

HOW THE GLOBAL WARMING TREATY WILL HARM THE ECONOMIC HEALTH OF THE STATES

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(Updating *Backgrounder* No. 1143, "The Road to Kyoto: How the Global Climate Treaty Fosters Economic Impoverishment and Endangers U.S. Sovereignty," October 6, 1997.)

Representatives from most of the world's countries soon will gather in Kyoto, Japan, to resolve differences about the United Nations Framework Convention on Climate Change.¹ The dispute primarily revolves around which countries should initiate plans immediately to reduce emissions of such greenhouse gases (GHGs) as carbon dioxide, methane, and chlorofluorocarbons, as well as how drastic those reductions should be.

Of the many proposals submitted, President Bill Clinton's is one of the more modest. This modesty exists, however, only in comparison with the radical nature of the other proposals. A recent news report noted that the President's proposal calls for a "34 percent reduction in U.S. fuel-burning emissions by 2012 but exempts developing countries from such cuts."² President Clinton has stated that his proposal, which will require a radical change in energy use to cut down on greenhouse gas emissions, could be accomplished "with existing technologies or those already on the horizon, in ways that will not weaken the economy but in fact will add to our strength in new businesses and new jobs."³

Recent economic studies, however, belie President Clinton's optimism. His proposal to reduce emissions—which will go into effect eight years after he leaves office—would commit the United States to a set of actions that will cause significant economic hardship, undermine wages, and spur widespread unemployment in every state of the union and most sectors of the economy.

1. The United Nations Framework Convention on Climate Change (UNFCCC) was drafted at the 1992 United Nations Conference on the Environment and Development (UNCED) in Rio de Janeiro, Brazil. Over 150 countries are signatories. For information on the history and recent events surrounding the UNFCCC, see Angela Antonelli, Brett D. Schaefer, and Alex F. Annett, "The Road to Kyoto: How the Global Climate Change Treaty Fosters Economic Impoverishment and Endangers U.S. Sovereignty," Heritage Foundation *Backgrounder* No. 1143, October 6, 1997.
2. Patrice Hill, "White House Backs Off 'Gag' at Climate Summit, But Only Delegation Can Speak for U.S. Position," *The Washington Times*, November 18, 1997, p. A4.
3. "Remarks by the President on Global Climate Change," National Geographic Society, Washington, D.C., October 22, 1997, p. 3; at <http://www.whitehouse.gov/Initiatives/climate/19971022-6127.html>.

THE ECONOMIC COSTS OF CLINTON'S PROPOSAL ON THE STATES

Although considerable doubt exists as to the plausibility, immediacy, and consequences of greenhouse gas emissions,⁴ there have been few questions about the dire economic consequences the global warming treaty would have on the U.S. economy. Numerous independent economic studies have concluded that the U.S. economy permanently would lose between 1 percent and 4 percent of annual growth in gross domestic product (GDP) as a direct result of the treaty.⁵

Yet President Clinton stated on October 22, 1997, that "If we do this [reduce emissions] properly, we will not jeopardize our prosperity—we will increase it."⁶ The President asserts that his proposal would allow the United States to avoid the predicted economic costs. The proposal would implement binding GHG targets to reduce U.S. emissions between 2008 and 2012 with additional reductions by 2017; it also introduces \$5 billion in tax incentives and research and development grants over five years, creates an international system to trade emissions permits, requires developing countries to participate in the treaty, and demands that businesses submit plans to reduce emissions.

The WEFA Group, an independent economic consulting firm, comes to a quite different conclusion, however.⁷ The organization conducted an economic analysis to estimate the economic impact of a climate change treaty with legally binding reductions in GHG emissions for developed countries. The study contains several assumptions that closely emulate the President's proposal.⁸ WEFA economists found that the national economy would be devastated by a climate change treaty based on the President's proposal—permanently losing \$3.3 trillion in output between 2001 and 2020 and suffering total employment declines of 0.7 percent in 2005, 1.3 percent in 2010, and 0.9 percent in 2020.⁹

PROPOSALS TO LIMIT GHG EMISSIONS

Clinton Proposal: Developed countries would be obligated legally to reduce greenhouse gas emissions to 1990 levels between 2008 and 2012, (and a reduction of 34 percent from projected levels in 2012) with further reductions afterward; unspecified participation would be required of developing countries; and an international system for trading permits for greenhouse gas emissions would be developed.

Japanese Proposal: Developed countries would be under legal obligations to reduce greenhouse gas emissions to 5 percent below 1990 levels by 2012.

European Union Proposal: Developed countries would be under legal obligations to reduce emissions to 15 percent below 1990 levels by 2010; such enforcement mechanisms as trade sanctions would be imposed on countries that fail to comply; there would be no change in developing country obligations.

Small Island States Proposal: Developed countries would be under legal obligations to reduce greenhouse gas emissions to 20 percent below 1990 levels by 2010.

Group of 77 Proposal: Developed countries would be under legal obligations to reduce emissions to 35 percent below 1990 levels by 2020.

4. "The Road to Kyoto," pp. 2–8.

5. See Cheryl Hogue, "Raising Energy Prices Dramatically Would Harm Six U.S. Industries, DOE Finds," Bureau of National Affairs, July 15, 1997; "Treasury Officials Cast Doubt on Key Element of White House Climate Plan," *Inside EPA*, Vol. 18, No. 39 (September 26, 1997) p. 8; Mary H. Novak, "Global Climate Change, U.S. Living Standards, and Environmental Quality: The Impact on Consumers," paper prepared for a symposium sponsored by the American Council for Capital Formation, Center for Public Policy Research, Washington, D.C., September 24, 1997; Richard L. Lawson, "Global Warming Treaty Could Freeze U.S. Economic Growth," Washington Legal Foundation *Legal Backgrounder*, Vol. 12, No. 16 (May 2, 1997); Mary H. Novak, "Economic and Energy Sector Implications of Adopting Global Climate Change Policies," WEFA Group, February 5, 1997; Center for Energy and Economic Development, Kyoto Presentation, August 1997; "Climate Change Policies, the Distribution of Income, and U.S. Living Standards," *Special Report*, American Council for Capital Formation, Center for Policy Research, November 1996.

6. "Remarks by the President on Global Climate Change," *op. cit.*

7. WEFA, Inc., formerly the Wharton Econometric Forecasting Associates, Inc., in Philadelphia, Pennsylvania, is consulted by *Fortune* 500 companies, prominent government agencies, world monetary authorities, and leading public policy organizations for its analyses and economic models.

WEFA conducted further analysis to determine the economic effects of the treaty on the individual states and to determine whether the treaty would benefit any of them. The study conclusively finds that the treaty would have a negative effect on nearly every state. (See Appendix.) Specifically, in 2010:

- Wages and salaries would decrease in every state and the District of Columbia for both manufacturing and non-manufacturing jobs. Manufacturing wages by state would decrease by an average of 2.93 percent (\$879 for a \$30,000 salary) and non-manufacturing wages by an average of 1.8 percent (\$540 for a \$30,000 salary).
- Gross state product, or output, would decrease for every state and the District of Columbia by an average of 2.47 percent, or about \$230 billion collectively.
- Total employment would decrease for every state by an average of 1.35 percent, or 2.17 million jobs, even when including the District of Columbia's expected increase in employment of 2,130 jobs.

