

IMPACTS OF THE NE REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)



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- ✓ The climate impact of the RGGI carbon dioxide emissions reduction plan is infinitesimal and inconsequential.
- ✓ New Hampshire's role in mitigating future climate change under RGGI is even less.
- ✓ A full adherence to the 10-state RGGI emissions reduction plan would result in a "savings" in the projected rise of global temperature by the year 2100 of 0.0005°C (five ten-thousandths of a degree Celsius). The projected rise in global sea level would be reduced by 0.003 inches (3 thousandths of an inch). These numbers are scientifically insignificant, inconsequential, and undetectable.
- ✓ New Hampshire's contribution to future climate change "savings" would be considerably less. Under RGGI, the direct impacts from New Hampshire's CO₂ emissions would result in a global temperature "savings" of 0.00002°C (two one-hundred thousandths of a degree) and a reduction of projected future sea level rise of 0.0001 inches (1 ten thousandths of an inch). These numbers are scientifically insignificant, inconsequential, and undetectable.
- ✓ Growth in carbon dioxide emissions is occurring in countries across the world, primarily led by China's quest for energy. Since the turn of the 21st century, CO₂ emissions have increased globally at an average rate of 2.8% per year. In China, the year-over-year increase in CO₂ emissions has been an astounding 11.8% per year since 2001. In the U.S., CO₂ emissions have declined by about 0.8% per year since 2001.
- ✓ Growth in CO₂ emissions from countries outside of the U.S. means that any emissions reduction achieved in the U.S. will be quickly subsumed and replaced by foreign growth.
- ✓ At the current rate of emissions growth, the emissions reductions proposed by RGGI in the year 2018 will be completely replaced by growth in foreign emissions *in just 7 days*.
- ✓ At the current rate of emissions growth, the emissions reductions in New Hampshire as proposed by RGGI in the year 2018 will be completely replaced by foreign emissions growth *in just 8 hours*—the equivalent of a single working day.
- ✓ RGGI is a monumental effort with no physical results on the local, regional, or global climate. RGGI is a 10-year effort that is completely eliminated by foreign emissions growth in a single week's time.
- ✓ Economic analyses of federal cap-and-trade proposals all reveal large negative consequences.
- ✓ **RGGI represents the epitome of an all pain and no gain scenario.**

CLIMATE IMPACTS

Globally, in 2008, humankind emitted 30,314 million metric tons of carbon dioxide (mmtCO₂: EIA, 2011a), of which total emissions from the 10 states (CT, DE, MA, MD, ME, NH, NJ, NY, RI, VT) accounted for 577.9 mmtCO₂, or 1.91% (EIA, 2011b). New Hampshire's CO₂ emissions in 2008 amounted to 18.9 mmtCO₂, making up a mere 0.06% of the global total (EIA, 2011b).

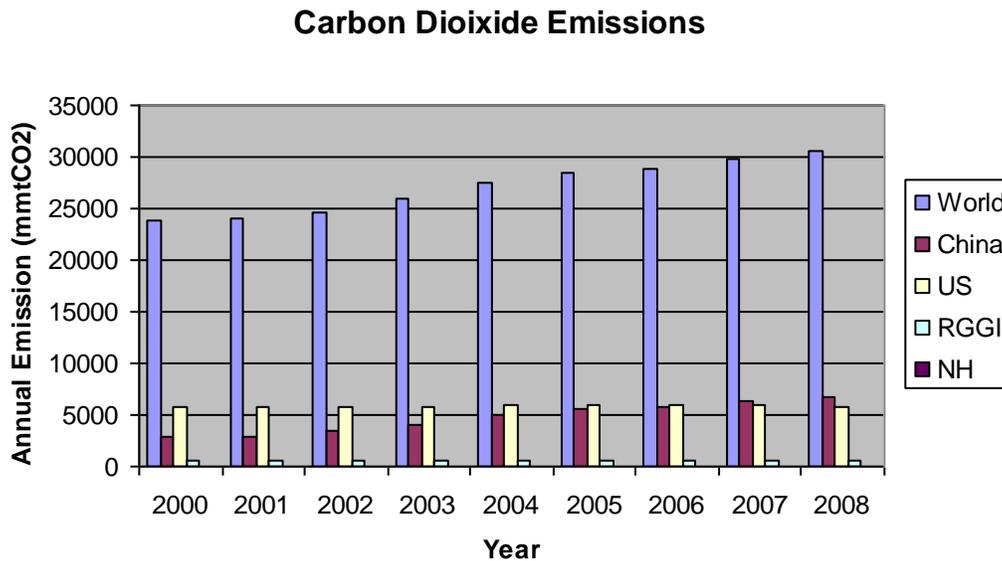


Figure 1. Carbon dioxide (CO₂) emissions, 2000-2008. (Data source: Energy Information Administration.)

