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May 20, 2010

## THE ECONOMIC, EMPLOYMENT, ENERGY SECURITY, AND ENVIRONMENTAL IMPACT OF THE PROPOSED AMERICAN POWER ACT

**WASHINGTON**—On May 12, Senators John Kerry (D-MA) and Joseph Lieberman (I-CT) released details of the proposed American Power Act, a comprehensive energy and climate change bill under development since last fall. With US unemployment just below 10 percent and a ruptured well pouring oil into the Gulf of Mexico, the Senators promised that the legislation would protect the environment and reduce US dependence on foreign oil while creating jobs and increasing US economic competitiveness at little cost to consumers.

A new study by the Peterson Institute for International Economics provides the first comprehensive assessment of the draft legislation's ability to achieve these goals. *Assessing the American Power Act*, authored by visiting fellow Trevor Houser along with Shashank Mohan and Ian Hoffman, employs the Department of Energy's National Energy Modeling System to forecast the legislation's economic, employment, energy security, and environmental impact through 2030. Key findings of the study (summarized in attached table) include:

**Energy Sector Changes:** The American Power Act would significantly alter the way the United States produces and consumes energy. The share of total energy demand met by fossil fuels would fall from 84 percent today to 70 percent in 2030. Renewable and nuclear energy would grow from 8 percent each of US energy supply today to 16 and 14 percent respectively in 2030.

**Energy Security Implications:** The Act would reduce US oil imports by 33 to 40 percent below current levels and 9 to 19 percent below business-as-usual by 2030. This would cut US spending on imported oil by \$51 to \$93 billion per year and, by lowering global oil prices, reduce oil producer revenues by \$263 to \$436 billion annually by 2030.

**Environmental Impact:** The Act would establish an economy-wide carbon price starting at \$16.47 per ton in 2013 and growing to \$55.44 dollars per ton in 2030, reducing greenhouse gas emissions from covered sources 22 percent below 2005 levels by 2020 and 42 percent by 2030.

**Employment Effects:** The Act prompts \$41.1 billion in annual electricity sector investment between 2011 and 2030, \$22.5 billion more than under business-as-usual. This stimulates US economic growth and job creation in the first decade, increasing average annual employment by about 200,000 jobs.

**Impact on Consumers:** By pricing carbon, the American Power Act raises the price of fossil fuels for businesses and consumers. Households see an average 3 percent increase in electricity rates and 5 percent increase in gasoline prices between 2011 and 2030. Energy efficiency improvements largely offset these energy price increases—households see somewhere between a \$136 increase and a \$35 decrease in average annual energy expenditures, depending on future improvements in vehicle efficiency.

## ABOUT THE AUTHORS

**Trevor Houser**, visiting fellow at the Peterson Institute for International Economics, is partner at the Rhodium Group (RHG) and director of its Energy and Climate Practice. He is also an adjunct lecturer at the City College of New York and a visiting fellow at the school's Colin Powell Center for Policy Studies. During 2009 he served as senior advisor to the US Special Envoy on Climate Change. His publications include *Copenhagen, the Accord, and the Way Forward* (2010), *The Economics of Energy Efficiency in Buildings* (2009), *A Green Recovery? Assessing US Economic Stimulus and the Prospects for International Coordination* (2009), *Leveling the Carbon Playing Field: International Competition and US Climate Policy Design* (2008), and *China Energy: A Guide for the Perplexed* (2007).

**Shashank Mohan** is a research analyst with RHG in New York. In addition to leading RHG's energy modeling work, he covers macroeconomic issues as part of the firm's India Practice. Prior to joining RHG, Mr. Mohan worked as a consultant for Columbia University's Earth Institute, on a World Bank project to design an electricity expansion model for Kenya and Senegal, and as a software engineer at Microsoft.

**Ian Hoffman** is a research analyst with the RHG's Energy and Climate practice. Prior to joining RHG, Mr. Hoffman's graduate work at the University of California, Berkeley focused on modeling optimal combinations of conventional and renewable generation on the Western Interconnection, as well as analysis of global markets for wind and nuclear power. Mr. Hoffman also has 20 years of experience as a newspaper journalist with an emphasis on science, energy, and security. He is based in Oakland, CA.