Moreover, the economy would not recover by 2020, two decades after the President has left office and at least eight years after the United States had reduced greenhouse gas emissions to 1990 levels. Specifically, in 2020:

- Wages and salaries are estimated to decrease in every state and the District of Columbia for both manufacturing and non-manufacturing jobs. Manufacturing wages by state would decrease by an average of 2.21 percent (\$663 for a \$30,000 salary) and non-manufacturing wages by an average of 0.49 percent (\$147 for a \$30,000 salary).
- Gross state product, or output, would decrease for every state and the District of Columbia by an average of 1.36 percent, or \$166 billion.
- Total employment would decrease for all but eight states. The average decrease for all states is 1 percent, or 1.9 million jobs.

Thus, the WEFA economic study clearly indicates that President Clinton's climate change treaty proposal would seriously impair the U.S. economy, lower total employment, and depress wages. Moreover, every state would feel the negative impacts of the proposal. Some states would be particularly hard hit. For example, even though other countries attending the Kyoto conference are calling the President's proposal inadequate, if the President's proposal were enacted:

- Twenty-three states would suffer a decrease of more than 3 percent in manufacturing wages, or \$900 per \$30,000 salary, in 2010;¹⁰
- Nineteen states would lose over 2.5 percent in total output in 2010;¹¹ and
- Ten states would lose over 2 percent of total employment in 2010.¹²

8. *Global Warming: The Economic Cost of Early Action—National Impacts*, WEFA, Inc., 1997, p. 4. Assumptions contained in the study include developing country participation, an international system of tradable emission permits, and binding reductions in GHG emissions to 1990 levels by 2010, which falls neatly between the 2008 to 2012 window proposed by the Clinton Administration. The only fiscal component of the President's proposal not considered in the economic analysis was the \$5 billion tax incentives and research and development. This \$5 billion would be spread out, however, over five years (an average of \$1 billion a year). The insignificance of this amount is apparent when compared to the estimated \$3.3 trillion cumulative cost to the U.S. economy between 2001 and 2020 (an average of \$165 billion per year) if the treaty is adopted.

9. All output figures cited in this paper are in 1992 U.S. dollars.

10. The 23 states are Alaska, Alabama, Arizona, California, Colorado, Georgia, Illinois, Indiana, Kentucky, Michigan, Minnesota, Missouri, Mississippi, Montana, New Mexico, New York, North Carolina, Ohio, Tennessee, Texas, West Virginia, Wisconsin, and Wyoming.

11. The 19 states are Alaska, Alabama, Arizona, California, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Montana, New Jersey, New Mexico, North Carolina, Texas, Virginia, West Virginia, Wisconsin, and Wyoming.

In addition, certain sectors of the economy would suffer greater losses from the treaty than others. Unsurprisingly, the sectors hit hardest would be the manufacturing, mining, and industrial sectors. WEFA found that metal mining would suffer a 9.3 percent loss in output in 2010 from the President's treaty proposal, while other industries, such as the aircraft, apparel, plastics, and drugs and medicine industries, would not be far behind, suffering losses of 8 percent, 8 percent, 6.1 percent, and 5 percent, respectively, in output in 2010.¹³

In a study for the U.S. Department of Energy, the Argonne National Laboratory found that, if the climate change treaty were adopted, all U.S. aluminum smelters and paper producers would be forced out of business; 30 percent of the basic chemical, steel, and cement industries would move to developing countries or be forced to close; and petroleum refinery output would be reduced by 20 percent within 20 years.

Although the plight of these industries has received due attention, however, the media has neglected the detrimental impact of President Clinton's proposal on other sectors of the economy. Three such sectors are the agricultural, service, and trade sectors of the U.S. economy.

THE AGRICULTURAL SECTOR

WEFA economists utilized their data to estimate the effects of the President's proposal on agricultural output at the state level. The results clearly demonstrate that the agricultural sector of the U.S. economy by no means is insulated from the dire consequences that result by artificially retarding economic growth. The WEFA analysis estimates that states would suffer, on average, a reduction of 2.3 percent in agricultural output in 2010—or \$5.8 billion collectively—if the President's proposal were implemented. Moreover, as Chart 1 shows, while most states would suffer a 2.3 percent reduction in agricultural output, no state would experience less than a 2.2 percent loss.

Although the WEFA analysis does not project the effects of the President's proposal on state-level agricultural employment, its national estimates are indicative of the likely effects.¹⁴ For example, WEFA estimates that Florida would experience a 2.6 percent loss in agricultural output in 2010. If this had occurred in 1996, Florida would have lost nearly \$202 million in agricultural output—the equivalent of 0.07 percent of the gross state product.

In primarily agricultural states, the impact would be worse. For example, the 2.3 percent loss predicted for Iowa and South Dakota would represent losses in 1996 of 0.19 percent of gross state product—or over \$130 million—in Iowa and 0.35 percent of gross state product—or \$60 million—in South Dakota. Even states not commonly considered agricultural would suffer, too. For example, Massachusetts is estimated to lose 2.3 percent of its agricultural output in 2010. In 1996 terms, President Clinton's proposal would have cost Massachusetts \$29 million in gross state product.

THE SERVICE SECTOR

The WEFA study also reveals that the service sector would be negatively influenced by the climate change treaty as proposed by President Clinton. The effects of the proposal on the service sector would vary fairly widely among the states. Every state and the District of Columbia would experience a loss of production, however, and all but the District of Columbia would experience a reduction in employment in the service sector. The states and the District of Columbia would lose an average of 2.1 percent in service output (\$57 billion for all states and the District) and 1.5 percent in service employment, or 824,660 jobs, in 2010.

