Questions submitted to Paul Cicio of the Industrial Energy Consumers of America by: The Honorable Joe Barton and the Honorable Fred Upton

1. You testified that other nations provide energy subsidies and other support for their industrial base. Do you have any reason to believe those other countries will seek to increase the cost of energy on their industrial sectors?

Answer to 1: No. There is no reason to believe that developing countries will increase the cost of energy to their industrial sectors. Several countries like China and India have already made public statements that they will not impose a cap on GHG emissions for fear it will impact their economic growth. They will not impose costs on their manufacturing sector because it is their engine of economic growth, jobs and export revenues. Placing a cap on GHG emissions limits their output of manufacturing product which is not desirable.

a. **Do you have any reason to believe that those other nations will not seek to take strategic advantage of higher energy prices in the United States?**

Answer to a: There is no question that developing countries will use carbon as a competitive advantage. Their costs are already lower than ours to begin with, often because of energy subsidies and when our costs go up because of US imposed cap and trade the advantage will become even more pronounced.

Our policy of offsets is also a competitiveness problem. Allowing US companies to purchase international offsets means these investments could subsidize our competitors in developing countries. For example, the Clean Development Mechanism (CDM) has already funded projects in manufacturing sites in developing countries. This policy will also mean that offsets are creating jobs in developing countries versus here in the US. Where the capital is invested is where the jobs are created. International offsets are an incentive to developing countries to not commit to GHG reductions. If they commit to reductions, their offset revenue stream would stop. China taxes CDM projects which generates revenues for the government.

2. How much negotiating leverage would we have with China, India, and other developing industrial economies if we unilaterally raise energy prices on our industrial production?

Answer to 2: None. Unilaterally raising energy prices on US manufacturers is an incentive for developing countries to not take on commitments to reduce absolute GHG emissions. Higher US manufacturing costs thru higher energy and GHG compliance costs means that they can more easily compete with us, gain market share and increase their profits.

3. You testified that each manufacturing production unit has a cost break-even point, above which the manufacture will not have any choice but to shut down. How do higher energy prices affect this break even point?

Answer to 3: For many manufacturing companies, natural gas and electricity costs are one of its most significant variable costs and often determine whether a given manufacturing site can be competitive. For example, 1/10th of a cent per KWh has determined whether a steel company can afford to operate its plant and turn a profit. If a manufacturing facility's energy costs go up without its competitor's energy prices going up, they are at a distinct competitive disadvantage.

For example, a $50 per ton carbon price added to the price of natural gas would increase its price by $2.74 per MM Btu according to the EIA. From today's price of about $4.30 per MM Btu, that would represent about a 63 percent increase in cost. It is highly improbable that a manufacturer would be able to reduce other costs in order to be competitive, given these circumstances.

Higher energy costs also make it easier for energy intensive products that are produced in countries that subsidize energy or countries that have an abundant supply of natural gas to use it as a competitive advantage. Higher costs in the US make it easier for the likes of Russia and Middle East countries to take market share from US produced product.

a. **Do economic models accurately capture the cost break-even point? And, if not, do you think models of climate legislation impact accurately predict the economic hits on industrial jobs?**

Answer to a: No. To our knowledge, there are no economic models that can accurately determine cost break-even points for the manufacturing sector or the loss of jobs. Remember, manufacturers compete with other US manufacturers and international manufacturers. Even if the US government developed a model to determine break even points for US manufacturing, it would not be able to do so for our foreign competition.

The manufacturing sector has over 250,000 manufacturing sites that make a significant array of products that use diverse technology and the varying age of the equipment make it virtually impossible to forecast break even points.

It is even harder to model climate legislation break even impacts on manufacturing because the variables increase significantly.

Two examples:
1. Models are unable to predict the increased price of natural gas that will occur as a direct result of higher demand for natural gas by the electric utility industry since there are no new nuclear plants or coal fired power plants with CCS technology that will be available for the next 10 years. And, because the price of natural gas sets the marginal price for electricity, the model will also not be able to tell how much higher the price of electricity will go. Demand for natural gas, supply of natural gas and the marginal price of electricity are all dynamic and intrinsically linked.

