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*CONGRESSIONAL TESTIMONY*

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# **The Economic Impact of Cap and Trade**

**Testimony before  
The Energy and Commerce Committee  
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My name is David Kreutzer. I am the Senior Policy Analyst in Energy Economics and Climate Change at The Heritage Foundation. The views I express in this testimony are my own, and should not be construed as representing any official position of The Heritage Foundation.

I want to thank the members of the Energy and Commerce Committee for this opportunity address you concerning the economic impacts of cap and trade policies.

### **What is the problem with carbon dioxide (CO2)?**

Carbon dioxide is not a toxin, is not directly harmful to human health, and is not projected to become so—even without legislative or regulatory action. CO2 is fundamental to all known forms of life. Indeed, studies show that increased CO2 levels are beneficial for crop production.

Nevertheless, driven by concern that increasing levels of CO2 (and other greenhouse gasses) will lead to a warmer world and cause environmental damage, there have been calls to significantly restrict emissions of all greenhouse gasses but especially CO2. Among the proposals to reduce CO2 levels are carbon taxes and cap-and-trade.

### **The Costs**

The typical cap-and-trade proposal seeks to reduce CO2 emissions by 60 percent to 80 percent by 2050 where the comparison year is usually 2005. The Center for Data Analysis at The Heritage Foundation did an analysis of the costs of meeting the goals of the Lieberman-Warner bill, S.2191, last spring. The report on this analysis is attached.<sup>1</sup>

Our analytical models are not suited to making projections beyond 2030. Nevertheless, the economic impacts of this cap-and-trade program in just the first two decades were extraordinary. The estimated aggregate losses to Gross Domestic Product (GDP), adjusted for inflation, are \$4.8 trillion. By 2029 the job losses in the manufacturing sector will be nearly 3 million. This is over and above the nearly one million manufacturing job losses that most economists predict will occur even in the absence of global-warming legislation.

The manufacturing job losses are shown in an attached chart taken from a study of an EPA mandated 70 percent cut in CO2.<sup>2</sup> Also attached is a map showing the relative importance of manufacturing to a state's economy.

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<sup>1</sup> William W. Beach, et al., "The Economic Cost of the Lieberman-Warner Climate Change Legislation," Center for Data Analysis Report #08-02.

[http://www.heritage.org/Research/EnergyandEnvironment/upload/cda\\_0802.pdf](http://www.heritage.org/Research/EnergyandEnvironment/upload/cda_0802.pdf)

<sup>2</sup> David W. Kreutzer and Karen A. Campbell, "CO2-Emissions Cuts: The Economic Costs of the EPA's ANPR Regulations," Center for Data Analysis Report #08-02, October 29, 2008, The Heritage Foundation. [http://www.heritage.org/Research/EnergyandEnvironment/upload/CDA\\_08\\_10.pdf](http://www.heritage.org/Research/EnergyandEnvironment/upload/CDA_08_10.pdf)

Some of the workers forced out of manufacturing will find employment in the service sector but overall the economy loses jobs. In some years this overall job loss exceeds 800,000.

Note: Current law already has many provisions for curtailing CO2 emissions. They range from local renewable-portfolio mandates to increased nationwide Corporate Average Fuel Economy (CAFE) standards to subsidies for ethanol production. While the reductions in CO2 emissions are included for the purposes of meeting the emissions targets, the considerable cost of these programs is not included in our analysis. This is because the costs are attributable to existing legislation and will occur even without additional laws or regulations. Of course, if they were included, job and GDP loss totals would be even higher.

### **Why Is It So Costly?**

Eighty-five percent of our energy use today is based on CO2 emitting fossil fuels. The ability to switch to non-CO2-emitting energy sources over the next 20 years is limited and expensive. Therefore, significant cuts in CO2 emissions require significant cuts in energy use. The energy cuts, in turn, reduce economic activity, shrink GDP and destroy jobs.

The cap-and-trade schemes, as well as more straight-forward carbon taxes, limit emissions by making energy sufficiently more expensive that they cut their energy use. In addition to having a direct impact on consumers' budgets for electricity, gasoline, heating oil and natural gas, these higher energy costs force cutbacks on the production side of the economy and lead to lower output, employment and income.