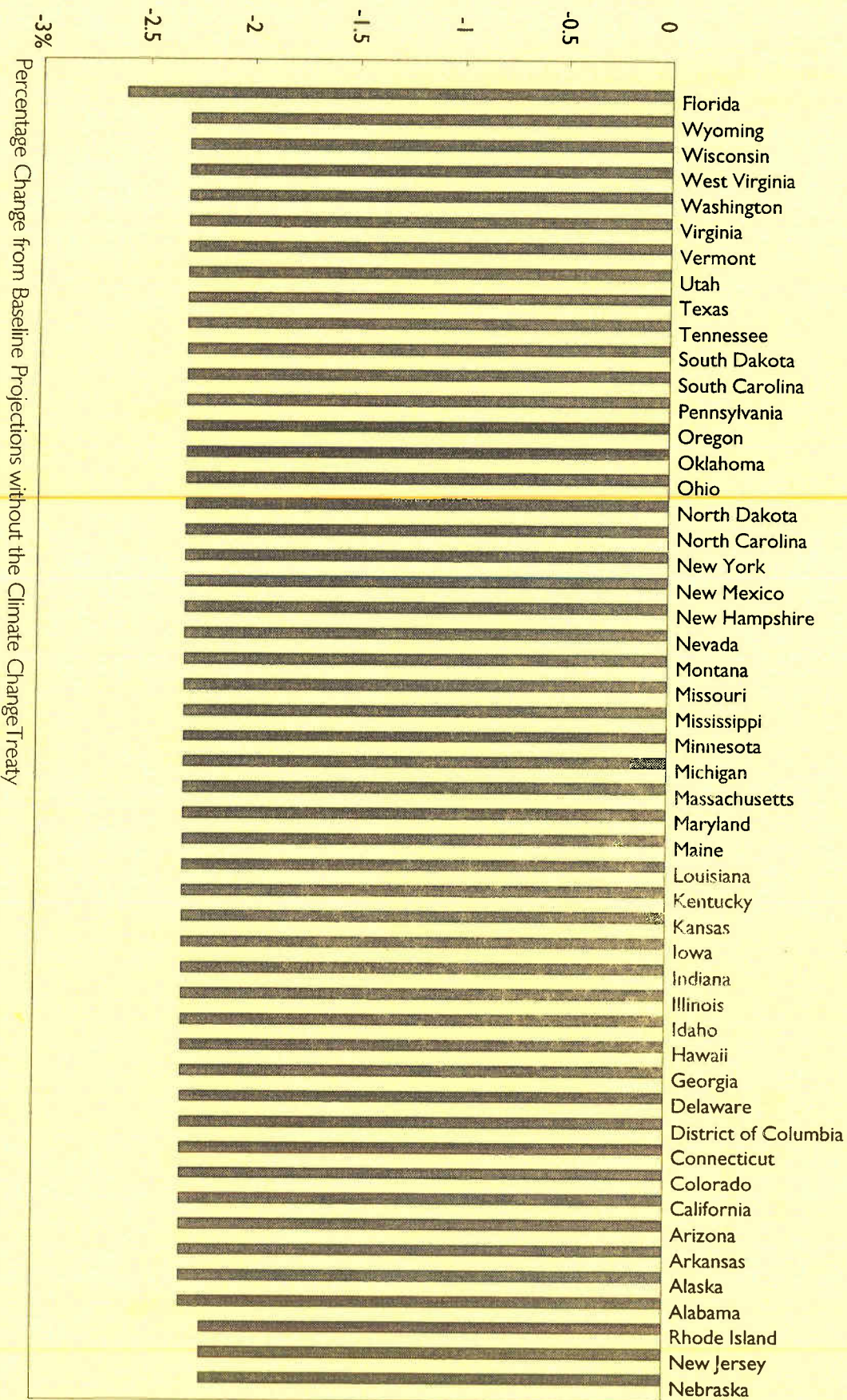
As Chart 2 shows, by level of impact, Virginia, Illinois, New Jersey, Nebraska, Wyoming, Alabama, Wisconsin, North Carolina, Arizona, and Hawaii would be hit particularly hard. All these states would suffer a reduction of at least 2.5 percent in employment and output in the service sector. The District of Columbia—the least affected—would suffer a loss of 1.4 percent in output and see an increase of only 0.4 percent in employ-

12. The 10 states are Alabama, Arizona, Illinois, Indiana, Montana, Nebraska, New Jersey, North Carolina, Wisconsin, and Wyoming.

13. *Global Warming: The Economic Cost of Early Action*, p. 40.

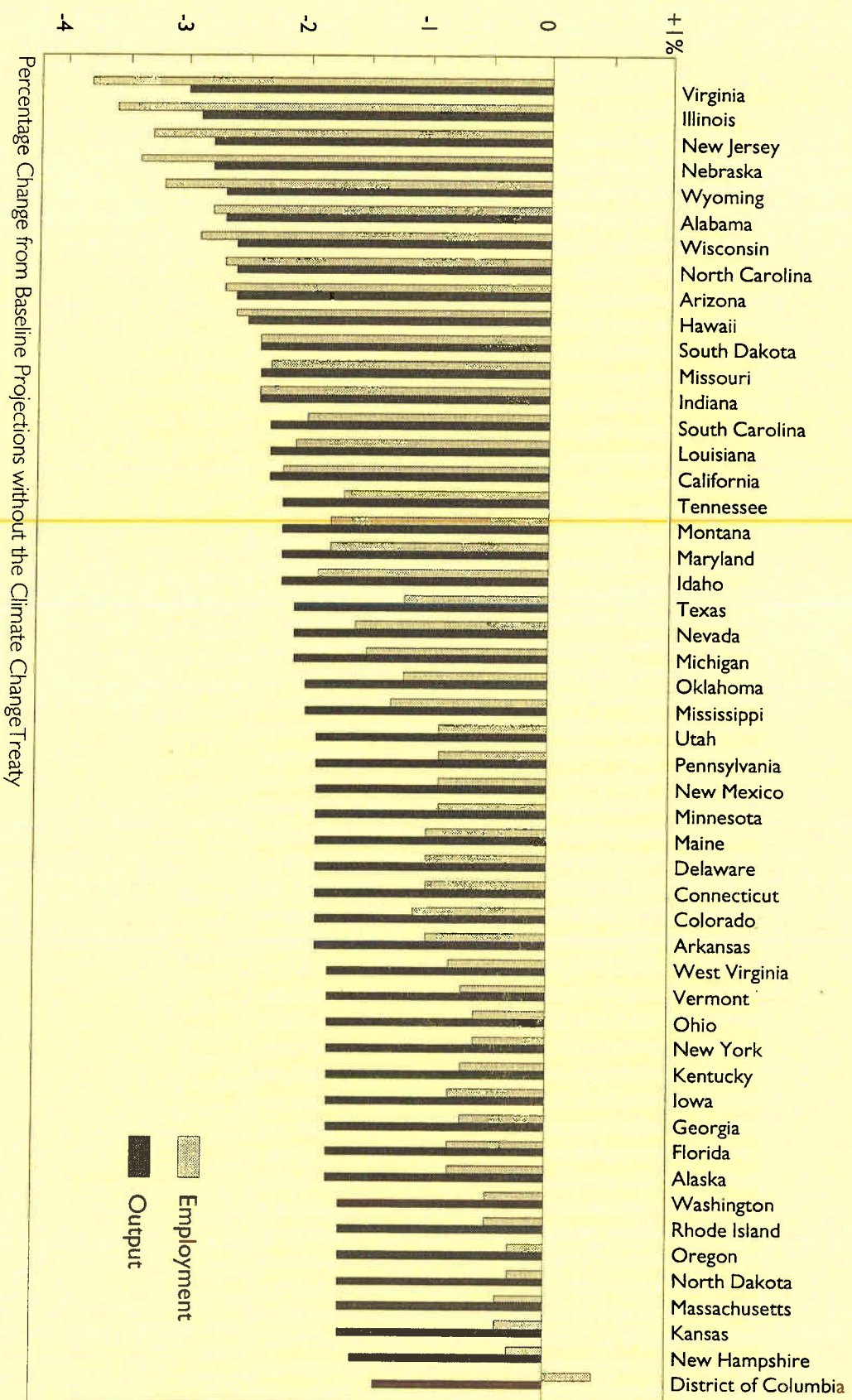
14. *Ibid.*

Impact of the Climate Change Treaty on Output in the Agricultural Sector, by State



