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CONGRESSIONAL TESTIMONY

**Job Creation and Carbon Dioxide
Regulation**

**Testimony before
Subcommittee on Regulatory Affairs,
Stimulus Oversight, and Government
Spending
United States House of Representatives**

April 6, 2011

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My name is David Kreutzer. I am Research Fellow 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.

Energy and CO₂

Energy is the foundation of modern economies. This is as true now as it has ever been. Over the past 30 years, even as America switched economic emphasis from the production of energy-intensive commodities such as steel to services and high-tech production, our per-capita energy use has been essentially flat, and total energy use has grown along with population. In 2007, this per-capita consumption was the equivalent of nearly 60 barrels of petroleum per year.


The United States gets about 85 percent of its primary energy from fossil fuels, and carbon dioxide is an unavoidable product of fossil-fuel energy use. Cutting CO₂ emissions restricts energy use as well. Substitutes for fossil-fueled energy exist but are typically much more expensive.

Last year, the Center for Data Analysis at The Heritage Foundation compared the costs of wind and solar electricity to the cost of coal-fired electricity.¹ The figure below is taken from that report and shows that wind and solar power would be 80 percent to 280 percent more expensive than coal-fired electricity.

The High Cost of Renewable Energy Systems

Using wind and solar energy systems to provide 100 percent of electricity could double or triple household electric bills.

Average Electricity Bill for a Family of Four, by Exclusive Energy Source

Energy System	Costs		
	Monthly	Annually	
Coal	\$188.66	\$2,263.90	
Onshore wind	\$339.58	\$4,075.02	
Offshore wind	\$403.65	\$4,843.75	
Solar thermal	\$504.03	\$6,048.34	
Solar photovoltaic	\$717.82	\$8,613.85	

Sources: Heritage Foundation calculations, and U.S. Energy Information Administration, "2016 Levelized Cost of New Generation Resources from the Annual Energy Outlook 2010," at http://www.eia.doe.gov/oiaf/aeo/electricity_generation.html (March 30, 2010).

¹ David Kreutzer *et al.*, "A Renewable Electricity Standard: What It Will Really Cost Americans," Heritage Foundation *Center for Data Analysis Report* No. 10-03, May 5, 2010, at <http://www.heritage.org/Research/Reports/2010/05/A-Renewable-Electricity-Standard-What-It-Will-Really-Cost-Americans>.

Though the costs of some renewables may decline, their ability to substitute for conventional fuels in significant scale is questionable. The Congressional Budget Office's review of the American Clean Energy and Security Act of 2009—the Waxman–Markey cap-and-trade bill—noted: “Energy conservation and most renewable energy sources are projected to play relatively limited roles over the entire period, mainly because most kinds of renewable energy provide power intermittently.”²

Cutting CO₂

Whether CO₂ is restricted by levying a tax, imposing caps, or by mandating regulations, the associated energy cuts will lead to lost economic activity. The resulting losses in national income will be similar for different approaches even though regulation may not generate government revenues.

Under a regime that taxes CO₂ directly, the transfer of revenue is not the immediate source of economic damage. The damage is a result of the behavioral changes brought about by the tax.

For instance, imagine that a \$3 million-per-gallon excise tax on milk would limit consumption to one gallon per year for what we can assume would be one very rich milk lover. The tax revenue in this case would be \$3 million per year. Rebating a penny to each of 300 million Americans would make this tax and rebate a revenue-neutral policy. However, the damage to the economy would be many times the \$3 million. If milk consumption were forced down to one gallon per year, the dairy industry would be devastated. Milking parlors would be scrapped, herds would be slaughtered, and dairy processors would have to write off the value of their equipment and lay off workers. These would be the sources of the economic damage from our hypothetical tax on milk.

Regulations that would have the effect of reducing milk consumption to one gallon per year would have a similarly devastating impact on the dairy industry and our economy even though they generate no government revenue. In addition, for the same reduction in CO₂ emissions, regulations are likely to be even costlier than a tax or a cap-and-trade regime because such regulation reduces the market flexibility needed to most efficiently achieve the targets.

The Environmental Protection Agency's proposal to “tailor” the Clean Air Act (CAA) exposes the significant administrative costs of the regulatory approach. The EPA estimates that the Clean Air Act would raise the number of entities needing Title V permits from the current level of about 15,000 to 6 million.³

² Congressional Budget Office, “The Costs of Reducing Greenhouse-Gas Emissions,” November 23, 2009, p. 10, at http://www.cbo.gov/ftpdocs/104xx/doc10458/11-23-GreenhouseGasEmissions_Brief.pdf (April 4, 2011).