## ABOUT THE PETERSON INSTITUTE

The **Peter G. Peterson Institute for International Economics** is a private, nonprofit, nonpartisan research institution devoted to the study of international economic policy. Since 1981 the Institute has provided timely and objective analysis of, and concrete solutions to, a wide range of international economic problems. It is one of the very few economics think tanks that are widely regarded as “nonpartisan” by the press and “neutral” by the US Congress, it is cited by the quality media more than any other such institution, and it was recently selected as Top Think Tank in the World in the first comprehensive survey of over 5,000 such institutions. Support is provided by a wide range of charitable foundations, private corporations, and individual donors, and from earnings on the Institute's publications and capital fund. It celebrated its 25th anniversary in 2006 and adopted its new name at that time, having previously been the Institute for International Economics.

## Assessing the Impact of the American Power Act

Energy Demand quadrillion btu	2020 vs BAU		2030 vs BAU	
	Value	Percent	Value	Percent
Fossil Fuels	-5.6	-6.7	-13.8	-15.7
Nuclear	1.4	14.8	5.4	58.6
Renewables	1.4	11.6	2.9	21.2
Total	-2.9	-2.8	-5.4	-4.8

  

Environmental million tons, unless specified	2020 vs BAU		2030 vs BAU	
	Value	Percent	Value	Percent
GHG emissions from covered sources**	-1,493	-23.7	-3,076	-46.4
Total GHG gas emissions**	-1,330	-17.9	-2,946	-37.0
Allowance price (2009 US dollars per ton)	NA	—	NA	—
Sulfur dioxide from power generation	-0.0	-0.3	-0.2	-5.8
NOx from power generation	-0.1	-3.1	-0.7	-33.9
Mercury from power generation (tons)	-4.0	-13.6	-12.2	-42.6

  

Employment thousand jobs, unless specified	2011–2020 vs BAU		2011–2030 vs BAU	
	Value	Percent	Value	Percent
Power sector investment (billion 2007 US dollars)	10.9	48.2	22.5	121.0
Clean energy-related employment***	308	25.2	719	54.3
Fossil fuel-related employment***	-72	-2.2	-200	-6.3
Total employment	203	0.1	6	0.0

  

Macroeconomic billion 2007 US dollars, unless specified	2011–2020 vs BAU		2011–2030 vs BAU	
	Value	Percent	Value	Percent
Gross Domestic Product	11	0.1	-19	-0.1
Consumption per household (2007 US dollars)	16	0.0	37	0.0

  

Energy Security with (CAFE) and without (CORE) post-2016 CAFE improvements*	CORE		CAFE	
	2030 vs BAU		2030 vs BAU	
	Value	Percent	Value	Percent
US oil imports (net, thousand barrels per day)	-771	-9.4	-1,580	-19.3
US oil imports (net, billion 2007 US dollars)	-51	-13.8	-93	-25.2
OPEC oil revenue (billion 2007 US dollars)	-133	-6.5	-218	-10.7
Non-OPEC oil revenue (billion 2007 US dollars)	-130	-4.9	-219	-8.2
All producer oil revenue (billion 2007 US dollars)	-263	-5.6	-436	-9.3

NOx is a generic term for the mono-nitrogen oxides NO and NO2

GHG = greenhouse gas

BAU = business-as-usual

\* The CORE scenario assumes that corporate average fuel economy standards (CAFE) plateau in 2016 after the current rules end. The CAFE scenario assumes continued improvement in vehicle efficiency at the 2011–2016 average annual rates.

\*\* includes international offsets

\*\*\* Includes direct, indirect and induced employment effects. For detailed methodology see [www.rhgroup.net/americanpoweract](http://www.rhgroup.net/americanpoweract)

Source: Trevor Houser, Shashank Mohan and Ian Hoffman, 2010, Assessing the American Power Act: the Economic, Employment, Energy Security and Environmental Impact of Senator Kerry and Senator Lieberman's Discussion Draft, Washington: Peterson Institute for International Economics.