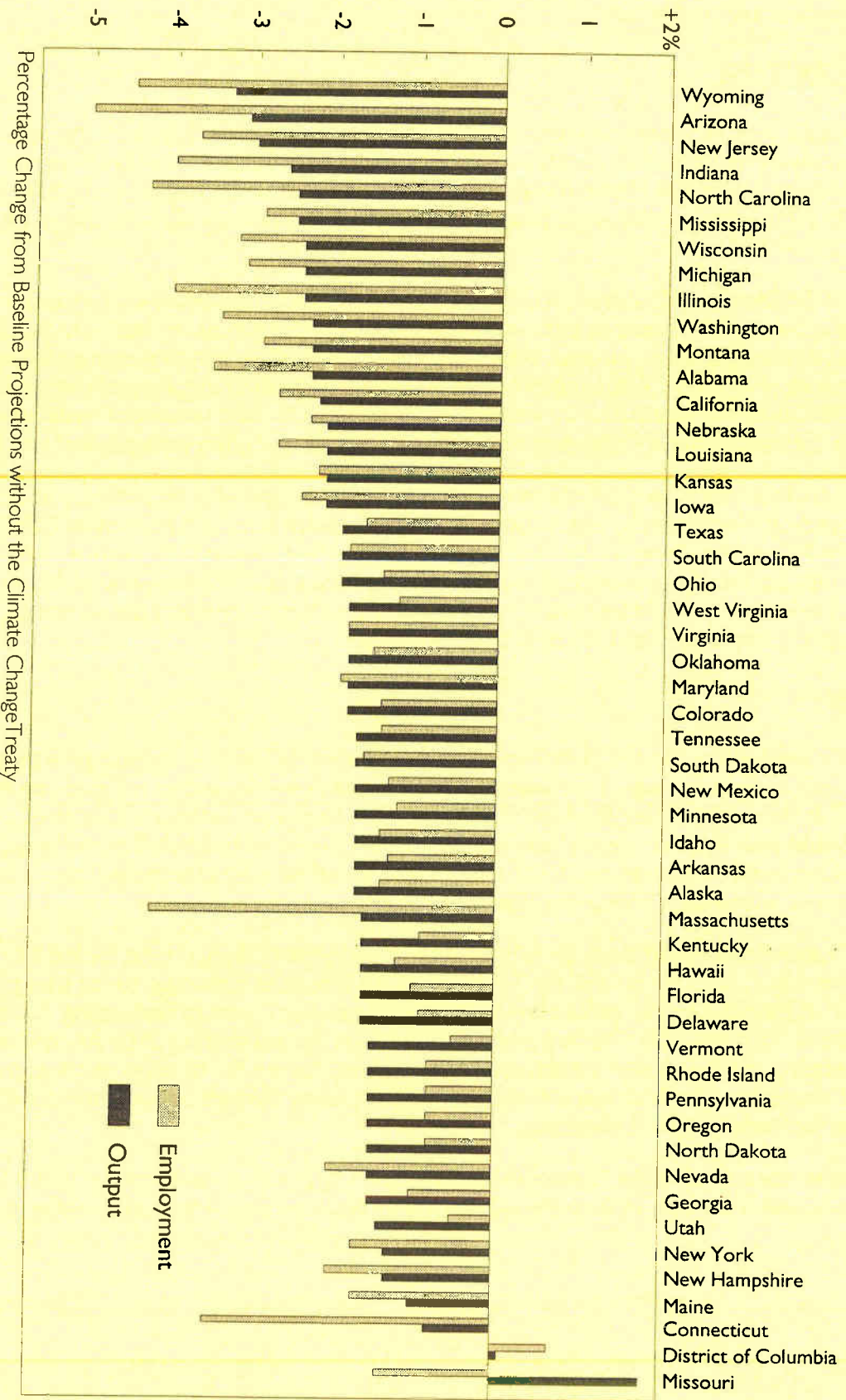
Source: Global Warming: The Economic Cost of Early Action – State Impacts, WEFA, 1997.

Impact of the Climate Change Treaty on Output and Employment in the Service Sector, by State



Source: Global Warming: The Economic Cost of Early Action -- State Impacts, WEFA, 1997.

Impact of the Climate Change Treaty on Output and Employment in the Trade Sector, by State



Source: Global Warming: The Economic Cost of Early Action – State Impacts, WEA, 1997.

ment. Virginia would lose 3.8 percent of employment and 3.0 percent of output in the service sector in 2010 if the President's proposal were adopted. In 1996 terms, for Virginia, this is the equivalent of losing over \$1 billion in gross state product and 34,626 jobs.

THE TRADE SECTOR

The trade sector would also experience significant hardship from the climate change treaty, according to the WEFA study. The analysis indicates that the states and the District of Columbia would experience an average loss of 1.78 percent in output (or \$24 billion for all states and the District of Columbia) and a 2.04 percent loss in employment, or 751,250 jobs, in 2010 in the trade sector if President Clinton's climate change proposal were implemented.

Only Missouri and the District of Columbia would reap any benefits from the treaty—every other state would experience a loss of at least a 0.8 percent in trade-sector output and of 0.5 percent in trade-sector employment. The treaty would hit Arizona, Illinois, Indiana, New Jersey, North Carolina, and Wyoming particularly hard; each would suffer a loss of at least 2.4 percent in output and of 3.7 percent in employment in the trade sector. WEFA estimates that California would lose 2.2 percent of trade output and 2.7 percent of trade employment in 2010. In 1996 terms, this would mean California would lose \$2.9 billion in gross state product and 80,285 jobs.

The impact to the trade sector is particularly troubling because of the growing importance of international trade to the U.S. economy. For example, international trade represented a mere 9 percent of GDP in 1960;¹⁵ today, it accounts for 23 percent. Some 12 million Americans owe their jobs to U.S. exports, including one in five manufacturing jobs and one in three agricultural jobs.¹⁶ The trade sector has been one of the primary sources of growth in the 1990s, but it would be hard pressed to maintain its vitality under the economic constraints imposed by President Clinton's proposal to arrest GHG emissions.

CONCLUSION

President Clinton's proposal to address global warming would result in lower economic growth in every state and nearly every sector of the economy. This lower economic growth would lead to reduced employment and deteriorating wages. Before committing the United States to such an austere economic course of action, Members of Congress should examine the relevant studies closely and assure themselves that the benefits of adopting the global warming treaty would be worth the inevitable costs of curbing greenhouse gas emissions. The Clinton Administration, however, is trying to stifle this necessary scrutiny.

Timothy Wirth, Under Secretary of State for Global Affairs and principal negotiator for the Clinton Administration on global warming, recently briefed the Members of the House of Representatives who plan to attend the third Conference of Parties negotiation session on global warming in Kyoto in December. According to the office of the Speaker of the House, Mr. Wirth warned the Members against voicing their concerns or questions about the global warming treaty and the Administration's proposal during the briefing. Although the "gag order" has since been withdrawn, it illustrates a disturbing inclination on the part of the Clinton Administration to restrict debate on the issue of global warming.

Not only does this stance represent the Clinton Administration's hypocrisy—as Senators, both Mr. Wirth and Mr. Gore loudly criticized the stance of then-President George Bush on global warming during the 1992 Earth

15. Office of the President, Council of Economic Advisers, *Economic Report of the President: 1996*, p. 225.

16. John Sweeney, "Myths and Realities of the Fast Track Debate," Heritage Foundation *Backgrounders* No. 1144, October 22, 1997.

Summit in Rio de Janeiro¹⁷—it also places the Administration in the indefensible position of urging Members of Congress to ignore the welfare of their constituents. Members of both the House of Representatives and the Senate should voice any questions or reservations they have before embarking on a path that would result in reduced economic welfare for their constituents and for the United States in general.

17. Among other statements, then Senators Albert Gore and Timothy Wirth frankly stated responsibility to their constituents in criticizing the Bush Administration's position on global warming. According to the Federal News Service, Federal Information Systems Corporation, Senator Gore made the following statement on the Rio conference in a June 4, 1992, hearing held in the Senate Radio TV Gallery: "[U]nder the Constitution we are charged with the responsibility to advise and consent... we will be meeting... with delegates from most of the important players in these on-going negotiations.... [W]e will be participating in the process pursuant to our constitutional responsibility." At the same conference, Senator Wirth stated, "We also want to make sure that the world is aware of the fact that there are different views [from the Administration] in the United States.... This is a pluralistic government, one with a lot of differences." Senator Wirth was also reported on June 10, 1992, by the Inter Press Service as saying that the Bush Administration's environmental policy was "embarrassing" and designed to appease "very hard-core conservative groups" for political purposes.