³ Robin Bravender, “EPA Issues Final ‘Tailoring’ Rule for Greenhouse Gas Emissions,” *The New York Times*, May 13, 2010, at <http://www.nytimes.com/gwire/2010/05/13/13greenwire-epa-issues-final-tailoring-rule-for-greenhouse-32021.html> (April 4, 2011).

Cost of CO₂ Cuts

When the Center for Data Analysis at The Heritage Foundation analyzed the economic impact of the Waxman–Markey cap-and-trade bill, it found that the legislation, if enacted, would have:

- Cut national income (gross domestic product, or GDP) by a cumulative total of \$9.4 trillion between 2012 and 2035 and
- Would have reduced employment by nearly 2.5 million jobs by 2035.⁴

Even when using the Intergovernmental Panel on Climate Change’s estimates of the sensitivity of world temperature to CO₂ levels, the reductions in CO₂ wrought by Waxman–Markey would have moderated temperature increases by only thousandths of a degree by 2050 and a few tenths of a degree by 2100.

Another approach to restricting CO₂ emissions would be a renewable energy standard. A typical RES sets standards for minimum fractions of electricity that must be generated from renewable sources and ratchets up this minimum over time.

Last year, the Center for Data Analysis analyzed the economic impact of an RES that increased by 1.5 percentage points per year the fraction of electricity that must come from renewable sources starting in 2012 and going to 2035.⁵ According to this analysis, such an RES would:

- Cause employment to track about 1 million jobs lower for the years 2016–2035,
- Reduce national income (GDP) by a cumulative \$5.2 trillion from 2012–2035, and
- Add \$10,000 to a family of four’s share of the national debt by 2035.

EPA Regulation of CO₂

The particular regulations of CO₂ under the Clean Air Act are still being developed by the EPA. However, if the cuts in CO₂ under the CAA are similar in magnitude to those targeted under Waxman–Markey or an RES, we could expect similar impacts on employment, income, and national debt.

Frequently, regulations are presented as efficiency improvements, implying that the regulation will cost little or may even save consumers more on their energy bills than the increased cost of the products. This reasoning implies that consumers are systematically wasting money.

⁴ William Beach *et al.*, “The Economic Impact of Waxman–Markey,” Heritage Foundation *WebMemo* No. 2438, May 13, 2009, at <http://www.heritage.org/Research/Reports/2009/05/The-Economic-Impact-of-Waxman-Markey>.

⁵ David Kreutzer *et al.*, “A Renewable Electricity Standard.”

Consumers already have a wide variety of products and services with different energy efficiencies. They can buy vehicles whose gas mileage varies from under 15 miles per gallon to over 50 miles per gallon. Someone who buys a 10,000-square-foot house could have purchased a 1,000-square-foot house instead. Anybody who has recently purchased an appliance will be familiar with the Energy Star ratings that clearly spell out expected energy costs for competing models and brands.

However, forcing people to buy the most energy-efficient model does not mean that everybody is better off. More efficient models usually cost more, may lack desired features, and can be less reliable. The relative valuation of the different characteristics varies from person to person and situation to situation. A single focus on watt-hours can blind regulators to other important features.

A personal example is a good illustration. My 1993 Maytag dishwasher used about nine gallons of hot water and took about an hour and 15 minutes to run a load. The current model uses seven gallons but takes at least an hour and 50 minutes to run a load. The cost of buying, heating, and disposing of those two gallons is less than 10 cents. Further, the old dishwasher already had a cycle that used seven gallons.

In other words, the efficiency mandates have reduced the options available to consumers and forced a trade-off of 40 minutes of time for less than a dime. In addition, the efficiency rules preclude the possibility of a firm's developing a dishwasher that uses 10 gallons of hot water but takes only 20 minutes for an effective cycle.

Limiting choice does not make life easier or reduce costs for consumers or for businesses. However if CO₂ cuts are imposed, they will reduce access to energy and reduce income and growth.

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1. Please list any federal grants or contracts (including subgrants or subcontracts) you have received since October 1, 2008. Include the source and amount of each grant or contract.

None

2. Please list any entity you are testifying on behalf of and briefly describe your relationship with these entities.

None

3. Please list any federal grants or contracts (including subgrants or subcontracts) received since October 1, 2008, by the entity(ies) you listed above. Include the source and amount of each grant or contract.

None

I certify that the above information is true and correct.

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EMPLOYMENT:

Research Fellow, The Heritage Foundation, 2010 to present

Senior Policy Analyst, The Heritage Foundation, 2008-2009.

Economist, Berman and Company, Washington, DC, July 2007 to February 2008.

Assistant Professor, Associate Professor, Department of Economics, James Madison University, 1984 to 2007.

