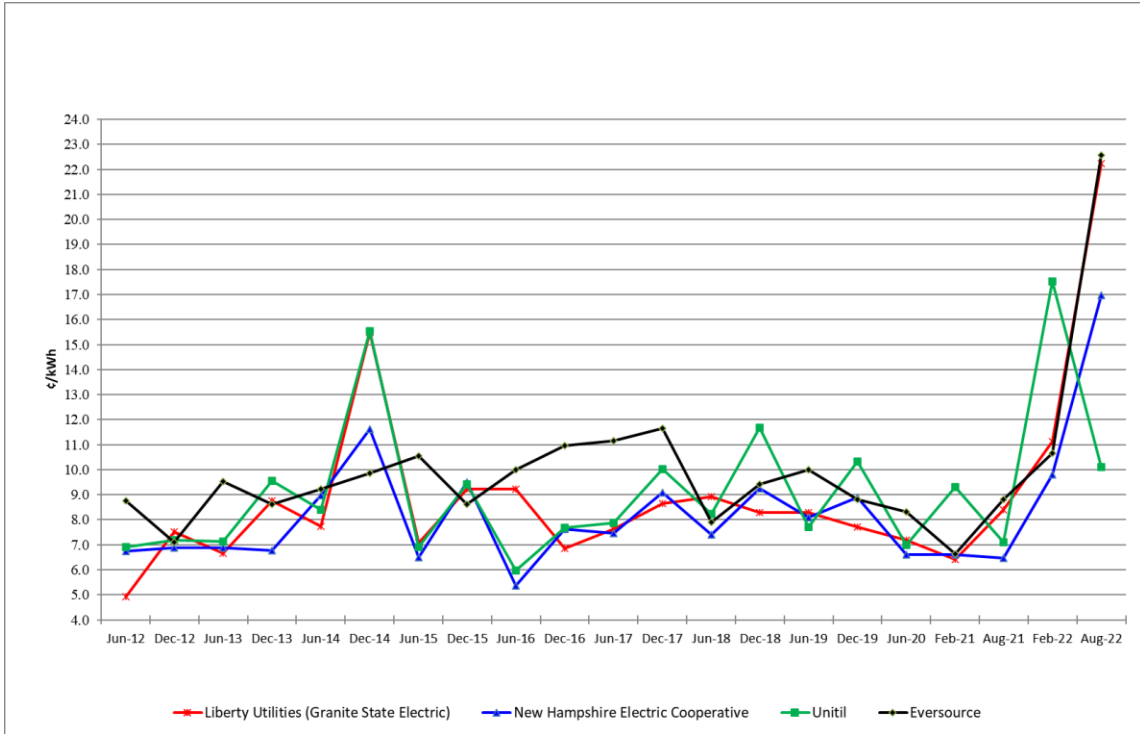
**Figure 3:** Illustrative 650 kWh/Month Residential Bill (in effect August 1, 2022)



The largest portion of electricity costs is the energy component. Customers who choose to receive that service (electricity) from their electric distribution utility, receive what is known as Default Service. Default Service rates are a good indicator of market conditions, especially the rates of Eversource, Unitil, and Liberty Utilities as these utilities procure energy supply every six months through a competitively bid solicitation process.