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Alaska							
Business Impacts							
Total output (Mil. 92\$)	29,845.62	27,780.11	26,255.80	-5.49	27,655.69	26,954.61	-2.54
Total Employment (000's)	263.03	306.81	304.50	-0.75	358.22	358.97	0.21
Wages & Salaries (Mil. 92\$)							
Manufacturing	465.81	392.71	378.80	-3.54	384.05	375.87	-2.13
Non-Manufacturing	8,073.81	11,023.70	10,888.66	-1.22	15,178.60	15,135.83	-0.28
Arkansas							
Business Impacts							
Total output (Mil. 92\$)	50,154.17	70,606.55	68,936.26	-2.37	92,443.85	91,198.24	-1.35
Total Employment (000's)	1,085.39	1,380.59	1,367.11	-0.98	1,624.58	1,616.67	-0.49
Wages & Salaries (Mil. 92\$)							
Manufacturing	5,726.37	6,455.27	6,277.81	-2.75	7,163.49	7,003.00	-2.24
Non-Manufacturing	17,146.20	25,695.32	25,289.16	-1.58	35,665.22	35,519.89	-0.41
Arizona							
Business Impacts							
Total output (Mil. 92\$)	91,265.94	163,806.86	158,970.20	-2.95	265,460.48	261,505.62	-1.49
Total Employment (000's)	1,895.28	3,181.28	3,087.95	-2.93	4,828.58	4,696.62	-2.73
Wages & Salaries (Mil. 92\$)							
Manufacturing	6,760.39	8,981.36	8,683.51	-3.32	11,900.90	11,589.70	-2.62
Non-Manufacturing	41,428.89	77,085.87	75,093.89	-2.58	133,133.79	132,155.90	-0.73
Alabama							
Business Impacts							
Total output (Mil. 92\$)	82,350.53	105,251.28	102,318.98	-2.79	137,810.57	135,641.55	-1.57
Total Employment (000's)	1,825.66	2,223.91	2,176.52	-2.13	2,612.41	2,556.56	-2.14
Wages & Salaries (Mil. 92\$)							
Manufacturing	10,198.25	10,261.13	9,941.75	-3.11	11,201.53	10,920.16	-2.51
Non-Manufacturing	33,563.00	45,908.14	44,945.91	-2.10	62,039.48	61,646.37	-0.63
California							
Business Impacts							
Total output (Mil. 92\$)	834,139.97	1,277,131.32	#####	-2.61	1,747,460.66	1,723,307.54	-1.38
Total Employment (000's)	12,774.63	16,109.29	15,799.99	-1.92	18,915.72	18,683.21	-1.23
Wages & Salaries (Mil. 92\$)							
Manufacturing	67,146.04	66,501.52	64,378.18	-3.19	65,256.94	63,827.86	-2.19
Non-Manufacturing	335,707.97	516,415.31	506,202.25	-1.98	715,699.98	712,077.61	-0.51
Colorado							
Business Impacts							
Total output (Mil. 92\$)	96,065.56	153,090.57	149,516.38	-2.33	230,218.41	227,633.82	-1.12
Total Employment (000's)	1,898.28	2,855.16	2,825.64	-1.03	3,948.87	3,926.77	-0.56
Wages & Salaries (Mil. 92\$)							
Manufacturing	6,799.76	7,116.02	6,870.88	-3.44	7,411.53	7,237.46	-2.35
Non-Manufacturing	44,725.97	80,470.42	79,206.47	-1.57	135,788.93	135,283.92	-0.37

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Connecticut							
Business Impacts							
Total output (Mil. 92\$)	104,428.93	145,182.86	142,271.14	-2.01	193,853.52	191,750.92	-1.08
Total Employment (000's)	1,583.39	1,776.27	1,753.16	-1.30	1,951.63	1,942.42	-0.47
Wages & Salaries (Mil. 92\$)							
Manufacturing	11,629.50	10,628.42	10,312.94	-2.97	9,967.69	9,762.31	-2.06
Non-Manufacturing	42,514.98	56,932.41	55,826.45	-1.94	68,384.26	68,062.00	-0.47
District of Columbia							
Business Impacts							
Total output (Mil. 92\$)	38,677.46	42,114.71	41,289.01	-1.96	45,661.62	45,077.15	-1.28
Total Employment (000's)	623.28	548.97	551.10	0.39	525.24	524.63	-0.12
Wages & Salaries (Mil. 92\$)							
Manufacturing	673.77	554.66	540.21	-2.61	549.07	538.60	-1.91
Non-Manufacturing	26,492.03	25,216.42	24,946.38	-1.07	27,798.53	27,701.95	-0.35
Delaware							
Business Impacts							
Total output (Mil. 92\$)	27,713.79	36,376.79	35,735.81	-1.76	53,849.64	53,444.14	-0.75
Total Employment (000's)	377.00	464.33	461.54	-0.60	576.61	580.91	0.75
Wages & Salaries (Mil. 92\$)							
Manufacturing	2,574.71	2,504.39	2,429.97	-2.97	2,680.67	2,620.01	-2.26
Non-Manufacturing	8,099.24	11,529.69	11,314.05	-1.87	14,961.00	14,905.39	-0.37
Florida							
Business Impacts							
Total output (Mil. 92\$)	305,318.31	450,515.94	441,594.01	-1.98	610,964.32	604,803.45	-1.01
Total Employment (000's)	6,182.80	8,458.03	8,401.45	-0.67	10,728.52	10,708.12	-0.19
Wages & Salaries (Mil. 92\$)							
Manufacturing	14,672.67	16,766.32	16,489.80	-1.65	17,441.60	17,439.28	-0.01
Non-Manufacturing	140,721.44	231,121.94	227,418.87	-1.60	325,589.54	324,334.71	-0.39
Georgia							
Business Impacts							
Total output (Mil. 92\$)	182,049.89	297,287.85	291,463.53	-1.96	452,033.20	447,299.68	-1.05
Total Employment (000's)	3,528.81	4,868.64	4,834.01	-0.71	6,403.36	6,374.67	-0.45
Wages & Salaries (Mil. 92\$)							
Manufacturing	16,140.96	16,494.39	15,947.02	-3.32	17,590.28	17,115.40	-2.70
Non-Manufacturing	76,211.25	125,670.13	123,663.87	-1.60	185,970.61	185,160.19	-0.44
Hawaii							
Business Impacts							
Total output (Mil. 92\$)	32,461.50	43,049.75	42,024.08	-2.38	55,785.19	55,058.88	-1.30
Total Employment (000's)	524.90	574.91	564.19	-1.86	638.86	631.14	-1.21
Wages & Salaries (Mil. 92\$)							
Manufacturing	456.11	377.07	367.17	-2.63	366.18	358.31	-2.15
Non-Manufacturing	14,846.08	16,718.13	16,378.85	-2.03	20,492.63	20,389.28	-0.50

