

## **Responses to Follow-up Questions for the Select Committee on Energy Independence and Global Warming**

David W. Kreutzer, Ph.D.  
Senior Policy Analyst  
The Heritage Foundation

**1. What is the single most productive action that Congress can do to stimulate the economy?**

Though the single policy likely to have the strongest immediate impact would be tax relief for the most productive sectors of the economy, the policy that pays off at the greatest rate would be unblocking access to America's energy. Opening up the Outer Continental Shelf and other federal properties to exploration and production will cost the government zero, generate royalty revenues, and reduce our dependence on more costly imported energy.

**2. Do you support including additional spending for the nuclear industry as part of a carbon-free portfolio included in second stimulus plan?**

All energy sources should compete without subsidies. Production that only occurs with subsidies is production that reduces economic growth—it creates output whose value is less than the value of the inputs. On the other hand, regulations that allow legal challenges whose only purpose is to impede nuclear development should be eliminated. The same would hold for regulations that are used only to impede the development of any energy source.

**3. Many studies show that imposing limits on carbon emissions will slow U.S. economic and job growth. How can imposing a cap and tax system to reduce GHG emissions which would tend to cause households and businesses to substitute more expensive renewable energy for lower cost fossil fuels have a positive impact on the economy?**

Cap and tax won't have a positive impact on the economy. Imposing taxes on the most cost-efficient forms of energy will necessarily reduce economic productivity. Analysis done at The Heritage Foundation's Center for Data Analysis found the cuts in carbon dioxide prescribed by the Lieberman-Warner bill of 2008 would have reduced Gross Domestic Product by nearly \$5 trillion dollars in just the first 20 years. At that point the

carbon dioxide reductions are only half way to the ultimate 70 percent reduction target.

**4. How would a cap and trade scheme impact the U.S. economy? What would such a program do to employment levels and national income? Can you briefly explain the Heritage Foundation's study of the Lieberman-Warner bill?**

Because the United States generates 85 percent of its energy with carbon-based fuels and because sufficient quantities of affordable alternatives will not be available in the near future, large cuts in carbon dioxide lead to large cuts in energy use. Since energy is a critical input for a modern economy, cap and trade will throttle economic activity, reduce incomes and eliminate jobs.

The Heritage Foundation analysis of the Lieberman-Warner bill projected the bill would cost the economy nearly \$5 trillion in lost GDP (even after adjusting for inflation) and reduce manufacturing employment by nearly 3,000,000 jobs. Though some of those released from manufacturing employment will find jobs in other sectors, the net employment reduction exceeds 800,000 jobs in some years. All of these impacts are in just the first 20 years of the program.

**5. How would you describe a green job? Would you consider your job a "green job?" Does your work on energy economics change the net employment rate?**

It seems even those promoting "green" jobs have a difficult time defining them. Reducing some environmental impact relative to some status quo might be part of a definition. Whatever the definition might be, the job losses found with our econometric analysis includes any offsetting "green" job creation. That is, even after any "green" jobs are created, manufacturing will lose an addition 3 million jobs by 2029.

The equations in our macroeconomic model have been estimated using decades of real-world data. As energy prices rose and fell over those years, consumer and producer responses get built into the equations. We know that higher energy prices cause consumers to use less energy and seek out more efficient cars, appliances, housing, etc. In addition manufacturers seek out more energy efficient capital and production processes when confronting higher energy costs. So, those firms providing products and services that help consumers and other firms cope with higher energy prices can see employment increases. Though the model may not identify particular firms that gain employment, the net employment impact on the economy and on different sectors is

calculated. The great variation in energy prices over the past several decades allows us to estimate how the different parts of the economy will respond to future changes in energy costs.

In an attempt to support his argument for “green” job creation, another economist publicly claimed that I have a green job since much of what I do deals with climate policies. That may well be true, but it doesn’t support his argument that green jobs stimulate the economy. Here is why: I had a job before my current one. I drive the same car. I live in the same house. I pay the same amount for groceries, utilities and virtually everything else. The money paid to me as a climate-change analyst cannot be simultaneously paid to somebody else. Nor can I do the job I had before simultaneously with my current one. In short, there has been no increase in employment, and no induced or indirect employment increases as a result of my “green” job. Ignoring this cost of “green” job “creation” is a consistent and serious fault with studies claiming a “green” stimulus from either higher energy prices or directed “green” spending.

**6. Do your job projections account for “green job” growth?**

Yes. The job losses we calculate are after any “green job” creation. A fuller answer is provided in Question 5 and copied here:

The equations in our macroeconomic model have been estimated using decades of real-world data. As energy prices rose and fell over those years, consumer and producer responses get built into the equations. We know that higher energy prices cause consumers to use less energy and seek out more efficient cars, appliances, housing, etc. In addition manufacturers seek out more energy efficient capital and production processes when confronting higher energy costs. So, those firms providing products and services that help consumers and other firms cope with higher energy prices can see employment increases. Though the model may not identify particular firms that gain employment, the net employment impact on the economy and on different sectors is calculated. The great variation in energy prices over the past several decades allows us to estimate how the different parts of the economy will respond to future changes in energy costs.