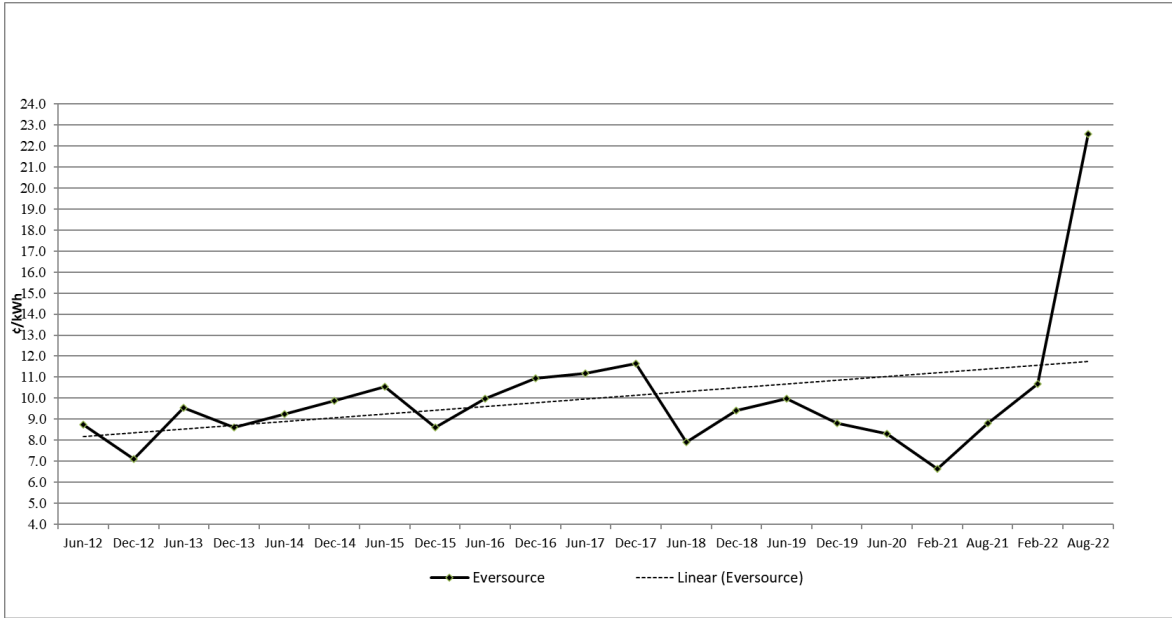
Figure 4 provides a comparison of the Default Service rates for New Hampshire’s four electric utilities for the years 2012 through 2022.

**Figure 4:** New Hampshire Default/Energy Service Rates (All Utilities) (2012 – 2022)

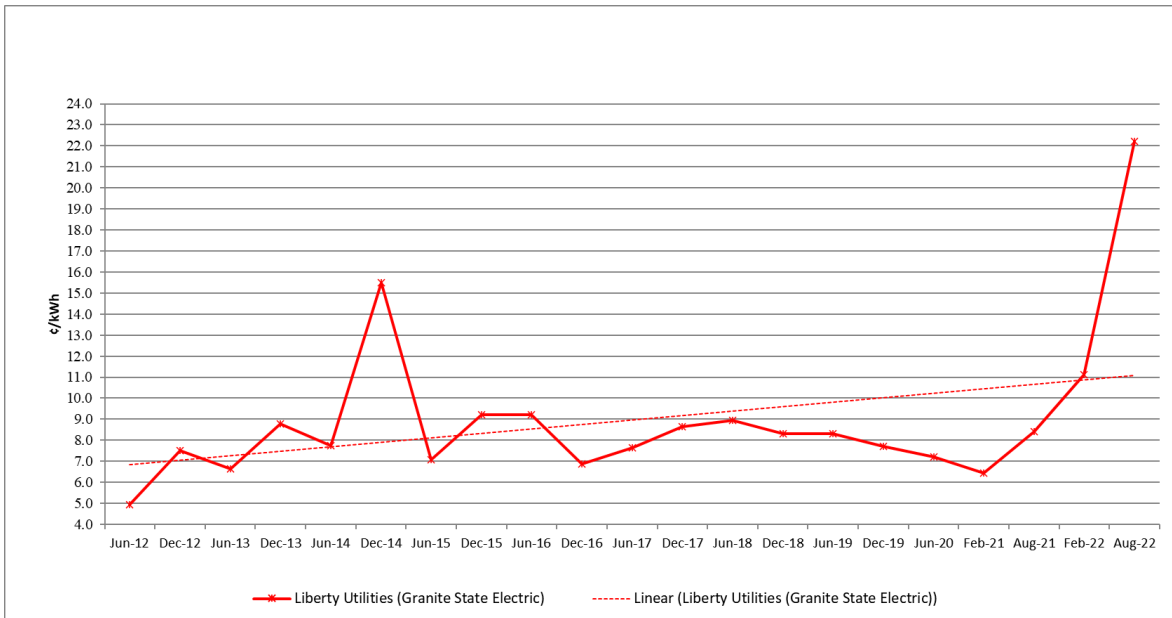


Figures 5 through 8 to follow provide the Default Service rates and trend line individually for each of New Hampshire’s four electric utilities for the years 2012 through 2022.