It is important to note, these losses occur after consumers, workers and businesses have adjusted as well as they can to the higher energy costs. After adjusting for inflation, household energy prices rise 29 percent above the business as usual prices, even though consumers will have switched to smaller cars, live in more energy efficient houses and make greater use of public transit. The lost comfort, convenience and satisfaction of making these changes are not included in our calculation of economic impacts, though the costs would be very real.

### **Green Stimulus?**

Production drops even though firms will have adopted more energy efficient technologies and processes. To reiterate, the trillions of dollars of lost GDP and the hundreds of thousands of lost jobs occur even after homes and businesses have made the switch to greener ways of doing things. The hoped-for green-job gain is a mirage.

Attached is a copy of a page from a 1945 issue of *Mechanix Illustrated*. It shows a cyclist pedaling a jerry-rigged generator to power hair dryers in a Parisian beauty salon. Though not the sort of green job that is currently talked about, this human-powered generator illustrates why costly energy policies are not a stimulus.

A person on a bicycle generator would do very well to average 150 watts of output during a day. At this level, a modern-day cyclist/generator could produce electricity worth 10-15 cents per day at retail prices. With sufficient subsidies, people could be induced to power such generators and the proponents could then point to the “green” jobs that have been “created.” What is not seen is the value of the cyclists’ forgone output elsewhere. Even at minimum wage, the value of the labor is \$52.40 per day. So each human powered generator would shrink the economy by over \$50 per day. This is not an economic stimulus.

Alternative energy schemes that require subsidies or that require protection from competing with conventional sources of power cannot be economic stimuli—their output is worth less than their inputs. An industry whose inputs cost more than its output is making the economy smaller and will necessarily reduce overall income.

### **The Tax**

Implementing a cap-and-trade program to cut emissions by 70 percent creates a transfer within the United States that is equivalent to taxes on the order of \$250 billion to \$300 billion per year, just for the years 2012 to 2030. The combined transfer is about \$5 trillion in just the first 20 years. This takes the purchasing power from the households and turns it over to the federal government or to whomever the government assigns the rights to the permits for emissions (allowances). This would be one of the largest taxes in the economy—almost twice as large as the highway use taxes.

Because of the transfer, in this case, is similar in magnitude to the lost GDP, we need to be clear on the distinction. A cap and trade program with an emissions reduction profile similar to that of last year’s Lieberman-Warner bill, will lead cause an aggregate \$5 trillion of transfers after it destroys \$4.8 trillion of national income (GDP).

In colloquial terms, the pie gets smaller by nearly \$5 trillion and then a \$5 trillion piece is cut out and redistributed.

### **Back-Door Protectionism**

Cap-and-trade programs frequently include provisions to protect domestic industries from competition with firms in countries that haven’t adopted similarly costly mechanisms for reducing CO<sub>2</sub>. While the intent is certainly understandable, the provisions create the possibility of a protectionist wolf in global warming clothes.

Putting these protectionist policies into operation is a bureaucratic nightmare. Every product from every country will need to be judged for how much of an advantage it may have due to different carbon-cutting regimes. Since different countries can have different approaches and since different manufacturers can use different technologies and processes, assigning an offsetting CO<sub>2</sub> tariff will necessarily involve arbitrary decisions. The potential for a trade war is very real.

### **The Gain**

Analysis by the Environmental Protection Agency (EPA) shows that a 60 percent reduction in CO2 emissions by 2050 will reduce CO2 concentrations by only 25 ppm in 2095. This reduction would affect world temperatures by 0.1 to 0.2 degrees C. In other words it makes virtually no difference.<sup>3</sup>

### **Conclusion**

The Center for Data Analysis at The Heritage Foundation analyzed a proposal to cut CO2 emissions by 70 percent. Such a cut would have little impact on global temperatures. At best, the trade-off is trillions of dollars in lost income and hundreds of thousands of lost jobs vs. a fraction of a degree change in average world temperature 85 years from now.