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State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Iowa							
Business Impacts							
Total output (Mil. 92\$)	66,679.62	93,854.13	91,677.23	-2.32	159,635.45	157,497.79	-1.34
Total Employment (000's)	1,380.53	1,668.52	1,649.83	-1.12	1,945.45	1,938.51	-0.36
Wages & Salaries (Mil. 92\$)							
Manufacturing	7,274.25	7,892.27	7,702.18	-2.41	8,978.20	8,804.50	-1.93
Non-Manufacturing	23,510.68	34,599.69	33,989.23	-1.76	45,943.97	45,737.56	-0.45
Idaho							
Business Impacts							
Total output (Mil. 92\$)	24,826.26	45,853.72	44,740.68	-2.43	80,405.18	79,222.66	-1.47
Total Employment (000's)	492.08	802.27	791.33	-1.36	1,274.45	1,259.25	-1.19
Wages & Salaries (Mil. 92\$)							
Manufacturing	2,188.29	3,242.79	3,146.29	-2.98	5,886.21	5,752.18	-2.28
Non-Manufacturing	9,130.91	16,343.80	16,036.11	-1.88	28,325.14	28,163.20	-0.57
Illinois							
Business Impacts							
Total output (Mil. 92\$)	320,600.47	455,821.51	443,588.31	-2.68	604,650.34	594,099.17	-1.75
Total Employment (000's)	5,678.29	6,711.55	6,531.53	-2.68	7,448.22	7,131.86	-4.25
Wages & Salaries (Mil. 92\$)							
Manufacturing	33,779.43	31,837.94	30,844.45	-3.12	30,948.40	30,162.07	-2.54
Non-Manufacturing	132,439.35	197,994.64	192,707.59	-2.67	268,997.35	266,177.16	-1.05
Indiana							
Business Impacts							
Total output (Mil. 92\$)	132,830.22	170,408.48	165,632.04	-2.80	218,040.26	214,537.51	-1.61
Total Employment (000's)	2,813.79	3,314.77	3,236.75	-2.35	3,789.97	3,683.26	-2.82
Wages & Salaries (Mil. 92\$)							
Manufacturing	22,322.50	23,161.26	22,408.12	-3.25	24,432.21	23,827.85	-2.47
Non-Manufacturing	46,620.80	65,207.83	63,667.71	-2.36	84,668.85	83,991.46	-0.80
Kansas							
Business Impacts							
Total output (Mil. 92\$)	61,460.54	83,692.30	81,759.75	-2.31	107,088.19	105,712.31	-1.28
Total Employment (000's)	1,228.12	1,475.31	1,452.61	-1.54	1,671.39	1,623.76	-2.85
Wages & Salaries (Mil. 92\$)							
Manufacturing	5,761.64	6,386.26	6,202.26	-2.88	6,887.77	6,743.02	-2.10
Non-Manufacturing	23,300.04	33,322.35	32,837.64	-1.45	45,748.91	45,574.66	-0.38
Kentucky							
Business Impacts							
Total output (Mil. 92\$)	83,643.35	116,405.44	113,457.42	-2.53	153,460.59	151,252.15	-1.44
Total Employment (000's)	1,670.00	2,033.33	1,995.76	-1.85	2,361.26	2,332.68	-1.21
Wages & Salaries (Mil. 92\$)							
Manufacturing	9,166.48	10,438.03	10,071.76	-3.51	11,343.06	11,067.32	-2.43
Non-Manufacturing	29,813.97	43,012.67	42,098.50	-2.13	56,497.01	56,178.99	-0.56

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Louisiana							
Business Impacts							
Total output (Mil. 92\$)	101,110.75	123,822.36	120,467.53	-2.71	149,153.82	147,107.61	-1.37
Total Employment (000's)	1,810.87	2,129.61	2,093.05	-1.72	2,407.78	2,380.94	-1.11
Wages & Salaries (Mil. 92\$)							
Manufacturing	5,944.11	5,898.96	5,723.91	-2.97	5,990.37	5,846.07	-2.41
Non-Manufacturing	36,103.75	51,338.45	50,407.66	-1.81	71,828.61	71,473.07	-0.49
Massachusetts							
Business Impacts							
Total output (Mil. 92\$)	182,531.70	262,257.13	257,576.27	-1.78	354,104.56	350,959.77	-0.89
Total Employment (000's)	3,038.64	3,657.01	3,631.85	-0.69	4,129.40	4,130.15	0.02
Wages & Salaries (Mil. 92\$)							
Manufacturing	17,481.25	15,907.00	15,532.65	-2.35	14,922.39	14,639.71	-1.89
Non-Manufacturing	78,599.78	111,777.18	109,686.00	-1.87	129,948.46	129,341.40	-0.47
Maryland							
Business Impacts							
Total output (Mil. 92\$)	123,440.86	166,665.01	162,887.35	-2.27	207,982.40	205,418.35	-1.23
Total Employment (000's)	2,206.30	2,593.89	2,558.75	-1.35	2,891.40	2,868.53	-0.79
Wages & Salaries (Mil. 92\$)							
Manufacturing	6,059.16	5,418.61	5,263.89	-2.86	5,034.92	4,923.00	-2.22
Non-Manufacturing	58,418.66	79,813.73	78,282.49	-1.92	98,863.89	98,385.51	-0.48
Maine							
Business Impacts							
Total output (Mil. 92\$)	26,196.47	35,786.11	35,018.05	-2.15	47,455.28	46,894.79	-1.18
Total Employment (000's)	540.03	625.28	618.67	-1.06	708.41	708.41	0.00
Wages & Salaries (Mil. 92\$)							
Manufacturing	2,460.05	2,401.01	2,334.74	-2.76	2,584.55	2,555.05	-1.14
Non-Manufacturing	9,749.41	12,958.90	12,842.09	-0.90	14,805.48	14,791.39	-0.10
Michigan							
Business Impacts							
Total output (Mil. 92\$)	230,111.29	299,026.99	291,198.16	-2.62	366,831.86	361,927.62	-1.34
Total Employment (000's)	4,347.58	5,236.85	5,142.11	-1.81	6,041.90	5,976.97	-1.07
Wages & Salaries (Mil. 92\$)							
Manufacturing	40,802.46	43,594.03	42,101.75	-3.42	47,681.14	46,498.96	-2.48
Non-Manufacturing	85,785.34	121,307.75	118,801.46	-2.07	152,341.32	151,520.14	-0.54
Minnesota							
Business Impacts							
Total output (Mil. 92\$)	124,829.41	180,484.29	176,236.19	-2.35	240,110.97	237,003.79	-1.29
Total Employment (000's)	2,432.02	2,988.66	2,958.71	-1.00	3,448.27	3,435.79	-0.36
Wages & Salaries (Mil. 92\$)							
Manufacturing	14,820.00	16,384.93	15,867.40	-3.16	18,136.38	17,727.68	-2.25
Non-Manufacturing	50,695.58	73,165.44	71,850.21	-1.80	93,215.14	92,794.27	-0.45