**Figure 5: Eversource Default/Energy Service Rates (2012 – 2022)**

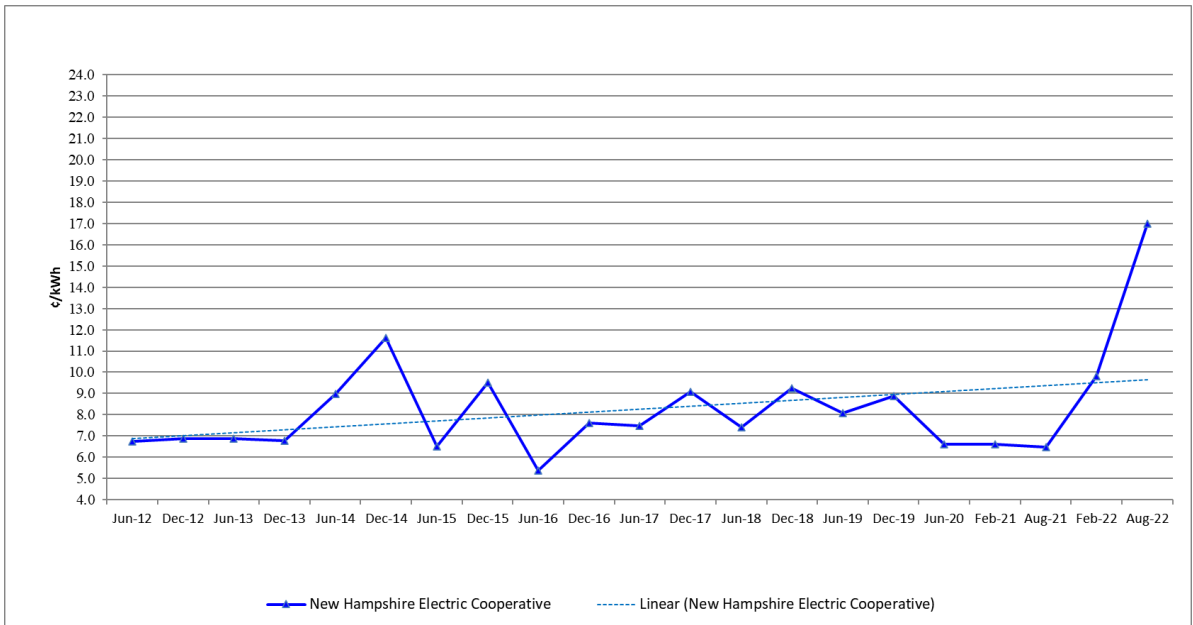


**Figure 6: Liberty Utilities Default/Energy Service Rates (2012 – 2022)**

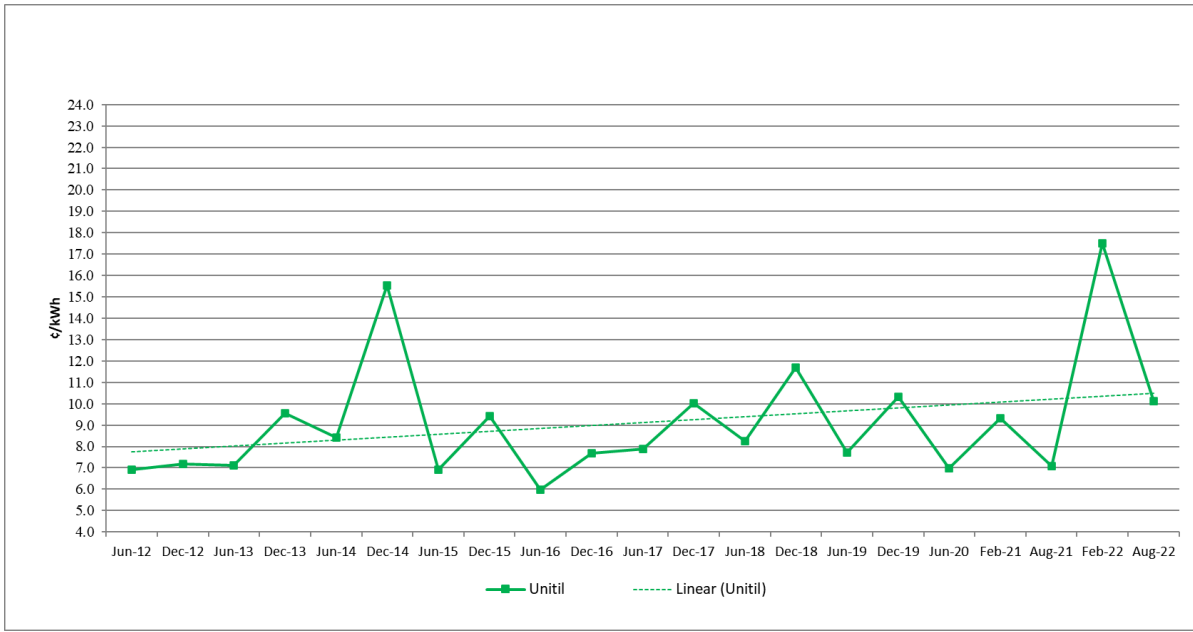




**Figure 7: New Hampshire Electric Cooperative Default/Energy Service Rates (2012 – 2022)**



**Figure 8: Unitil Default/Energy Service Rates (2012 – 2022)**



## Allowance Auctions and Sales Information

New Hampshire's 2022 CO<sub>2</sub> base budget is 3,842,274 tons (or allowances) per year. The base budget will be lowered by 118,725 tons each year thereafter through 2030 as required by RSA 125-O:21, II.

During the first five years (2009 – 2013) of the program, a bank of privately held unused allowances accumulated. This bank will be gradually reduced by the application of adjustments to the base budget. The adjusted 2022 New Hampshire budget is 3,210,912 allowances. A similar budget adjustment will be applied through 2025 to account for the bank of unused allowances.

New Hampshire has participated in fifty-six RGGI auctions to date. State-specific auction results are presented in Table 1.

In total, RGGI-states have sold 1,256,685,493 CO<sub>2</sub> allowances; 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, 10 million in September 2015, and 3,919,482 in December 2021. To date, 73 percent of the allowances have been purchased by compliance entities and their affiliates.