The proportion of global manmade CO₂ emissions from New Hampshire and all of the RGGI states will decrease over the 21st century as the rapid demand for power in developing countries such as China and India rapidly outpaces the growth of CO₂ emissions from New Hampshire and the RGGI states (EIA, 2010).

Since the turn of the century, global emissions of CO₂ from human activity have increased at an average rate of 2.8%/yr, CO₂ emissions from China increased at 11.9%/yr, while U.S. CO₂ emissions have *decreased* at an average rate of 0.8%/yr (EIA, 2011a).

Year-over-Year CO2 Emissions Growth

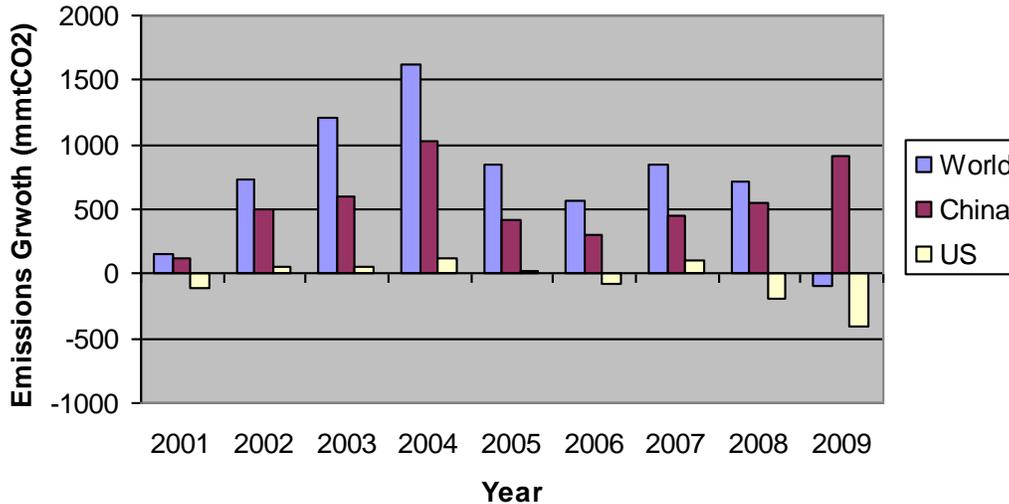


Figure 2. Year-over-year change in carbon dioxide (CO₂) emissions, 2001-2009. (Data source: Energy Information Administration.)

These growth rates show that the annual year-over-year *increase* of anthropogenic global CO₂ emissions is about *1.5 times* greater than the RGGI states *total* emissions and nearly *50 times* greater than the total annual emissions from New Hampshire. This means that even a complete cessation of *all* CO₂ emissions from the RGGI region will be completely subsumed by global emissions growth in *less than one year*. A complete cessation, now and forever, of all CO₂ emissions emanating from New Hampshire would be completely replaced by CO₂ growth from non-U.S. countries within *8 days*. In fact, emissions growth from China alone would completely replace all emissions from the RGGI region in just 15 months and those from New Hampshire in 15 days.

Given the magnitude of the global emissions and global emission growth, RGGI regulations which only prescribing a *reduction*, of the regions' CO₂ emissions will **have absolutely no effect on global, regional, or local climate.**

RGGI only targets emissions from the power sector, which itself only accounts for about 25% of the total CO₂ emissions from the 10 RGGI states. And further RGGI does not seek to totally eliminate CO₂ emissions from the power sector, but rather to reduce them by 10% by the year 2018. *Under such a scenario, the entirety of the emissions savings prescribed under the RGGI plan would be replaced in the global atmosphere by emissions growth in countries outside the U.S. in just **one week's time**.* For New Hampshire, the impact is even less—global emissions growth replaces a 10% reduction in CO₂ emissions from New Hampshire's power plants in *just 7 hours!* Emissions growth in China alone replaces all the RGGI savings from New Hampshire in just 12 hours.