Visiting Economist, U. S. Food and Drug Administration, summer 1994.

Acting Department Head, Department of Economics, James Madison University, summer 1990

Director of the International Business Program, James Madison University, 1989-1991.

Visiting Instructor, Visiting Assistant Professor, Department of Economics Ohio University (Athens, Ohio), 1981-1984

CONGRESSIONAL TESTIMONY

“The Economic Impact of Cap and Trade,” Testimony before the Energy and Commerce Committee of the United States House of Representatives, April 22, 2009.

“The Economics of Cap and Trade,” Testimony before the Senate Republican Conference and Republican Policy Committee, March 30, 2009.

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“The Economics of Cap and Trade,” Testimony before the Ways and Means Committee of the United States House of Representatives, September 18, 2008.

“Economic Benefit of Replacing Imported Oil with Domestically Produced Oil,” Testimony Before the Committee on the Budget of the United States House of Representatives, September 9, 2008.

“The Impact of Higher Gasoline Prices on Household Costs and Income,” Testimony before The Joint Economic Committee United States Senate and House of Representatives, July 23, 2008

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“Risk Premiums and Optimal Combat-Force Levels in an All-Volunteer Army,” *Applied Economics*, December 31, 2007.

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“Effect of the Lieberman-Warner Global Warming Legislation on States,” Heritage WebMemo 1930, May 22, 2008, with William W. Beach, Ben Lieberman, and Nicolas Loris.

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“On Clinton, don’t rush from judgment, either,” *The Roanoke Times*, March 1, 1998. A different version of this piece was published as “The Rush To Judgment?,” in *The Daily News-Record* (Harrisonburg, Virginia), February 12, 1998.

“Dayton’s Car Tax Non-Fight,” *The Daily News-Record* (Harrisonburg, Virginia), December 12, 1997.

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“Free-enterprise Incentives Producing Cleaner Air,” *The Daily Progress* (Charlottesville, Virginia), March 27, 1994.

“Moral Equivalent of Amnesia,” *The Journal of Commerce*, February 14, 1994

“Merck, A Lesson in Industrial Policy,” *The Wall Street Journal*, August 4, 1993.

MEDIA EXPERIENCE

Over 150 live and taped interviews and debates on radio and television, including appearances on:

- The Glenn Beck Show
- The Diane Rehm Show
- The Sean Hannity Show
- C-SPAN’s Washington Journal
- CNN, CNBC, Fox, NPR, BBC and others.

OTHER PROFESSIONAL ACTIVITIES:

“Energy Innovation and American Competitiveness,” Participant on panel discussing federal subsidies for energy research sponsored by the House R&D Caucus, and OurEnergyPolicy.org,

March 3, 2011

“Cut or Invest: What's the Best Way to Grow Our Economy?” Participant in debate sponsored by the Information Technology and Innovation Institute, and the Breakthrough Institute, February 7, 2011, <http://www.itif.org/media/cut-or-invest-whats-best-way-grow-our-economy#video>

“The Promise and Perils of Hydraulic Fracturing,” hosted panel at The Heritage Foundation, Washington, DC 2010

“Energy independence: Rhetoric or real possibility?” panel presentation, Washington Energy Summit, Washington, DC, September 23, 2010.

“Federal Policies, State Impacts,” panel presentation, Atlas Economic Research Foundation session at the State Policy Network annual meeting, Cleveland, OH, September 15, 2010.

“Renewable Electricity Standards,” panel presentation, Americans for Tax Reform’s Cost of Government Day, Washington, DC, August 19, 2010.

“US Energy Policy in 2010,” presentation, Coalition of Franchisee Associations, National Harbor, MD, July 15, 2010.

“Cities Respond to Climate Change: Locating Leadership in an Uncertain World,” panel presentation, Milan: The New School for Management and Urban Policy, New York, NY, April 12, 2010. <http://www.youtube.com/watch?v=nQuzzboxmGA>, at 43:00

“Energizing the Future: Energy Economics and Government Policy,” panel presentation, Wake Forest University, Winston-Salem, NC, March 31, 2010.

“Greening the Economy,” Georgetown Public Policy Institute, panel discussion, Washington, DC, February 26, 2010.

“International Policy Event: Advancing the Global Debate over Climate Change Policy,” Panel discussion hosted by The Washington Times, Washington, DC, November 6, 2009.

“American Clean Energy and Security Act of 2009: The Economic Impact,” panel discussion at The Heritage Foundation, Washington, DC, September 21, 2009.

“American Clean Energy and Security Act of 2009: The Economic Impact,” panel discussion hosted by the U.S. Chamber of Commerce, Washington, DC, September 11, 2009.