<b>Auction (Vintage)</b>	<b>Date</b>	<b>Allowances</b>	<b>Price</b>	<b>Revenue</b>
1-14 (2009-2011)	9/25/08 - 12/7/11	14,479,101	\$3.51 to \$1.86	\$34,720,252
15-26 (2012-2014)	3/14/12 – 12/3/14	14,530,449	\$1.93 to \$5.21	\$41,615,139
27-38 (2015-2017)	3/11/15 – 12/6/17	10,640,467	\$2.53 to \$7.50	\$50,554,722
39-50 (2018-2020)	3/14/18 – 12/2/20	9,134,843	\$3.79 to \$7.41	\$49,188,670
51-53 (2021-2023)	3/3/21 – 9/8/21	2,520,515	\$7.60 to \$9.30	\$20,835,207
<b>54-2021</b>	<b>12/1/21</b>	<b>940,878</b>	<b>\$13.00</b>	<b>\$12,231,414</b>
<b>55-2022</b>	<b>3/9/22</b>	<b>862,189</b>	<b>\$13.50</b>	<b>\$11,639,552</b>
<b>56-2022</b>	<b>6/1/22</b>	<b>783,517</b>	<b>\$13.90</b>	<b>\$10,890,886</b>
<b>57-2022</b>	<b>9/7/22</b>	<b>783,517</b>	<b>\$13.45</b>	<b>\$10,538,304</b>
<b>Total</b>				<b>\$242,214,145</b>

## Market Monitoring Reports

A market monitor evaluates each RGGI auction. To date the Market Monitor has identified no significant issues associated with the auctions. The Market Monitor Report for Auction 57 was prepared for the RGGI states by Potomac Economics. It states:

*In summary, the results of our monitoring of RGGI Auction 57 raise no material concerns regarding the auction process, barriers to participation in the auction, or the competitiveness of the auction results.*

## CO<sub>2</sub> Emissions Trends

Table 2 provides emission rates from New Hampshire sources from 2008 to 2021 in million tons of CO<sub>2</sub>.

