

**TESTIMONY BEFORE THE  
UNITED STATES SENATE  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS**

**"Green Jobs Created by Global Warming Initiatives"**

**TUESDAY, SEPTEMBER 25, 2007**

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Thank you to the members of the Committee on Environment and Public Works for inviting me to provide this testimony today.

I am Wayne Winegarden, a partner in the economics consulting firm Arduin, Laffer & Moore Econometrics. Our firm provides research and analysis to clients on economic, regulatory and fiscal issues.

A recent study that I have co-authored with Dr. Arthur Laffer, which is enclosed at the end of my testimony, examined the expected impacts of cap-and-trade legislation on the U.S. economy. Our analysis concluded that if implemented, cap-and-trade legislation would impose significant economic costs on the U.S. economy.

In my testimony today, I would like to emphasize three key economic consequences from passing cap-and-trade legislation.

First, passing cap-and-trade legislation is akin to imposing an energy supply shock on the U.S. economy.

Fossil fuels currently account for 86 percent of our total energy consumption. Renewable energy sources are not currently able to replace an adequate amount of the lost energy output from fossil fuels. Consequently, in the short-term, meaningfully limiting greenhouse gas emissions can be achieved only through limiting our supply of energy. Disrupting the country's energy supplies, whether by domestic legislation or from a foreign oil embargo, is the definition of an energy supply shock.

The U.S. economy has endured several significant energy supply shocks over the last 40 years. These have included:

- The OPEC oil embargo of 1974-75, which dramatically increased oil prices as a direct result of OPEC's drastic reduction in world oil supplies.
- The oil supply disruptions of 1979-81, which also dramatically increased oil prices due, in part, to another Mid-East-related interdiction in world oil supplies.
- Iraq's invasion of Kuwait in 1990 that created another severe disruption in global oil supplies.

The experience from the historical energy supply shocks all tell the same story – energy supply shocks cause the U.S. economy to decline, the number of unemployed people to rise, and the value of the stock market to fall. On average, the previous energy supply shocks caused oil prices to spike 113.2 percent, the nation's economy to shrink by 2.1 percent, and the unemployment rate to rise by 2.6 percentage points. With respect to today's economy, a 2.6 percentage point increase in the unemployment rate is equivalent to the loss of nearly 4 million jobs.

Over a longer-term horizon, a legislated energy supply shock could have significant negative implications with respect to the potential growth prospects of our economy. The extent of the economic costs is directly related to the severity of the required emissions reduction and the speed with which the economy can adjust its productive and consumption behavior to the new incentives created by the cap-and-trade legislation.

To provide a sense of the potential economic costs, based on the average real growth rate in the economy of 3 percent a year, and assuming that energy efficiency (or the U.S. economy's ability to produce the same amount of output with less energy) accelerates to the higher energy efficiency rates that were associated with the energy crises of the 1970's, compliance with the Kyoto Protocol would reduce total economic activity by 5.2 percent in 2020 compared to where it would be without the cap-and-trade legislation.

The implications of such a discrepancy are significant. Due to the reduction in economic growth, by 2020 every man, woman, and child would be about \$2,700 poorer than the baseline scenario – or about \$10,800 for a family of 4.

The second key economic consequence from passing cap-and-trade legislation is that regardless of one's position on the global warming consensus, cap-and-trade legislation is an inferior policy choice to address global warming concerns. The Congressional Budget Office, Alan Greenspan, Paul Volker, and Gregory Mankiw are just a few of the notable economists/economic organizations that have also concluded that cap-and-trade legislation is the wrong policy to address global warming concerns.

Cap-and-trade legislation is inefficient, in part, because the supply-and-demand curves across all of the markets that use energy are not known with certainty when the initial cap-and-trade policies are established; and the marketplace is dynamic causing the supply-and-demand curves to shift over time, and oftentimes in unpredictable ways.

By definition of the cap-and-trade quantity constraint, the quantity of the emission allowances cannot change and may become substantially inappropriate in subsequent years. Changes in supply-and-demand, then, can only be accommodated through changes in prices causing significant price volatility as the dynamic marketplace adjusts over time. Price volatility increases overall economic instability, with detrimental effects for economic growth and jobs.

The European experience with cap-and-trade exemplifies these fundamental flaws. The value of the greenhouse gas allowances in Europe nose-dived in April 2006 due to a mismatch between the allowances granted and actual market demand. While some observers try to explain these variations as a result of poor planning on the part of governments, such extreme price volatility is a natural consequence of policies that arbitrarily cap quantities. This price volatility is what should have been predicted prior to Europe's implementation of cap-and-trade, and supports the contention that cap-and-trade is not the appropriate policy response for addressing the issues related to greenhouse gas emissions.

The third key economic consequence arises because global warming regulations will only be effective if these regulations are universally adopted across the globe. Failure to achieve universality in a global warming policy will greatly reduce its environmental effectiveness and yet will not significantly reduce its economic costs. If only one-half of the earth implements pollution reducing environmental policies, total pollution emitted would decline but by far less than one-half of the decline if the whole earth implemented the same pollution reducing environmental policies. Pollution of the environment is truly as global as the earth's stratosphere. Chinese pollution affects global warming from Santiago, Chile to Vladivostok, Russia and from polar ice cap to polar ice cap. An environmental policy imposed on one specific location will only push polluting industries out of that location and into other locations more polluting tolerant. While the earth's atmosphere could be little impacted, production in the specific location could be devastated.

As an example of companies locating jobs based on low-cost energy, Dow Chemical has created an explicit strategy to expand its manufacturing capacity using overseas partners that, in part, have access to cheaper energy supplies. Another example, the Aluminum industry, including United Company RUSAL, Alcoa Inc., and Norsk Hydro ASA, has been moving aluminum production out of countries with

higher energy costs (including the U.S.) in search of cheaper power sources. Increasing energy costs in the U.S. relative to other countries through cap-and-trade legislation will accelerate these trends causing production and jobs to leave the U.S. at an even faster pace.

The costs of reducing carbon emissions are by no means trivial; therefore, it is not enough to simply press forward in the name of global warming. Global warming may well be serious, but so are the economic consequences from combating global warming. What we can say with a high degree of certainty is that policies designed to reduce greenhouse gas emissions per se would have a large and negative impact on the long term growth of America. Consequently, environmental action at all costs is not the answer.

Our analysis illustrates that cap-and-trade legislation is the wrong policy that will impose significant economic costs on the U.S. economy, and will create significant economic disincentives, which are increased when global warming policies are used as a means to increase the government's revenues – regardless of the intended government spending program to which the money is dedicated.

However, if appropriately constructed, a pro-active government policy can be implemented which reduces the amount of carbon emissions while minimizing (if not eliminating) the potential adverse economic impacts. Such a policy will simultaneously implement a carbon tax with a static dollar for dollar reduction in marginal income tax rates. The combination of a higher carbon tax coupled with lower marginal income tax rates would simultaneously reduce overall carbon emissions while mitigating the potential adverse economic impacts from the proposed carbon tax increase by increasing the incentives in the economy to work, invest and innovate. The pro-growth incentives from a marginal tax rate reduction are an integral part of an environmental policy that addresses a potential risk while safeguarding our current economic progress.