

State Greenhouse Gas Programs: An Economic and Scientific Analysis

Impact on Maine

Maine's state legislature is considering legislation to reduce the state's greenhouse gas emissions.

State greenhouse gas programs seek to reduce man-made emissions of gases (typically carbon dioxide) thought to contribute to "global warming," a possibly destabilizing warming of the Earth's atmosphere. Maine has mandated utilities use renewable resources to generate 30 percent of power by 2000. In 2001, Maine joined five other states and five eastern Canadian provinces to pledge to reduce greenhouse gas emissions to 1990 levels by 2010 and 10 percent below 1990 levels by 2020. In 2002, Maine created a voluntary greenhouse gas emission registry and directed the Department of Environmental Protection to study warming consequences for Maine.

Maine would need to reduce its greenhouse gas emissions by 1.45 million metric tons carbon equivalent (mmtce) to meet the goal set under the Kyoto Protocol.

The Kyoto Protocol, negotiated by the Clinton-Gore administration but not submitted to the U.S. Senate for approval and rejected by President George W. Bush, would have required the U.S. to reduce greenhouse gas emissions to 7 percent below 1990 levels by 2008-2012. Maine's greenhouse gas emissions totaled 4.6 mmtce in 1990. If no state actions are taken, Maine's greenhouse gas emissions are expected to reach 5.73 mmtce by 2010. Reducing emissions to 7 percent below 1990 levels would therefore require a reduction from baseline levels in 2010 by 1.45 mmtce.

Maine state government would have to spend at least \$80 million per year to attain this goal.

New Jersey has spent \$55 per ton to reach its greenhouse gas reduction goal of 3.5 percent below 1990 levels. Since the goal is modest and the state has been able to increase reliance on nuclear power to meet this goal, \$55/ton is likely to be the *minimum direct cost to a state government* of operating a comprehensive greenhouse gas reduction program. Multiplying the number of tons Maine needs to cut by \$55 reveals its state government would have to spend \$80 million *each year* to meet the goal.

Maine state government would also lose \$402 million each year in tax revenue as a result of slower economic growth.

Reducing emissions means higher energy prices and slower economic growth. This means less revenue to state treasuries. In 1998, WEFA Inc., a respected consulting firm, produced state-by-state estimates of the impact on state budgets in the year 2010 of a *national* program to reduce emissions to 7 percent below 1990 levels. This is the minimum credible estimate since it assumes Maine's program would not have a more negative effect on the state's business climate than would a national program. Converting WEFA's estimates into 2001 dollars reveals the annual loss to the state of Maine treasury would be \$402 million.



Maine Facts

4.6 mmtce	GHG emissions in 1990
5.73 mmtce	Projected GHG emissions in 2010
1.45 mmtce	Reduction in GHG emissions required in 2010
\$80 million	State budget cost to achieve reductions
\$402 million	Annual revenue loss for state treasury
\$482 million	Total cost to state government
\$2.4 billion	State government 2001 revenues
20.5%	Cost of GHG program as percent of state 2001 revenues
\$328 million	Annual cost of a national program to consumers and businesses
\$3.3 billion	Annual cost of a state program to consumers and businesses
0.5 million	Number of households in Maine in 2000
\$630	Annual cost of a national program per household
\$6,302	Annual cost of a state program per household

The greenhouse gas program would consume 20.5 percent of the entire Maine state budget.

General fund revenues for the Maine state government in 2001 totaled \$2.4 billion. Combining the direct cost of the greenhouse gas program with lost revenues to the state due to slower economic growth reveals the total annual cost to the government would be \$482 million. This is 20.5 percent of total state government revenues in 2001.



A national greenhouse gas program would cost Maine consumers and businesses \$328 million a year due to higher energy costs and lost wages.

The number of tons of greenhouse gas emissions that need to be cut can be multiplied by \$226, the average of 12 estimates by respected researchers and the Energy Information Administration (expressed in 2001 dollars) of the cost to reduce emissions to 7 percent below 1990 levels by 2010. This is the *minimum cost to state consumers and businesses* of a greenhouse gas program, since it assumes a Maine program would be just as efficient (in cost per mmTCE avoided) as would be a national program.

A state greenhouse gas program would probably cost consumers and businesses in Maine *ten times* as much: \$3.3 billion.

A Maine program, like other state-only efforts, is likely to be much less efficient than a national program. States are unable to take advantage of low-cost opportunities to reduce emissions outside their borders or market-based policies that require national implementation. Moreover, for every ton of greenhouse gases Maine avoids, other states and countries would *increase* their emissions by .5 tons, a 50 percent “leakage.” Together, these estimates suggest Maine’s program would cost *ten times as much* as a national program. The most likely cost to consumers and businesses in Maine, then, would be \$3.3 billion.

A state greenhouse gas program could cost the average household in Maine \$6,302 a year.

The likely cost of the Maine greenhouse gas program to consumers and businesses – \$3.3 billion – can be divided by the number of households in the state to reveal the cost per household of a typical greenhouse gas program. (The actual costs would vary depending on choices made by policymakers.) There were 0.5 million households in Maine in 2000, so the cost per household could be \$6,302.

The Cost:

Reducing greenhouse gases to 7 percent below 1990 levels could cost the state government of Maine \$482 million a year in direct expenses and lost revenues. The average household in Maine could lose \$6,302 a year in income.

Is it worth it?

The benefits of reducing greenhouse gas emissions are small or nonexistent. By 2060, global warming is likely to have a small (0.2 percent of GDP) *positive* effect on the U.S. economy and a small (1 to 2 percent of GDP) *negative* effect on the global economy. The global benefits of reducing emissions today are an order of magnitude less than the cost.

Advice to policymakers:

State legislators should oppose new efforts to cap or reduce greenhouse gas emissions because such efforts are expensive, slow economic growth, hurt the poor and elderly, and produce few if any economic or environmental benefits.

State legislators should repeal regulations and subsidies that discourage energy efficiency; encourage sequestration projects that offer additional environmental benefits; and support projects that enhance society’s ability to adapt to gradual changes in climate.

Based on Joseph L. Bast, James M. Taylor, J.D., and Jay Lehr, Ph.D., “State Greenhouse Gas Programs: An Economic and Scientific Analysis,” *Heartland Policy Study #101* (Chicago, IL: The Heartland Institute, February 2003). Copies of the 80–page study are available for \$20 each. Permission is granted to reprint or quote from this *Impact Statement* provided appropriate credit is given.

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