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Missouri							
Business Impacts							
Total output (Mil. 92\$)	121,896.95	157,834.68	154,135.71	-2.34	194,756.23	192,266.20	-1.28
Total Employment (000's)	2,564.74	3,059.59	3,016.47	-1.41	3,481.46	3,440.26	-1.18
Wages & Salaries (Mil. 92\$)							
Manufacturing	12,875.23	12,623.04	12,241.03	-3.03	12,533.99	12,266.92	-2.13
Non-Manufacturing	50,855.28	71,785.72	70,402.14	-1.93	93,165.48	92,646.05	-0.56
Mississippi							
Business Impacts							
Total output (Mil. 92\$)	49,947.79	68,818.43	67,070.73	-2.54	90,718.89	89,351.16	-1.51
Total Employment (000's)	1,090.61	1,299.36	1,278.54	-1.60	1,503.45	1,466.51	-2.46
Wages & Salaries (Mil. 92\$)							
Manufacturing	5,428.01	5,039.00	4,846.07	-3.83	5,247.46	5,064.11	-3.49
Non-Manufacturing	17,348.43	24,759.74	24,312.88	-1.80	33,116.25	32,899.33	-0.66
Montana							
Business Impacts							
Total output (Mil. 92\$)	16,866.06	27,894.39	26,967.93	-3.32	45,910.56	44,943.30	-2.11
Total Employment (000's)	358.70	478.78	467.65	-2.33	604.38	589.09	-2.53
Wages & Salaries (Mil. 92\$)							
Manufacturing	585.68	732.62	701.10	-4.30	1,005.13	953.01	-5.19
Non-Manufacturing	6,770.66	10,557.46	10,340.26	-2.06	15,513.22	15,413.13	-0.65
North Carolina							
Business Impacts							
Total output (Mil. 92\$)	183,828.34	278,801.30	271,082.85	-2.77	386,288.84	380,309.23	-1.55
Total Employment (000's)	3,554.27	4,620.64	4,520.41	-2.17	5,613.31	5,522.45	-1.62
Wages & Salaries (Mil. 92\$)							
Manufacturing	22,718.87	26,143.26	25,199.02	-3.61	27,831.69	26,999.90	-2.99
Non-Manufacturing	64,947.75	101,422.88	99,065.85	-2.32	134,313.74	133,480.62	-0.62
North Dakota							
Business Impacts							
Total output (Mil. 92\$)	14,523.73	21,010.15	20,598.30	-1.96	27,231.49	26,916.04	-1.16
Total Employment (000's)	308.81	389.19	386.96	-0.57	457.92	456.73	-0.26
Wages & Salaries (Mil. 92\$)							
Manufacturing	521.10	607.26	590.78	-2.71	712.83	699.78	-1.83
Non-Manufacturing	5,790.36	8,410.69	8,285.57	-1.49	11,132.08	11,085.85	-0.42
Nebraska							
Business Impacts							
Total output (Mil. 92\$)	41,521.46	54,348.68	52,993.85	-2.49	76,232.89	75,127.74	-1.45
Total Employment (000's)	834.21	1,039.94	1,019.07	-2.01	1,297.46	1,258.81	-2.98
Wages & Salaries (Mil. 92\$)							
Manufacturing	3,032.80	3,338.35	3,258.52	-2.39	3,727.87	3,658.96	-1.85
Non-Manufacturing	15,992.29	23,520.76	23,035.21	-2.06	35,312.38	35,040.80	-0.77

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
New Hampshire							
Business Impacts							
Total output (Mil. 92\$)	29,324.40	41,583.35	40,748.57	-2.01	57,929.64	57,189.81	-1.28
Total Employment (000's)	560.72	679.07	674.20	-0.72	766.18	762.89	-0.43
Wages & Salaries (Mil. 92\$)							
Manufacturing	3,420.73	3,284.27	3,211.79	-2.21	3,181.20	3,128.02	-1.67
Non-Manufacturing	10,553.04	15,250.63	14,991.09	-1.70	18,723.47	18,636.13	-0.47
New Jersey							
Business Impacts							
Total output (Mil. 92\$)	245,386.30	337,697.58	327,045.03	-3.15	435,623.60	427,978.56	-1.75
Total Employment (000's)	3,641.82	4,241.44	4,122.64	-2.80	4,697.62	4,566.64	-2.79
Wages & Salaries (Mil. 92\$)							
Manufacturing	19,352.10	15,453.54	15,001.41	-2.93	13,511.79	13,217.03	-2.18
Non-Manufacturing	101,973.84	153,569.29	150,006.78	-2.32	206,025.66	204,646.59	-0.67
New Mexico							
Business Impacts							
Total output (Mil. 92\$)	35,382.51	48,705.09	47,226.01	-3.04	64,037.95	63,032.93	-1.57
Total Employment (000's)	694.29	899.98	891.85	-0.90	1,108.90	1,105.33	-0.32
Wages & Salaries (Mil. 92\$)							
Manufacturing	1,263.12	1,421.59	1,373.27	-3.40	1,829.28	1,789.79	-2.16
Non-Manufacturing	14,967.62	22,360.85	21,980.81	-1.70	32,440.31	32,321.00	-0.37
Nevada							
Business Impacts							
Total output (Mil. 92\$)	48,637.16	88,511.00	86,614.03	-2.14	131,529.75	130,071.78	-1.11
Total Employment (000's)	843.02	1,396.46	1,373.74	-1.63	1,910.58	1,893.24	-0.91
Wages & Salaries (Mil. 92\$)							
Manufacturing	1,150.44	2,064.09	2,018.34	-2.22	2,695.67	2,656.06	-1.47
Non-Manufacturing	21,871.02	43,400.77	42,959.28	-1.02	65,165.34	65,149.91	-0.02
New York							
Business Impacts							
Total output (Mil. 92\$)	532,880.04	697,707.99	682,694.20	-2.15	800,800.40	791,230.06	-1.20
Total Employment (000's)	7,922.83	8,764.19	8,655.72	-1.24	9,252.27	9,190.30	-0.67
Wages & Salaries (Mil. 92\$)							
Manufacturing	35,327.95	33,020.93	31,979.81	-3.15	31,696.58	30,881.39	-2.57
Non-Manufacturing	237,569.52	310,066.72	305,515.29	-1.47	364,563.39	363,791.79	-0.21
Ohio							
Business Impacts							
Total output (Mil. 92\$)	264,614.04	336,983.07	329,120.72	-2.33	416,404.74	411,292.86	-1.23
Total Employment (000's)	5,295.81	6,224.45	6,166.24	-0.94	7,059.41	7,035.74	-0.34
Wages & Salaries (Mil. 92\$)							
Manufacturing	38,487.09	37,272.46	35,945.26	-3.56	37,694.39	36,751.57	-2.50
Non-Manufacturing	98,960.51	140,724.55	138,280.72	-1.74	178,182.00	177,374.61	-0.45