2. Climate legislation will raise de-regulated electricity prices higher than regulated electricity prices. Plus, coal fired utility prices will be impacted more than nuclear. Given the examples above, each manufacturing site will be impacted differently based on its physical location and no model can predict the breakeven point and the loss of jobs.

b. Does the Energy Information Administration get the impacts on the manufacturing sector right?

Answer to b: No. Both the EIA and EPA models are unable to reliably forecast cost impacts on the manufacturing sectors.

4. Proponents of cap and trade like to cite the example of the Clean Air Act acid-rain trading program as a cost-effective example of what cap and trade would be like. Is this a reasonable test case for imposing a $CO_{2\ cap}$ and trade scheme on the entire United States? If not, why not?

Answer to 4: No it is not a reasonable test case. The acid rain trading was confined to only electric utilities which are small in number and do not have international competition. Utilities have the ability to pass higher costs onto their customers and manufacturers do not. Importantly, cost effective end of pipe SO2 removal technology was available as was low sulfur coal. Lastly, the technology existed such that SO2 emissions could be reduced without constraining the production of electricity.

GHGs are all together different and much more complex. There is no cost effective end of pipe technology. There are over 250,000 manufacturing sites and hundreds of thousands of commercial buildings. Manufacturers have international competition. Manufacturers, in general, cannot reduce absolute GHG emissions and grow. They can improve energy efficiency but not absolute emissions and increase their thru put. Imposing a carbon cap distorts energy supply and price for the entire country.

There are other policy options that can significantly achieve GHG reductions cost effectively without using cap and trade.

5. Would you elaborate on the potential problems with regulating carbon trading? Will regulators be able to prevent fraud and abuse?

Answer to 5: Unlike electric utility SO2 emissions that are monitored electronically at the smoke stack, CO2 must be calculated. Each reduction is an individual project. As such, each project is subject to error or subject to fraud. And, because we are talking about millions of projects, it is very difficult to monitor accuracy, especially if we include international offsets. Because there is billions of dollars at stake, the opportunity for fraud is high. Carbon reductions and offsets have potential credit default swap (CDS) characteristics. Once the carbon is sold and if the underlying project later fails, you have the same financial problem that caused the mortgage

crisis. In that case, the underlying asset was the mortgage market whose value declined. With millions of carbon reduction projects, who is going to monitor to ensure the carbon was reduced that someone had purchased?

The US government has been unable to prevent excessive speculation and market power in mature commodity markets like oil and natural gas. Carbon trading will be even more difficult because it does not have a product that is physically deliverable.

As an example, in 2007, the Amaranth hedge fund was found to have controlled almost 60 percent of the natural gas market before it imploded.

Secondly, from January to August 2008, the price of natural gas rose from about $7.00 mm Btu to $14.00 mm Btu. At the same time, US production rose by 7 percent, national inventories were comfortably within their five year average and demand was essentially unchanged when compared to the same time in the previous year. There was not a supply versus demand reason for the price to double, but it did. IECA has calculated the run up had cost consumers about $40 billion dollars.

Congress has still not acted to prevent excessive speculation.

a. What have we learned from past experience in Europe?

Answer to a: Cap and trade in Europe significantly drove up the prices of electricity. The higher energy costs have resulted in energy intensive businesses moving out of Europe to developing countries that are not likely to have a carbon cap. A significant number of jobs have been lost.

The EU ETS had also caused electric utilities to fuel switch from coal to natural gas, driving up the cost of natural gas.

b. How will volatility or abuse in carbon trading markets affect U.S. manufacturing?

(See number five above.) Volatility adds costs and financial risks on top of an already volatile energy commodities market. Market power abuse, which happens regularly in natural gas, increases the price.

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Submitted by:

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