**Table 2:** 2008 – 2021 emissions from New Hampshire sources in million tons of CO<sub>2</sub>

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Merrimack, Schiller 4 & 6, Newington	4.03	3.43*	3.61*	2.66*	1.59*	1.83*	1.58*	1.22	0.40 + 0.10 + 0.05 0.55	0.28 + 0.09 + 0.04 0.41	0.72 + 0.15 + 0.12 0.99	0.36 + 0.08 + 0.007 0.45	0.145 + 0.007 + 0.015 0.167	0.326 + 0 + 0.051 0.377	
Granite Ridge	1.97	1.71	1.45	1.69	2.10	1.51	1.53	1.99	1.44	1.18	0.93	1.28	1.34	1.37	
Essential Power Newington	1.09	0.63	0.84	1.18	0.94	0.32	0.45	0.61	0.57	0.39	0.37	0.23	0.214	0.55	
<b>Total</b>	<b>7.10</b>	<b>5.77</b>	<b>5.90</b>	<b>5.53</b>	<b>4.64</b>	<b>3.65</b>	<b>3.57</b>	<b>3.82</b>	<b>2.55</b>	<b>1.98</b>	<b>2.3</b>	<b>1.96</b>	<b>1.72</b>	<b>2.29</b>	
* For 2009 through 2014, PSNH received:															
<ul style="list-style-type: none"> <li>• 3,564,718 2009 allowances (early reduction &amp; Clean Power Act (CPA) bonus)</li> <li>• 2,500,000 2010 allowances (CPA bonus)</li> <li>• 2,500,000 2011 allowances (CPA bonus)</li> <li>• 1,500,000 2012 allowances (CPA bonus)</li> <li>• 1,500,000 2013 allowances (CPA bonus)</li> <li>• 1,500,000 2014 allowances (CPA bonus)</li> </ul>															

Emissions from the RGGI region for 2021 in tons of CO<sub>2</sub> are provided in Table 3.

**Table 3:** 2021 emissions from the RGGI region in tons of CO<sub>2</sub>

State	CO <sub>2</sub> Emissions	State	CO <sub>2</sub> Emissions	State	CO <sub>2</sub> Emissions
CT	9,971,233	DE	1,856,439	MA	6,456,382
MD	13,123,694	ME	1,466,462	NH	2,291,357
NY	27,897,486	RI	3,781,117	VT	3,059
NJ	13,229,514	VA	26,566,278	<b>Total</b>	<b>106,643,021</b>
				<b>Budget</b>	<b>119,767,784</b>

### Use of Auction Revenue by Each RGGI State

*The Regional Investment Report of RGGI CO<sub>2</sub> Allowance Proceeds, 2020*,<sup>13</sup> provides an overview of each participating state's activities. The report highlights that RGGI auction proceeds in 2020 are estimated to return \$1.9 billion in lifetime energy bill savings to over 65,000 households and 800 businesses which participated in programs funded by

<sup>13</sup> See <https://www.rggi.org/investments/proceeds-investments>

RGGI investments, and to more than 720,000 households and 38,000 businesses which received direct bill assistance.

The report also notes that RGGI related investments in energy efficiency alone are projected to offset the need for approximately 3.42 million megawatt hours (MWh) of electricity generation, save more than 31.4 million British Thermal Units (MMBtu) of fossil fuels, and avoid the release of approximately 4.6 million short tons of carbon dioxide pollution into the atmosphere over their lifetime. These benefits are limited to the direct benefits arising from specific 2020 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 New Hampshire**

House Bill 1434 (Ch. 182, Laws of 2008; effective June 11, 2008) created the state's Greenhouse Gas Emissions Reduction Fund (GHGERF), which was funded with the proceeds from quarterly auctions of the State's CO<sub>2</sub> budget allowances and administered by the Commission. The GHGERF supported a competitive grant program in 2009 and 2010, awarding \$31 million for 36 energy efficiency projects/programs.

Two of these competitive grant programs established revolving loan funds (RLF) for businesses and municipalities undertaking energy efficiency projects which continue to operate:

1. New Hampshire Business Finance Authority \$2 million RLF directed towards businesses; and
2. New Hampshire Community Development Finance Authority \$1.5 million RLF directed towards municipalities.

In 2012, HB 1490 enacted a provision which replaced the GHGERF with the Energy Efficiency Fund (EEF). The bill also placed a cap of \$1 for each RGGI CO<sub>2</sub> allowance sale, and directed that any proceeds above the cap be rebated to electric ratepayers in the form of bill assistance. The amendment further directed the Commission to allocate remaining RGGI revenues to the energy efficiency programs administered by the State's electric distribution utilities, beginning in 2013.