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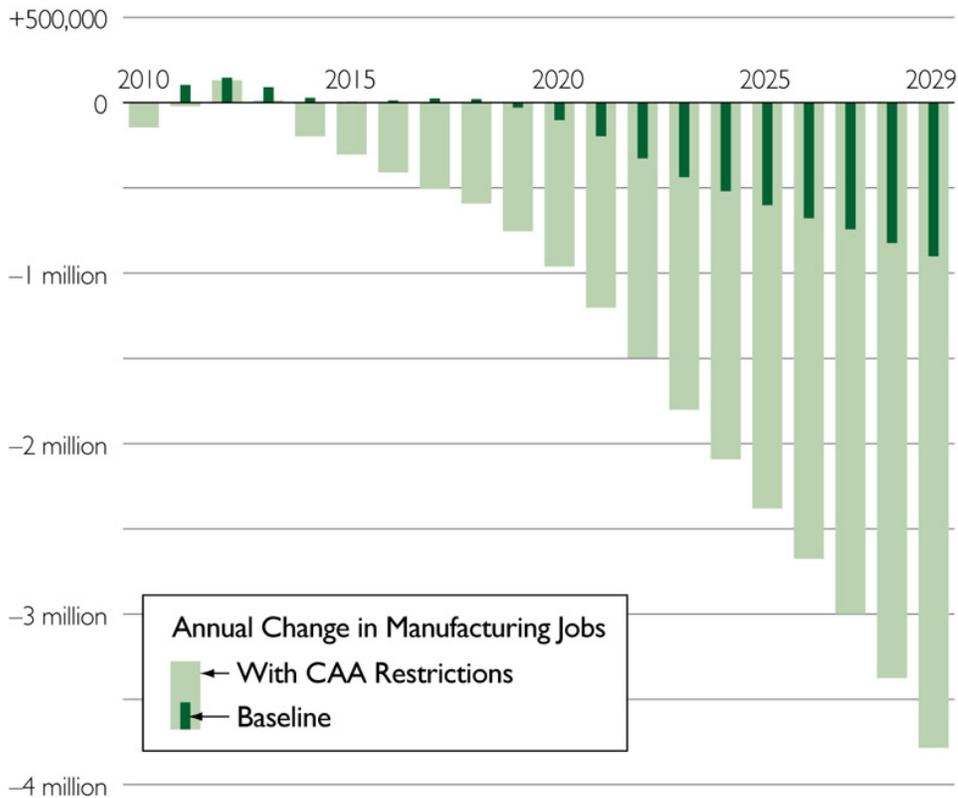
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<sup>3</sup> According to the EPA, Lieberman-Warner would lower CO2 emissions from 719 ppm to 694 ppm. See: [http://www.epa.gov/climatechange/downloads/s2191\\_EPA\\_Analysis.pdf](http://www.epa.gov/climatechange/downloads/s2191_EPA_Analysis.pdf), p. 192. Further, the IPCC says the most likely temperature response for each doubling of CO2 is 3 degrees C. The likely range is 2-4.5 degrees C for each doubling of CO2. These numbers are from the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, "Climate Change 2007: The Scientific Basis: Summary for Policy Makers," p. 21. Accessed at: [http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4\\_SPM\\_PlenaryApproved.pdf](http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf), March 26, 2009

Therefore, the EPA and IPCC numbers predict Lieberman-Warner's impact on world temperature likely would be between .1 and .23 degrees with the most likely difference being .15 degrees C.