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Oklahoma							
Business Impacts							
Total output (Mil. 92\$)	65,785.53	84,739.65	82,702.95	-2.40	106,518.94	105,056.11	-1.37
Total Employment (000's)	1,354.91	1,585.88	1,565.23	-1.30	1,759.12	1,739.97	-1.09
Wages & Salaries (Mil. 92\$)							
Manufacturing	4,881.55	4,379.46	4,273.72	-2.41	4,537.43	4,455.26	-1.81
Non-Manufacturing	25,712.07	36,028.70	35,487.32	-1.50	50,524.60	50,302.68	-0.44
Oregon							
Business Impacts							
Total output (Mil. 92\$)	71,943.33	98,486.20	96,435.91	-2.08	122,555.78	121,045.59	-1.23
Total Employment (000's)	1,475.43	1,866.08	1,855.42	-0.57	2,192.65	2,189.79	-0.13
Wages & Salaries (Mil. 92\$)							
Manufacturing	7,481.18	8,077.04	7,854.39	-2.76	9,092.48	8,890.43	-2.22
Non-Manufacturing	30,009.44	44,555.61	43,885.74	-1.50	57,628.72	57,401.79	-0.39
Pennsylvania							
Business Impacts							
Total output (Mil. 92\$)	281,933.74	364,063.98	355,999.46	-2.22	436,088.93	430,886.09	-1.19
Total Employment (000's)	5,310.83	5,939.03	5,906.79	-0.54	6,301.56	6,306.19	0.07
Wages & Salaries (Mil. 92\$)							
Manufacturing	30,686.47	28,464.35	27,654.53	-2.85	26,968.88	26,390.33	-2.15
Non-Manufacturing	112,443.18	158,539.32	156,116.22	-1.53	204,345.50	203,643.52	-0.34
Rhode Island							
Business Impacts							
Total output (Mil. 92\$)	22,146.19	27,203.52	26,676.69	-1.94	33,418.05	33,071.64	-1.04
Total Employment (000's)	442.32	461.70	459.51	-0.47	480.14	480.69	0.11
Wages & Salaries (Mil. 92\$)							
Manufacturing	2,323.73	1,671.42	1,636.35	-2.10	1,499.68	1,473.44	-1.75
Non-Manufacturing	9,035.04	10,329.08	10,167.99	-1.56	11,881.11	11,833.96	-0.40
South Carolina							
Business Impacts							
Total output (Mil. 92\$)	76,872.36	113,159.87	110,364.48	-2.47	154,047.14	151,878.79	-1.41
Total Employment (000's)	1,676.53	2,041.58	2,017.75	-1.17	2,368.52	2,354.68	-0.58
Wages & Salaries (Mil. 92\$)							
Manufacturing	10,056.49	10,301.93	10,020.96	-2.73	11,197.71	10,970.47	-2.03
Non-Manufacturing	28,710.98	43,066.47	42,238.55	-1.92	54,653.38	54,381.10	-0.50
South Dakota							
Business Impacts							
Total output (Mil. 92\$)	17,213.15	26,147.05	25,539.57	-2.32	40,932.50	40,335.71	-1.46
Total Employment (000's)	348.81	431.97	426.99	-1.15	517.22	513.22	-0.77
Wages & Salaries (Mil. 92\$)							
Manufacturing	1,103.21	1,162.33	1,129.56	-2.82	1,202.70	1,168.68	-2.83
Non-Manufacturing	5,746.11	8,355.42	8,197.73	-1.89	11,811.77	11,720.86	-0.77

APPENDIX:
Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Tennessee							
Business Impacts							
Total output (Mil. 92\$)	124,875.23	175,410.54	171,243.55	-2.38	239,910.64	236,877.56	-1.26
Total Employment (000's)	2,535.33	3,116.16	3,080.81	-1.13	3,682.38	3,657.92	-0.66
Wages & Salaries (Mil. 92\$)							
Manufacturing	14,652.19	14,728.13	14,261.16	-3.17	15,106.39	14,736.41	-2.45
Non-Manufacturing	46,766.30	70,795.52	69,548.76	-1.76	97,028.28	96,565.57	-0.48
Texas							
Business Impacts							
Total output (Mil. 92\$)	464,733.13	702,414.00	683,617.94	-2.68	962,683.16	949,872.42	-1.33
Total Employment (000's)	8,244.32	10,566.02	10,442.87	-1.17	12,700.50	12,631.01	-0.55
Wages & Salaries (Mil. 92\$)							
Manufacturing	34,441.23	42,663.13	41,179.14	-3.48	44,224.07	42,923.91	-2.94
Non-Manufacturing	185,350.45	290,990.31	287,014.68	-1.37	447,032.34	445,380.67	-0.37
Utah							
Business Impacts							
Total output (Mil. 92\$)	43,912.87	73,370.95	71,821.71	-2.11	113,955.12	112,634.53	-1.16
Total Employment (000's)	954.33	1,512.13	1,503.77	-0.55	2,221.45	2,224.86	0.15
Wages & Salaries (Mil. 92\$)							
Manufacturing	3,503.15	4,568.83	4,460.14	-2.38	6,249.77	6,173.55	-1.22
Non-Manufacturing	18,806.92	35,080.93	34,573.61	-1.45	61,384.62	61,166.65	-0.36
Virginia							
Business Impacts							
Total output (Mil. 92\$)	170,324.87	252,521.39	245,807.90	-2.66	345,357.18	340,017.62	-1.55
Total Employment (000's)	3,130.03	3,942.41	3,878.95	-1.61	4,732.36	4,675.88	-1.19
Wages & Salaries (Mil. 92\$)							
Manufacturing	11,794.03	12,836.89	12,547.97	-2.25	13,225.37	12,979.61	-1.86
Non-Manufacturing	75,879.09	111,333.11	109,009.58	-2.09	148,705.33	147,816.95	-0.60
Vermont							
Business Impacts							
Total output (Mil. 92\$)	13,173.09	19,019.97	18,606.60	-2.17	25,145.96	24,854.44	-1.16
Total Employment (000's)	274.80	332.73	331.22	-0.45	379.28	380.99	0.45
Wages & Salaries (Mil. 92\$)							
Manufacturing	1,369.14	1,457.17	1,428.92	-1.94	1,461.23	1,441.28	-1.37
Non-Manufacturing	4,980.73	6,994.71	6,875.11	-1.71	7,774.30	7,742.47	-0.41
Washington							
Business Impacts							
Total output (Mil. 92\$)	134,191.82	205,639.65	200,964.92	-2.27	262,028.34	258,799.32	-1.23
Total Employment (000's)	2,411.27	3,206.59	3,161.22	-1.41	3,808.38	3,752.72	-1.46
Wages & Salaries (Mil. 92\$)							
Manufacturing	12,451.39	14,099.26	13,737.56	-2.57	15,420.62	15,131.10	-1.88
Non-Manufacturing	57,424.58	89,126.11	87,454.88	-1.88	115,752.08	115,097.62	-0.57

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Projected Costs to the States of the Global Warming Treaty

State	1996	2010			2020		
		Without Treaty	With Treaty	Percentage Difference	Without Treaty	With Treaty	Percentage Difference
Wisconsin							
Business Impacts							
Total output (Mil. 92\$)	120,596.55	151,772.90	147,755.64	-2.65	181,629.44	179,046.84	-1.42
Total Employment (000's)	2,603.44	3,114.72	3,048.28	-2.13	3,527.64	3,475.72	-1.47
Wages & Salaries (Mil. 92\$)							
Manufacturing	18,241.54	19,035.15	18,426.58	-3.20	19,867.08	19,366.04	-2.52
Non-Manufacturing	44,465.96	64,261.59	62,767.31	-2.33	80,429.02	79,943.17	-0.60
West Virginia							
Business Impacts							
Total output (Mil. 92\$)	32,761.20	40,743.01	39,674.95	-2.62	49,000.84	48,298.63	-1.43
Total Employment (000's)	698.10	824.01	817.68	-0.77	928.99	928.63	-0.04
Wages & Salaries (Mil. 92\$)							
Manufacturing	2,547.08	2,498.30	2,419.32	-3.16	2,711.66	2,657.11	-2.01
Non-Manufacturing	12,707.24	17,925.33	17,632.98	-1.63	23,988.96	23,888.04	-0.42
Wyoming							
Business Impacts							
Total output (Mil. 92\$)	13,301.08	16,699.98	16,144.08	-3.33	21,609.69	21,201.79	-1.89
Total Employment (000's)	221.42	252.69	245.28	-2.93	282.34	274.28	-2.85
Wages & Salaries (Mil. 92\$)							
Manufacturing	303.76	356.14	344.78	-3.19	396.10	387.23	-2.24
Non-Manufacturing	4,561.39	5,985.97	5,836.59	-2.50	7,772.63	7,712.77	-0.77