In other words, 10 years worth of cap-and-trade on New Hampshire’s power sector as prescribed under RGGI (for the period 2009-2018) and all the economic hardships that it entails, are completely wiped out by emissions growth in other portions of the world in less than a single 8-hour working day.

As you could imagine, the impact on future climate change by such an inconsequential in the atmospheric concentration of carbon dioxide is infinitesimally small.

By using established methodology (Wigley, 1998), the impact on projected global average temperature increase and projected global average sea level rise from CO₂ emissions can be determined.

The following Table presents the results of such calculations considering the following scenario:

- 1) 10% reduction of CO₂ emissions from New Hampshire’s power sector as prescribed under RGGI
- 2) 10% reduction of CO₂ emissions from all 10 RGGI states as prescribed under RGGI,
- 3) An immediate and complete cessation of all CO₂ emissions from all sectors in New Hampshire,
- 4) An immediate and complete cessation of all CO₂ emissions from all sectors in all 10 RGGI states.

Table 1

Analysis of Carbon Dioxide Emissions (for 2008) and Potential “Savings” in Future Global Temperature and Global Sea Level Rise

Scenario	2008 Emissions (million metric tons CO ₂)	% of Global Total	Time until Total Emissions Reduction Subsumed by Foreign Growth (days)		Temperature “Savings” (°C)		Sea Level “Savings” (cm)	
			Global Growth	China Growth	2050	2100	2050	2100
NH-10%	0.7	0.00	0	1	0.00001	0.00002	0.0002	0.0003
RGGI-10%	17.1	0.06	7	13	0.0003	0.0005	0.0040	0.0081
NH-All	18.9	0.06	8	15	0.0003	0.0005	0.0044	0.0089
RGGI-All	557.6	1.84	238	432	0.0102	0.0152	0.1305	0.2629

To summarize, the impact of New Hampshire’s portion of the RGGI emissions reduction plan will result in a “savings” to projected global warming of 0.00002°C by the end of the 21st century. Equivalently, 0.0003 centimeters of sea level rise will be avoided. If New Hampshire eliminated all CO₂ emissions, it would achieve a global temperature savings of 0.005°C and a global sea level rise savings of 0.0089 cm by the year 2100.

Such numbers are so small as to be scientifically irrelevant and meaningless.

Even considering the results of all states participating in RGGI, the impacts of future global climate are statistically and scientifically insignificant. The emissions reduction prescribed by RGGI would lead to a reduction of the projected global temperature rise of only 0.005°C by the year 2100. The sea level rise reduction would be 0.008 cm. If all 10 RGGI states ceased all CO₂ emissions from all sectors, the temperature savings by the year 2100 would amount to only 0.015°C while averting 0.26cm of sea level rise.

There is no climate justification for participation in RGGI.

ECONOMIC IMPACTS

But just because the RGGI emissions reduction will have no impact on the global, regional or local climate, does not mean that will have no impact on the economy.

In recent years, several independent organizations have analyzed the economic impacts of various cap-and-trade emissions reduction plans that have been proposed by the federal government. While these analyses did not analyze the economic impacts of RGGI specifically, they do provide a general idea of the economic impacts of federal cap-and-trade regulation—and the news is not good.

Below are some estimated impacts on the economy of New Hampshire.

A comprehensive analysis was recently completed by the National Association of Manufacturers (NAM) and the American Council for Capital Formation (ACCF) examining the economic impact of The American Clean Energy and Security Act of 2009, also known as the Waxman-Markey Bill (HR 2454). The Waxman-Markey bill is typical of federal proposal to reduce greenhouse gas emissions. The NAM/ACCF commissioned the Science Applications International Corporation (SAIC) to assess the impact of the Waxman-Markey bill on manufacturing, jobs, energy prices and the overall economy. The NAM/ACCF study accounts for all federal energy laws and regulations currently in effect. It accounts for increased access to oil and natural gas supplies, new and extended tax credits for renewable generation technologies, increased World Oil Price profile, as well as permit allocations for industry and international offsets. Additionally, the provisions of the stimulus package passed in February 2009 are included in the study.

