

# WebMemo



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## Questions on EPA's Cost Estimates for Waxman–Markey Climate Change Legislation

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The Environmental Protection Agency's (EPA) analysis of the economic impact of the Waxman–Markey climate change bill relies on a variety of assumptions. These assumptions strongly bias the cost downward when compared to the results of studies done by the Center for Data Analysis (CDA) at The Heritage Foundation and by CRA International for the National Black Chamber of Commerce.<sup>1</sup>

CRA's economic analysis projects that by 2030 Waxman–Markey would reduce national GDP by roughly \$350 billion below the baseline level, cut net employment by 2.5 million jobs (even after accounting for new “green” jobs), and reduce an average household's annual purchasing power by \$830.<sup>2</sup> These projections compare with the devastating consequences found by The Heritage Foundation's CDA.<sup>3</sup>

The EPA's economic impact analysis, however, sharply differs from CRA's or CDA's. Only by assuming massive increases in renewable energy, energy efficiency, nuclear power, and carbon capture and sequestration for clean coal coming online by 2015 can the EPA project that energy prices would remain low and household consumption would barely change.

The EPA finds that Waxman–Markey would reduce consumption growth by only 0.1 and 0.2 percentage points in 2015 and 2020, respectively. Throughout the duration of the bill, the average annual cost per household would be merely \$98–\$140.<sup>4</sup> At most, each household is paying less than \$12 a month to “save the planet.”

These differences stem from the unreasonable, faulty, and fragile assumptions the EPA made to create the mildest possible economic impact scenario.

**The Use of Discounting.** First of these assumptions—and superficially least controversial—is the EPA's use of discounting. A discount rate is an interest rate used to find present value of an amount to be paid or received in the future. In other words, present value analysis answers the question: How much would I have to have today in order to meet my financial obligations or pay certain costs in the future?

The EPA takes the net present value of costs using a 5 percent real discount rate. Discounting is a reasonable approach for comparing costs and benefits that occur at widely different times. However, costs of climate change rarely use a discount rate that high. In fact, the highly publicized Stern Review uses a zero discount rate. If Stern were to use a rate even half that of the EPA, its calculated costs of climate change would essentially disappear, since most of the costs occur after the year 2800.<sup>5</sup>

The EPA looks at the average discounted change in household consumption over 40 years. It is well known that the costs are lower in the beginning of

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the program and will grow as the carbon caps ratchet down. Many households are not families. The average household size is 2.7. Therefore, the actual cost to a typical family of four could be 1.5 times greater than the per-household cost. Also, the EPA's \$140/year number is based on consumption. Consumption changes are typically less than income changes, as families respond to income losses by saving less.

**Rebating Climate Revenue.** Without discounting, the impact per household is \$1,288 in 2050.<sup>6</sup> Adjusting household size to reflect a family of four raises this cost to over \$1,900—which is a lot different than \$140. Even this higher number requires a set of very generous assumptions, including a requirement that all allowance proceeds be rebated directly to consumers.

This clearly is not going to happen. Representatives Henry Waxman (D-CA) and Ed Markey (D-MA) modified their global warming proposal from the draft version published on March 31. For the most part, the changes focused on the distribution of the allowance revenue—the equivalent of tax revenue. The latest version of the bill has the government distributing allowances to various businesses in a political reallocation of the bill's near-term economic damage. These allowances act as subsidies handed out to businesses.

But every dollar the government gives to business is one less dollar the government can rebate back to consumers. Other uses of the revenue include investments in green technology, a pro-

posal that serves as further evidence that all the allowance proceeds will not be rebated back directly to the taxpayers.

As it stands, only 15 percent of the allowance revenue will go to low-income ratepayers. While this number may increase when the handouts to businesses phase out, it will certainly not cover the costs of higher energy prices.

Rebates or not, the higher energy prices would reduce economic activity by forcing businesses to cut costs elsewhere, possibly by reducing their workforce and thus doing damage that no check would cover.

While a portion of the allowances given to electric companies is intended to benefit their customers, it is not clear how efficiently these savings can be transmitted. The allowance distribution cannot be used for lower electric rates. Cash distribution is not specified, which leaves open many options for inefficient subsidies and other programs whose benefits to consumers will be less than the amount spent.

**More Misguided Assumptions.** The loss that the EPA calculates also does not include the cost of the energy tax to consumers, since the EPA assumes that all of the money is rebated. The Heritage Foundation's Center for Data Analysis found that the cost of the energy tax is \$4,600 per family of four in 2035. Assuming that this cost will not be a factor is very significant. The EPA analysis says, "A policy that failed to return revenues from the program to consumers would lead to substantially larger losses in consumption."<sup>7</sup>

1. 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\\_%205-20-09\\_v8.pdf](http://www.nationalbcc.org/images/stories/documents/CRA_Waxman-Markey_%205-20-09_v8.pdf) (June 8, 2009).
2. *Ibid.* The reference to "baseline" values in this report points to a set of economic projections that assume neither Waxman-Markey nor any similar legislation is the law of the land in the future. In other words, the baseline is business as usual.
3. 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>.
4. U.S. Environmental Protection Agency, Office of Atmospheric Programs, "EPA Preliminary Analysis of the Waxman-Markey Discussion Draft: The American Clean Energy and Security Act of 2009 in the 111th Congress," April 20, 2009, at <http://www.epa.gov/climatechange/economics/pdfs/WM-Analysis.pdf> (June 8, 2009).
5. Sir Nicholas Stern, "Stern Review on the Economics of Climate Change," HM Treasury, London, 2007, at [http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://www.hm-treasury.gov.uk/sternreview_index.htm) (June 8, 2009).
6. EPA, "EPA Preliminary Analysis of the Waxman-Markey Discussion Draft," appendix.

