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Cap and Trade: A Comparison of Cost Estimates

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The U.S. House of Representatives passed, by a narrow margin, a massive energy bill that most notably includes a cap-and-trade program to reduce carbon dioxide emissions and allegedly curb global warming. A number of groups, including The Heritage Foundation, have estimated the costs of the bill introduced by Representatives Henry Waxman (D–CA) and Ed Markey (D–MA).

The Heritage Foundation, the Brookings Institution and the National Black Chamber of Commerce all found that the bill will have devastating economic impacts.[1] All three studies project significant losses in employment and gross domestic product (GDP), the chief measure of economic activity. The Congressional Budget Office (CBO) and the Environmental Protection Agency (EPA) estimate significantly lower costs; however, these two only partially analyze microeconomic "cash only" effects, not the full macroeconomic impacts of cap and trade reported in the other studies.

The Brookings Institution. The Brookings analysis of the Waxman–Markey bill finds loss in personal consumption of $1–2 trillion in present value. The more stringent carbon targets in subsequent years produce even higher costs. Brookings projects that an additional 8 percent cut in carbon dioxide emissions increases costs 45 percent. GDP in the United States would be lower by 2.5 percent in 2050, and unemployment would be 0.5 percent higher (1.7 million fewer jobs[2]) in the first decade below the baseline or without cap and trade. The total allowance revenue (tax revenue) generated by 2050 would be $9 trillion.

The National Black Chamber of Commerce. The National Black Chamber of Commerce found the following adverse effects from Waxman–Markey: In 2015, GDP would be 1 percent ($170 billon) below the "no cap-and-trade bill" baseline. In 2030, GDP will be 1.3 percent ($350 billon) below the baseline, and by 2050 the study projects a reduction in GDP of 1.5 percent ($730 billion). The study also projects higher unemployment of 2.3–2.7 million jobs in each year of the policy through 2030—after accounting for "green job" creation.

The Heritage Foundation. The Heritage Foundation's Center for Data Analysis found that, for the average year over the 2012–2035 timeline, job loss will be 1.1 million greater than the baseline assumptions. By 2035, there is a projected 2.5 million fewer jobs than without a cap-and-trade bill. The average GDP lost is $393 billion, hitting a high of $662 billion in 2035. From 2012 to 2035, the accumulated GDP lost is $9.4 trillion (in 2009 dollars). The average of the climate tax revenue—what the government gets to spend or give away—is $236 billion from 2012 through 2035 and adds up to $5.7 trillion in tax collections.

Environmental Protection Agency. The EPA predicts that the bill would cost households only

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Projected GDP Losses from Studies on Lieberman–Warner Bill

Group	Model	Scenario	% Change in GDP 2015 Baseline	2030 Baseline	2050 Baseline
Massachusetts Institute of Technology	EPPA	No offsets, no CSS subsidy	–0.65%	–0.31%	–1.10%
		15% offsets	–0.55%	–0.54%	–0.82%
		CSS subsidy	–0.66%	–0.26%	–1.01%
		15% offsets, CSS subsidy	–0.57%	–0.38%	–0.75%
American Council for Capital Formation and the National Association of Manufacturers*	NEMS	Low cost	–0.80%	–2.60%	n/a
		High cost	–1.20%	–2.40%	n/a
Charles River Associates	MRN-NEEM	S. 2191	–1.75%	–1.00%	–3.50%
Center for Data Analysis	Global Insight	Generous	–0.14%	–0.56%	n/a
		Reasonable	–1.02%	–2.18%	n/a
Environmental Protection Agency	ADAGE	S. 2191	–0.70%	–0.90%	–2.37%
	IGEM		–2.00%	–3.76%	-6.90%
	ADAGE	S. 2191, no offsets	n/a	n/a	n/a
	IGEM		–3.30%	-5.90%	–10.10%
	ADAGE	S. 2191, constrained nuclear, biomass and CCS	–1.10%	–2.30%	–4.40%
	IGEM		n/a	n/a	n/a
Energy Information Agency**	NEMS	S. 2191, core	–0.30%	–0.30%	n/a
		S. 2191, limited alternative/ no international offsets	–0.90%	–0.80%	n/a
Clean Air Task Force	NEMS	S. 2191	n/a	–0.70%	n/a

* ACCF/NAM reports in the year 2014. ** EIA reports in the year 2020.

Source: Bryan Buckley and Sergey Mityakov, "The Cost of Climate Regulation for American Households," George C. Marshall Institute, March 2009.

Table 1 • WM 2550 ☎ heritage.org

$140 a year. It predicts that because of new energy efficiency measures, consumer spending on energy bills would be about 7 percent lower in 2020 because of the bill.