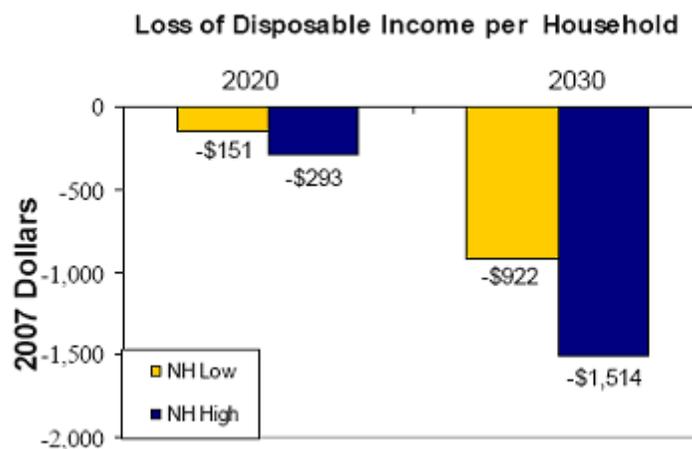
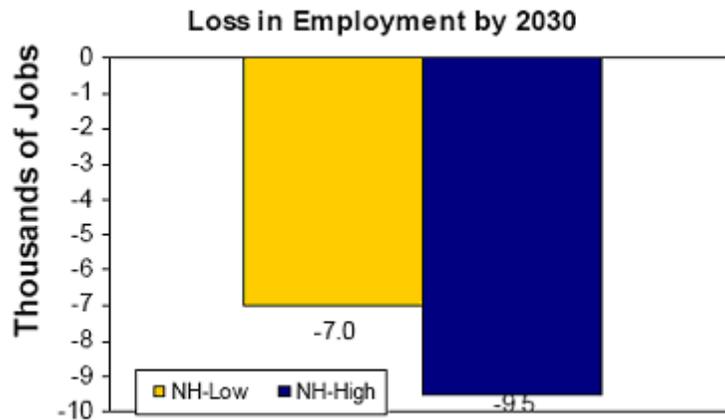
The 2009 Waxman-Markey Bill proposed targets that would reduce GHG emissions to 17% below 2005 levels by 2020; 42% below 2005 levels by 2030; and 83% below 2005 levels by 2050. These reductions are a bit greater and more far-reaching than the RGGI targets and timetables.

For a complete description of these findings please visit: <http://www.accf.org/publications/126/accf-nam-study>.

In general, for the U.S., the NAM/ACCF found:

- Cumulative Loss in Gross Domestic Product (GDP) up to \$3.1 trillion (2012-2030)
- Employment losses up to 2.4 million jobs in 2030
- Residential electricity price increases up to 50 percent by 2030
- Gasoline price increases (per gallon) up 26 percent by 2030.

The NAM/ACCF also analyzed the economic costs on a state by state basis. For New Hampshire, in particular, they found that by the year 2020, average annual household disposable income would decline by \$151 to \$293 and by the year 2030 the decline would increase to between \$922 and \$1,514. The state would stand to lose between 6,975 and 9,499 jobs by 2030. At the same time energy prices would rise substantially. Gasoline prices could increase by 25%, electricity prices by 28% and natural gas by up to 61%. New Hampshire's Gross State Product could decline by 2030 by as much as \$2.3 billion/yr.



Change in Energy Prices at Household Level (% change from baseline)					
Sector	Year	New Hampshire		US	
		Low	High	Low	High
Electricity (Residential)	2020	5.6%	9.1%	5.0%	7.9%
	2025	7.5%	12.9%	4.9%	11.5%
	2030	19.3%	27.7%	31.4%	50.0%
Gasoline	2020	8.2%	10.7%	8.3%	11.1%
	2025	11.6%	15.4%	12.0%	16.0%
	2030	19.3%	25.2%	20.0%	26.1%
Natural Gas (Residential)	2020	-2.1%	0.6%	-3.3%	0.1%
	2025	3.7%	7.7%	4.8%	10.1%
	2030	46.1%	60.7%	56.3%	73.5%

Figure 3. Examples of the economic impacts in New Hampshire of federal legislation to limit greenhouse gas emissions green. (Source: National Association of Manufacturers, 2009; <http://www.accf.org/media/docs/nam/2009/Illinois.pdf>.)

And all this economic hardship would come with absolutely no detectable impact on the course of future climate.

RGGI represents the epitome of an all pain and no gain scenario.



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