## Manufacturing Jobs Will Take Significant Hit

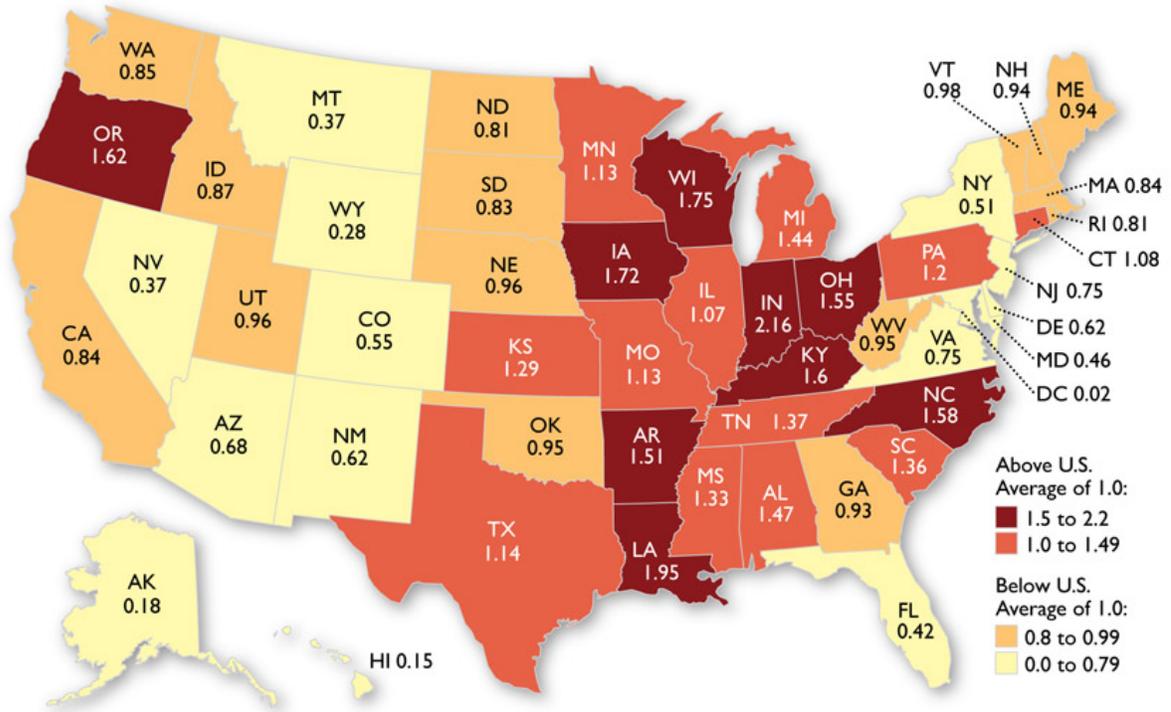
Primarily due to increasing productivity, manufacturing can expect to see employment losses approaching 1 million jobs even without restrictions on CO<sub>2</sub> emissions. This is the baseline case. Higher energy costs from CO<sub>2</sub> restrictions under the Clean Air Act will lead to nearly 3 million more lost jobs in addition to the baseline losses.



**Source:** Center for Data Analysis, Heritage Foundation calculations from the Global Insight macroeconomic model.

# State-by-State Manufacturing Intensity

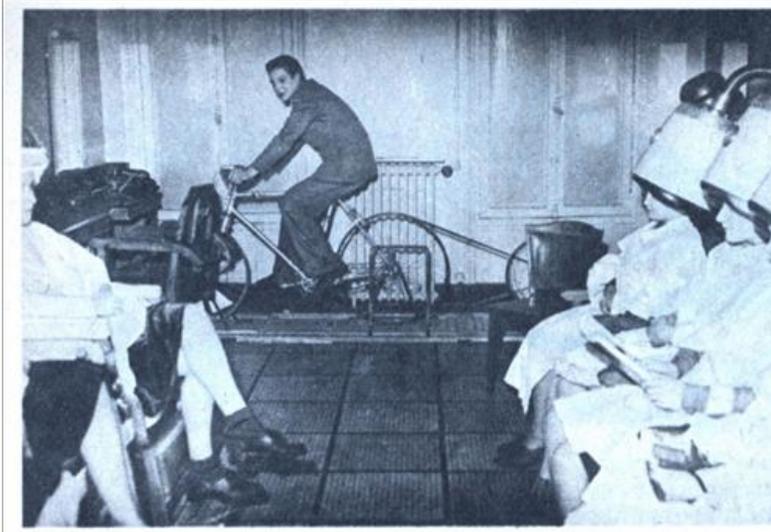
This map shows how much of each state's gross state product comes from manufacturing compared to the U.S. average. States with figures less than 1.0 have less manufacturing than the U.S. average, and states with figures greater than 1.0 have more manufacturing.



Source: Heritage Foundation calculations based on data from Bureau of Economic Analysis, Gross Domestic Product by State, 2007, at <http://www.bea.gov/regional/gsp/>.

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# Green Stimulus



**Leg Power** replaces electricity in this Parisian beauty salon, where Madame has her hair dried despite the lack of coal-generated current. An ingenious beautician hires unemployed 6-day bicycle racers to peddle away on a bike, the back wheel of which is attached to a small generator! The current runs 6 driers.

*Mechanix Illustrated*, May 1945