In 2013, SB 123 required the Commission to allocate 15 percent of these funds to the low-income weatherization program, and directed the electric utilities to set aside up to \$2 million of the remaining RGGI funds for municipal and local government energy efficiency projects.

SB 268, enacted in June 2014, directed that any RGGI proceeds remaining after the bill-assistance rebates to ratepayers, the set-asides for the low-income core efficiency program, and the set-aside for 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 Commission to conduct a

competitive bid process and the Commission issued Request for Proposal (RFP) for this purpose.

The Commission completed the selection process and awarded a three-year contract to Eversource on behalf of the four New Hampshire electric utilities including Eversource, Liberty Utilities, the New Hampshire Electric Cooperative and Unitil Energy Systems, to administer the all-fuels comprehensive energy efficiency programs through December 31, 2018.

On July 20, 2018, the Commission issued an RFP seeking a qualified firm to provide a comprehensive energy efficiency program for residential non-low-income customers for a 3-year period starting in 2019. The Commission completed the selection process and awarded a three-year contract to Eversource on behalf of the four New Hampshire electric utilities to administer the all-fuels comprehensive energy efficiency programs through December 31, 2021. With the reorganization of the Commission and the DOE, DOE became the administrator of the EEF. The grantee had faced numerous challenges including the time necessary to determine income eligibility and cost share and supply and demand challenges that arose due to the COVID-19 pandemic. On December 22, 2021, the Governor and Council approved the extension of the contract until December 31, 2022.

### **Proposed Federal Program Impacts and Other Program Changes**

Power plants account for 25 percent of all domestic greenhouse gas emissions.<sup>14</sup>

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. Currently, New Hampshire and the RGGI States are working on the Third Program Review<sup>15</sup>, which is scheduled<sup>16</sup> to result in Model Rule amendments by the end of 2023.

Additional non-RGGI states (North Carolina) may implement RGGI in 2024. Thus, the geographical area for RGGI will be expanded, consistent with the original intent of RGGI.

The regional cap will be lowered in 2022 to 116,112,784 tons<sup>17</sup>, which will decline by 2.275 million tons per year through 2030. There will also be additional adjustments<sup>18</sup> to account for the full bank of excess allowances at the end of 2020. Up to ten percent of the allowances in states' budgets<sup>19</sup> will be withheld from auctions to secure additional

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<sup>14</sup> See <https://www.epa.gov/system/files/documents/2022-04/fastfacts-1990-2020.pdf> .

<sup>15</sup> See <https://www.rggi.org/program-overview-and-design/program-review>

<sup>16</sup> See [https://www.rggi.org/sites/default/files/Uploads/Press-Releases/Program\\_Review\\_Timeline\\_Update\\_2022-07-05.pdf](https://www.rggi.org/sites/default/files/Uploads/Press-Releases/Program_Review_Timeline_Update_2022-07-05.pdf)

<sup>17</sup> Includes NJ & VA, excludes PA

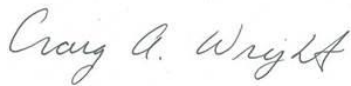
<sup>18</sup> 19,090,330 annual deduction through 2025

<sup>19</sup> ME & NH are excluded

emissions reductions, if prices fall below the Emissions Containment Reserve (ECR) trigger (\$6.42 in 2022; rising by 7 percent annually thereafter). Conversely, all states will continue to implement the Cost Containment Reserve (CCR). Up to ten percent of the cap will be added to auctions, if prices rise above the CCR trigger (\$13.91 in 2022; rising by 7 percent annually thereafter).

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](mailto:michael.fitzgerald@des.nh.gov)), Joe Fontaine, Trading Programs Manager, DES, Air Resources Division (271-6794, [joseph.fontaine@des.nh.gov](mailto:joseph.fontaine@des.nh.gov)), or Josh Elliott, Director, DOE, Policy and Programs Division (271-6003, [joshua.w.elliott@energy.nh.gov](mailto:joshua.w.elliott@energy.nh.gov)).

Sincerely,



Craig A. Wright  
Director, Air Resources Division, DES



Joshua W. Elliott  
Director, Policy & Programs Division, DOE