**7. How is the European Union’s Cap and Trade Scheme working to reduce greenhouse gases? Are they on track to meet their target set by the Kyoto Protocol?**

Here is a quote from a November 2008 press release of the United Nations Framework

Convention on Climate Change Secretariat:

*“Data submitted to the United Nations Framework Convention on Climate Change (UNFCCC) shows that emissions of 40 industrialized countries that have greenhouse gas reporting obligations under the Convention remained in 2006 below the 1990 level by about 5%, but rose by 2.3 percent in the time-frame 2000 to 2006.*

*“For the smaller group of those industrialized countries that have ratified the Kyoto Protocol, emissions in 2006 were about 17% below the Kyoto baseline, but still growing after the year 2000. The initial decrease in Kyoto countries’ emissions mainly came about through the economic decline of economies in transition (countries in eastern and central Europe) in the 1990s.”*

[[http://unfccc.int/files/press/news\\_room/press\\_releases\\_and\\_advisories/application/pdf/081117\\_ghg\\_press\\_release.pdf](http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/081117_ghg_press_release.pdf)]

It seems that though Kyoto signatories are below the Kyoto baseline, the cuts are primarily due to economic decline that Soviet-influenced countries suffered in the early 1990s. The overall emissions have been increasing since the year 2000.

**8. If households and businesses want to substitute renewable energy for conventional fuels, can't they make that choice without additional government subsidies? How would increased energy costs affect household consumer spending?**

Of course people already have choices for renewable energy. Indeed, in some situations renewable energy (even without a subsidy) is more cost effective. For example, photovoltaic solar panels have provided electric power in satellites for over thirty years. Subsidies are needed only when the alternatives are more costly.

As energy costs rise, consumers make predictable adjustments. Over time, they will switch to smaller cars and smaller houses. They will pay extra for appliances and other products that use less energy. They will travel less and turn thermostats down in winter and up in summer. But even after these adjustments, consumers will pay higher prices for electricity, gas, heating oil and gasoline and they will spend more, in total, on energy. Of course, this means households will have less to spend on other things.

In addition to paying higher energy costs directly, consumers will pay higher prices for virtually all products and services as the embedded energy costs for these other goods

are reflected in their prices.

**9. What would the impact of a cap and trade system like the Lieberman Warner bill impact per capita GHG emissions in the U.S?**

Current emissions per capita in the U.S. are about 20 tons per year. The Lieberman-Warner target for 2050 was a 70 percent reduction in total emissions. Since the population of the U.S. is projected to increase by 42 percent by 2050, per capita emissions would have to drop to about 4.2 tons per year. A 70 percent drop in total emissions by 2050 translates to more than a 78 percent drop in per capita emissions. If population increases beyond 2050, per capita emissions would have to decline in proportion even though total emissions would be constant.

**10. If the U.S. were to reduce GHG emissions to 60 to 80 percent below current levels by 2050 but major developing countries do not slow their strong emission growth, what would the impact on GHG concentrations in the atmosphere be?**

The Intergovernmental Panel on Climate Change estimates that world temperatures rise between 2 and 4.5 degrees C for every doubling of CO<sub>2</sub> concentration. In its analysis of the Lieberman-Warner bill, the Environmental Protection Agency estimated that world carbon dioxide concentration would drop from 719 ppm to 694 ppm in 2095. This is .05 of a doubling. Therefore, Lieberman-Warner by itself would reduce average world temperature in 2095 by 0.1 to 0.23 degrees C.

**11. What is your analysis of the net economic effect if a cap-and-trade is created to raise revenue for directed renewable spending? Would the net result negatively impact the American economy?**

Our analysis of the Lieberman-Warner cap-and-trade legislation projected lost national income (GDP) would be nearly \$5 trillion in just the first 20 years, even after adjusting for inflation. Our assumption in this analysis is that the economy is allowed to adapt as efficiently as possible given the constraints of the Lieberman-Warner and other existing legislation. Optimal adjustment means an additional dollar of renewable spending is only done if there are no other ways of achieving carbon reductions with less cost. Forced spending on renewable fuels or technology can violate this rule of optimality. For instance, if spending \$10,000 on a more efficient car reduces CO<sub>2</sub> emissions the same amount as using \$12,000 of renewable fuels in a less efficient car, consumers would opt

for the more efficient car and the non-renewable fuel. Mandated spending on renewable fuels would force the second and more costly choice.

So, directing cap-and-trade revenues to renewable spending would actually increase the cost of cap-and-trade compared to rebating the revenue via either tax cuts or deficit reductions.