However, the EPA study significantly biases the cost downward:

- *It is based on consumption.* The EPA's numbers are based on consumption changes, which are typically less than income changes, as families respond to income losses by saving less.
- *It uses discounting.* Discounting is a reasonable approach for comparing costs and benefits that

1. William W. Beach, David Kreutzer, Karen Campbell, and Ben Lieberman, "Son of Waxman–Markey: More Politics Makes for a More Costly Bill," Heritage Foundation *WebMemo* No. 2450, May 18, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2450.cfm*; Warwick McKibbin *et al.*, "Consequences of Cap and Trade," Brookings Institution, June 8, 2009, at *http://www.brookings.edu/~/media/Files/events/2009/0608_climate_change_economy/20090608_climate_change_economy.pdf* (July 9, 2009); David Montgomery *et al.*, "Impact on the Economy of the American Clean Energy and Security Act of 2009 (H.R.2454)," prepared for the National Black Chamber of Commerce by CRA International, May 2009, at *http://www.nationalbcc.org/images/stories/documents/CRA_Waxman-Markey_ percent205-20 09_v8.pdf* (July 9, 2009).
2. Using U.S. Census Population Projections Table 1. Projections of the Population and Components of Change for the United States: 2010 to 2050 (NP2008-T1) Population Division, U.S. Census Bureau Release Date: August 14, 2008 (July 16, 2009).

occur at widely different times. However, costs of climate change rarely use a discounted rate this high. For comparison, without discounting, the impact per household is $1,288 in 2050. Adjusting household size to reflect a family of four raises this cost to over $1,900.

- *It assumes rebates.* The EPA assumes that all the allowance proceeds—the money generated by charging businesses to emit CO2—will be rebated directly to consumers. This clearly is not the case, since most of the allowances have been promised to industry.[3]
- *It assumes a doubling of nuclear power.* The EPA assumes a doubling of nuclear energy production in the next 25 years even though Waxman–Markey has no provisions for changing the regulatory roadblocks that would allow for a broad expansion of nuclear power.

A Quick Trip Down Memory Lane. During last year's cap-and-trade debate in the Senate, seven groups, including the EPA, published studies estimating the economic effects on the bill spearheaded by Joseph Lieberman (I–CT) and John Warner (R–VA). Lieberman–Warner (S. 2191) had emission reduction targets comparable to Waxman–Markey. The EPA's model of S. 2191 projected GDP to be between 0.9 percent ($238 billion) and 3.8 percent ($983 billion) lower in 2030, a higher range than The Heritage Foundation's analysis. Table 1 shows that the EPA's estimates of last year's cap and trade were similar to other organizations' models of the Lieberman–Warner bill.

Congressional Budget Office. CBO estimates that cap and trade would cost just $175 per household in 2020. Low-income households would actually receive an average net benefit of $40 in 2020, while higher-income households would incur a cost of $245.[4]

The CBO report, however, has flaws of its own:

- *It ignores economic damage.* The CBO does not include the decrease in GDP as a result of the bill. The GDP loss in 2020 would be $161 billion (in 2009 dollars) according to Heritage Foundation analysis. For a family of four, that is $1,870 that CBO ignores.
- *It is an accounting analysis.* The CBO analysis is an accounting analysis of the flow of allowance revenue; it is not an economic analysis of the true opportunity cost of the bill. The CBO and Congress seem to assume that energy price increases can be mitigated by giving allowance revenue back to businesses and consumers. But this does not tell the whole story. There are serious economic impacts from the energy price increases that the CBO ignores. The CBO admittedly ignores economic costs such as the decrease in GDP as a result of the bill[5] and the fact that consumers and business will change their behavior as a result of higher energy prices.
- *It does not apply to any real year.* The CBO assumes the smaller economy of 2010 but with the long-run adjustments that could occur by 2020. This odd, hybrid assumption further shrinks the estimated costs of the Waxman–Markey energy tax.

The "Benefits." Regardless of the cost estimates and regardless of whether global warming is a significant problem, the benefits of the Waxman–Markey cap-and-trade bill are almost nonexistent. Climatologist Chip Knappenberger projected that Waxman–Markey would moderate temperatures by only hundredths of a degree in 2050 and no more than two-tenths of a degree Celsius at the end of the century.[6] Even EPA Administrator Lisa Jackson confessed that a unilateral approach to reducing greenhouse gas emissions would have little effect.[7]

3. Nicolas Loris and Ben Lieberman, "Cap and Trade: A Handout for Corporations and a Huge Tax on Consumers," Heritage Foundation *WebMemo* No 2476, June 10, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2476.cfm.*
4. Congressional Budget Office, "The Estimated Costs to Households from H.R. 2454 American Clean Energy and Security Act of 2009," June 19, 2009, at *http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapAndTradeCosts.pdf* (July 9, 2009).
5. David Kreutzer, Karen Campbell, and Nicolas Loris, "CBO Grossly Underestimates Cost of Cap and Trade," Heritage Foundation *WebMemo* No. 2503, June 24, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2503.cfm.*
6. Chip Knappenberger, "Climate Impacts of Waxman–Markey (the IPCC-Based Arithmetic of No Gain)," MasterResource, May 6, 2009, at *http://masterresource.org/?p=2355* (July 9, 2009).

A Lot of Pain for Minimal Gain. Three major analyses of the Waxman–Markey climate bill confirm that cap and trade will produce an economy that will perform well under its potential. Studies by the CBO and EPA predict manageable costs estimates, but both studies have a number of problems and significantly bias the costs downward. Even so, the supposed affordable costs of carbon capping regulations still outweigh the negligible benefits Americans would see from cap and trade.

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7. U.S. Senate Committee on Environment and Public Works, "Jackson Confirms EPA Chart Showing No Effect on Climate without China, India," July 7, 2009, at *http://epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=564ed42f-802a-23ad-4570-3399477b1393* (July 9, 2009).