

Economic Impact in New Hampshire of the Regional Greenhouse Gas Initiative (RGGI): An Independent Assessment (Update Feb 2011) Memo

Overview of NH RGGI Results for 2009 & 2010:

In 2007, the University of New Hampshire was contacted by the NH Department of Environmental (NH DES) Services to prepare an economic impact study of NH's participation in RGGI. The report was released in January 2008 and found that it was in the economic interest of NH to participate in RGGI and that the two most economically beneficial uses of allowance auction proceeds were to reduce corporate taxes or fund energy efficiency programs. This analysis also included estimated utility costs for participation in RGGI. In 2011, NH DES requested an executive update to the study based on actual program results for 2009 and 2010.

Key Findings:

- NH benefits for both economic and environmental reasons by participating in RGGI
- NH is part of a regional power pool – rate payers will experience increased cost because of RGGI even if the legislature repeals NH's participation. In 2009, if NH had not participated in RGGI \$10 million would have left NH due to the nature of the regional power market and NH would have received no allowance revenue.
- RGGI did not negatively impact NH's overall position in the U.S. economy in 2009 or 2010 – NH has one of the top 5 economies in the US. RGGI did not harm NH's overall economic competitiveness.
- There is no evidence that NH has lost a major employer because of RGGI,
- This above is the short term economic impact/experience (above) in NH with RGGI. The state can also benefit economically longer term. RGGI can help NH move towards reduced energy consumption and less dependence on imported energy – help to inspire innovation in energy efficiency and renewable energy – there is documented empirical evidence that participation in regional climate initiatives increases clean tech patenting (Dr. Gittell has prepared a paper on the subject this past year with the Fed Reserve Bank of Boston)
- Projections for the cost for participation and non-participation for NH in RGGI for 2009 were very close to actual results. This includes estimates of labor impact from RGGI, the 2008 economic impact study projected 68 jobs in 2009 and actual results from the first round of grants from RGGI funds was 70-85 FTE jobs between 2009 and 2010.
- In the 2008 economic impact study, direct costs of compliance for PSNH were overestimated in 2009 (Estimated cost of compliance of \$13 million vs. actual of \$7 million) due to several factors :
 1. Study was conservative and assumed highest maximum emissions for PSNH (6.5 million tons of CO₂ actual emissions in both 2003 and 2004). Actual emissions for PSNH in 2009 were 3.4 million tons of CO₂. Actual emissions in 2010 were 3.6 million tons of CO₂.
 2. Emissions have been lower for several factors. These include: 1) Conversion of Schiller #5 to biomass at the end of 2006, 2) reduced energy use due to the 2008-2009 recession, 3) PSNH Newington Station has become increasingly uneconomic (it's capacity factor has dropped from 56% in 2003 to 3.3% in 2008 and 0.2% in 2010)
 3. Cost projections for 2009 of average allowance price were very similar to actual average cost per allowance for PSNH in 2009, while allowance prices were higher (average allowance price of \$2.75 in 2009), the study did not take into account allowances allocated at no cost to PSNH as a result of the NH Clean Power Act. This was because a ruling was not issued by NH DES until 2009 on the actual number to be allocated. The average allowance price assumed was \$2 for 2009 in the study, actual average cost to PSNH per allowance was \$2.04.