“The Cost of Climate Legislation,” Inaugural keynote address to the Energy States Alliance in Rapid City, SD, August 25, 2009.

“Assessing the Economic Consequences of Cap-and-Trade Proposals to Regulate GHG Emissions,” panel discussion hosted by the George C. Marshall Institute, Washington, DC, June 4, 2009.

“The Economic Impact of Waxman-Markey,” presentation to the Michigan Chamber of Commerce, Lansing, MI, May 19, 2009.

“Alternative Energies and American Security: Cost Matters,” Presentation to the Army War College/Strategic Studies Institute, Carlisle Barracks, PA, April 16, 2009.

“The Cost of Accomplishing Nothing,” presentation to the Missouri Chamber of Commerce, Columbia, MO, April 1, 2009.

“The Cost of Accomplishing Nothing,” presentation at the 2009 International Conference on Climate Change, New York, NY, March 9, 2009.

“The Cost of Cap and Trade to Michigan,” Michigan Chamber of Commerce, Detroit, MI, November 18, 2008.

“The Cost of Climate Legislation to Virginia,” Presentation to the Virginia Chamber of Commerce, Richmond, VA, November 3, 2008.

“The Cost of Cap and Trade to Nevada,” presentation to the Nevada Chamber of Commerce, Las Vegas, NV, September 25, 2008.

“The CO2 Regulatory Environment in Washington,” presentation to the American Legislative Exchange Council, Chicago, IL, July 31, 2008.

“Estimating the Effects of Growth: Fiscal Effects Models for Rockingham County, VA,” A research report prepared for Rockingham County, Virginia, with William C. Wood, July, 2006.

“Risk Premiums and Optimal Combat-Force Levels in an All-Volunteer Army,” presented at the annual meetings of the Association of Private Enterprise Education, Las Vegas, NV, April 2-4, 2006.

“Public Choice in Theory: What Is Public Choice Economics?” Workshop presenter, Society for Risk Analysis Annual Meetings, Baltimore, MD, December 7, 2005.

“Candidates with Comparative Advantage,” presented at the Center for the Study of Public Choice, George Mason University, October 20, 1999

“Knights of the Friends of OPEC: How the Federal energy Administration Helped Cartelize Petroleum Exporters in the 1970s,” presented at the Annual Meetings of the Association of Private enterprise Education, April 2000.

“The Impact of Threatened Drug Price Controls on Pharmaceutical Investment,” with William C. Wood, presented at Annual Meetings of the Association of Private Enterprise Education, April 1999.

“The Median Voter Is Just Another Slob: Skills Endowment and Candidate Comparative

Advantage,” presented at the 1998 Annual Meetings of the Public Choice Society, March 1998.

“Kinder and Gentler vs Rational and Practical: A Candidate Comparative Advantage Explanation for Ticket-Splitting,” presented at the 67th annual conference of the Southern Economic Association, Atlanta, Georgia, November 1997.

“Private Monopoly vs Public Shortsightedness: The Natural Monopoly Rationale Revisited,” with William C. Wood, presented at the Annual Meetings of the Association of Private Enterprise Education, April 1997.

“Monopoly and the Chains of Time,” with William C. Wood, presented at the Public Choice Society meetings, San Francisco, March 1997.

"Quota-type Protection and Reduced Domestic Production: The Case of Automobiles," presented at the Virginia Association of Economists Meetings, Richmond, VA, March 1988.

Member Board of Scholars of the Virginia Institute for Public Policy, 1998 to 2000. The Virginia Institute for Public Policy is an independent, nonpartisan, research organization committed to the goals of individual opportunity and economic growth.

Participant in the Political Economy Research Center's 1987 Liberty Fund Seminar, "Institutions and the Environment of Liberty," June 29-July 5, 1987, Big Sky, MT.

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INTERNATIONAL EXPERIENCE:

Faculty Member in Residence for the James Madison University Semester Abroad in Florence, spring 1992, fall 1996 and Summer 2000 (filled-in for part of program).

Directed and coordinated teams of MBA students who developed international market plans for four area businesses, two teams won awards from the Governor of Virginia, 1990-1991.

Developed and implemented a five-week study abroad program for JMU business students to Rouen, France, summer 1990.

Developed and implemented a five-week study abroad program for JMU business students to Lüneburg, Germany (accompanied students), summer 1991.

COMMUNITY/CIVIC ACTIVITIES

Mayor, Town of Dayton, VA, January 2003 to December 2004.

Vice Chairman, Harrisonburg-Rockingham Metropolitan Planning Organization, 2003 to 2004.

Member of the Town Council of Dayton, Virginia, 1994 to 2003.

Dayton-Bridgewater (Virginia) Lions Club, member and past president, 1988 to 2004.