In determining Waxman–Markey’s impact on energy prices, the EPA makes additional generous assumptions, including those made concerning nuclear power. The EPA assumes that nuclear power generation under Waxman–Markey will be roughly double the baseline production in 2035. Because nuclear power is currently very near maximum production of its current capacity, this increased generation will require nearly doubling nuclear capacity. The policy trends are moving in the opposite direction, and significant regulatory obstacles exist.<sup>8</sup> Despite the Administration’s largely pro-nuclear rhetoric, its policy proposals, such as closing the Yucca Mountain nuclear materials repository, are making a revival of nuclear energy more difficult.

In their list of key uncertainties, the EPA questioned whether such a large amount of new nuclear energy is technically and politically attainable.<sup>9</sup> Other EPA uncertainties include but (admittedly) are not limited to:

- The viability of carbon capture and sequestration (CCS);
- The availability and cost of domestic offset projects;
- The stringency of international actions; and
- The pace of economic growth without climate policy, among others.<sup>10</sup>

**Analysis of Son of Waxman–Markey.** The EPA, in its two-page, no-citation memo, suggests that the revisions policymakers made to the bill actually mitigate the economic pain. This assertion, however, is hardly model-based.<sup>11</sup> Waxman–Markey revisions lowered the 20 percent emissions reductions cap scheduled for 2020 to 17 percent while all the longer targets remained the same. EPA’s qualita-

tive assessment of the legislative changes include cap level reduction, offset provisions, incentives for CCS, and renewable electricity standards, which the EPA did not model in the first place.<sup>12</sup>

The EPA assumes, without explanation as to how, that a 3 percent reduction in allowance carbon cap will reduce allowance prices by 3 percent. The memo discusses static reduced price effects without recognizing the actual economic cost drivers of businesses that would affect the overall allowance price. As The Heritage Foundation and CRA International explain, the long-run targets have not changed, and therefore the economic fundamentals driving prices have not changed. The differences are largely timing variations meant to delay the political and economic pain.

For example, the EPA memo seems to ignore the effects of increased borrowing. The revisions of the bill give away allowances to businesses in the near term. In essence, the allowance giveaway is a wind-fall profit for the politically influential—and paid with a tax on energy consumers. This energy tax reduces national income, which, in turn, reduces government revenues from existing taxes. Since the energy tax revenue is spent, the net impact on the federal budget is a bigger deficit. In turn, the bigger deficit crowds out private sector investment and drives up interest rates, which, ironically, increases the cost of investing in new energy efficient technologies that markets have been making for decades.

Appendix C of the Chamber’s study gives a detailed, technical critique of the EPA’s economic impact projections. Their basic conclusion is that the EPA estimated a very short-term effect and that

7. *Ibid.*, executive summary.

8. See, for instance, Jack Spencer, “Competitive Nuclear Energy Investment: Avoiding Past Policy Mistakes,” Heritage Foundation *Backgrounder* No 2086, November 15, 2007, at <http://www.heritage.org/Research/EnergyandEnvironment/bg2086.cfm>; Jack Spencer, “A Free-Market Approach to Managing Used Nuclear Fuel,” Heritage Foundation *Backgrounder* No 2149, June 23, 2008, at <http://www.heritage.org/Research/EnergyandEnvironment/bg2149.cfm>.

9. EPA, “EPA Preliminary Analysis of the Waxman–Markey Discussion Draft.”

10. *Ibid.*

11. U.S. Environmental Protection Agency, “Ways in Which Revisions to the American Clean Energy and Security Act Change the Projected Economic Impacts of the Bill,” May 17, 2009, at <http://www.epa.gov/climatechange/economics/pdfs/EPAMemoonHR2454.pdf> (June 8, 2009).

12. Montgomery *et al.*, “American Clean Energy and Security Act of 2009 (H.R.2454).”

the EPA analysis does not consider the actual economic affects of the draft legislation but rather simply the price effect.<sup>13</sup>

**Two and a Half Models.** The Heritage Foundation's CDA study and the analysis by CRA International use dynamic economic models that take a fuller account of the overall economic costs and benefits of this legislation. The modeling differences imply that technology is one of the fundamental cost drivers of the allowance price that the EPA did not seem to consider.<sup>14</sup>

In short, the EPA's conclusion that Americans will be better shielded from the pain of capping carbon by this draft legislation is fantasy. Two major independent model analyses of Waxman–Markey have already confirmed this reality.

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13. *Ibid.*

14. *Ibid.* CRA International asserts that “if EPA had coordinated its IPM and ADAGE models to produce consistent electric sector results, we would expect that EPA would have found significantly higher CO<sub>2</sub> prices for ACESA than they are currently reporting. Given that EPA says the IPM model is more ‘realistic’ for the near-term, one can conclude that its ADAGE-based impact estimates are ‘not realistic’ until they are made consistent with their IPM model projections.”