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4. The study still correctly projected relative magnitudes of energy cost to electric customers in NH for 2009.
 - In 2009, the increased cost for NH rate payers from RGGI in NH was \$6.9 million. This “cost” came with the benefit of \$18 million in allowance revenue through the end of 2009. Grant projects funded in 2009 from GHGERF from the allowance proceeds (\$17.7 million) are expected to result in annual savings from energy efficiency of \$4.2 million for a lifetime savings through 2030 of \$60.6 million at current energy prices.
 - The cost of NH’s participation in RGGI 2010 was \$4.8 million. Therefore the cumulative impact through the end of 2010 has been a cost of \$11.7 million with the benefit of \$28.2 million in allowance revenue as of the end of 2010.
 - PSNH cost of compliance for RGGI in 2011 is estimated by PSNH to be \$3.7 million. While PSNH emissions in 2009 and 2010 (and expected for 2011) have been relatively consistent, the cost of compliance from 2009 to 2011 has dropped as a result of the allowances allocated to PSNH by the NH Clean Power Act.
 - In addition, the RGGI program funded the PSNH RECORE program which over the past two years has completed 129 commercial energy efficiency projects costing \$1.5 million (basically a return of that money directly back to commercial rate payers). In addition another \$1.1 million went to energy efficiency projects for PSNH residential and commercial customers from RECORE. These projects are a significant portion of the estimated \$60.6 million lifetime savings attributed to the grants awarded in 2009.
 - The primary direct cost that NH faces is cost of compliance by PSNH, approximately 50% of PSNH power is purchased in the regional power market as are all power for Unitil, National Grid, and the New Hampshire Electric Cooperative. The “indirect” cost of RGGI (\$10 million in 2009) is experienced by NH ratepayers whether or not NH participates in RGGI.
 - The 2008 study did not state costs to business directly, this was elaborated on at presentations given to both NH House and Senate in 2007 and 2008, however direct cost of RGGI for PSNH customers was estimated at 1.17% of business customer total electric cost and actual 2009 cost for PSNH default service commercial customers was actually lower 0.73%.
 - To put in to scale, the cost overestimate of \$7 million (See Table 1 and Table 2 difference between estimated and actual marginal cost of NH participation in 2009) is an error margin of 0.4% of \$1.6 billion in electricity costs NH customers paid in 2009.
 - We suggest that this legislature might consider options, i.e., not just “RGGI participation” or “no RGGI participation” for New Hampshire.
 1. The economic analysis performed in 2008 showed that the best overall economic results would be if funds went to reduce business taxes in NH. And we still believe this is the case.
 2. NH receives 8.6 million allowances per year under the RGGI agreement. An option could be to directly allocate allowances to PSNH so that there is effectively zero direct cost to PSNH and PSNH rate payers from RGGI participation. While there is opportunity cost, as allowance revenue would not go towards reducing corporate taxes or energy efficiency, there would be no direct cost impacts to PSNH rate payers as a result of NH participating in RGGI. Based on current PSNH generation, 3.5 million allowances would need to be directly allocated to PSNH on an annual basis. This would leave 5.1 million allowances each year available for energy efficiency or other uses.

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Table 1: Estimated Utility Costs and Allowance Revenue from 2008 Economic Impact Study (Table 11) (\$ millions)

	No RGGI			RGGI			Marginal Cost of NH Participation	Marginal Net Benefit of NH Participation
	Cost of RGGI to Utility Customers (Indirect Only)*	Allowance Revenue	Net Difference	Cost of RGGI To Utility Customers (Direct + Indirect)*	Allowance Revenue	Net Difference		
2009	(\$7)	\$0	(\$7)	(\$20)	\$17	(\$3)	(\$13)	\$4

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Table 2: Actual Utility Costs and Allowance Revenue (\$ millions)

	No RGGI			RGGI			Marginal Cost of NH Participation	Marginal Net Benefit of NH Participation
	Cost of RGGI to Utility Customers (Indirect Only)*	Allowance Revenue	Net Difference	Cost of RGGI To Utility Customers (Direct + Indirect)*	Allowance Revenue	Net Difference		
2009	(\$10)	\$0	(\$10)	(\$16)	\$18	\$2	(\$6)	\$12

Table 3: Actual Direct Cost to PSNH Customers on Default Service (2009)

Customer Class	Number	% of Total NH Customer Class Accounts	% of NH Customer Class Load	Actual Direct Annual Cost	Avg Annual Bill	Percent of Bill
Residential	414,306	70%	70%	\$7.47	\$1,220	0.61%
Commercial	60,223	65%	62%	\$45.83	\$6,230	0.74%
Industrial	2,600	81%	33%	\$234.48	\$32,200	0.73%