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Response to the NRDC Critique of The Heritage Foundation's Analysis of the Waxman–Markey Bill

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RESPONSE TO THE NRDC CRITIQUE OF THE HERITAGE FOUNDATION'S ANALYSIS OF THE WAXMAN–MARKEY BILL

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Recently, Dr. Laurie T. Johnson of the Natural Resources Defense Council (NRDC) critiqued[1] The Heritage Foundation's analysis[2] of the Waxman–Markey bill (H.R. 2454, American Clean Energy and Security Act of 2009). The egregious errors that she commits in her critique cry out for correction.

A QUICK RESPONSE TO THE CRITIQUE

Briefly, Johnson's argument consists of the following criticisms about The Heritage Foundation's analysis:

Criticism #1: The Heritage Foundation conceals the fact that the U.S. economy grows under both the no-action (baseline) scenario and the cap-and-trade scenario.

The second paragraph of the Heritage paper states that Waxman–Markey would "damage the economy and *hobble* growth."[3]

Criticism #2: Heritage does not include the cost of inaction in its analysis.

The Heritage Foundation does not include the "cost of inaction" because it is a vacuous concept. Taken at face value, it implies that action avoids the cost. That is, any action eliminates all projected climate costs. Replacing one incandescent bulb with a compact florescent bulb is an action, but even the NRDC could not claim that it would make much difference.

Heritage estimates the costs of a particular action, the Waxman–Markey bill—trillions of dollars in lost income, 50–90 percent higher energy costs, 2.5 million lost jobs, trillions of dollars of higher taxes, and trillions more debt all by 2035. These costs can be compared to the benefits of moderating world temperature by 0.05 degree Celsius by 2050.

Criticism #3: No cost-containment measures, such as banking of allowances, were modeled.

Including these measures would increase the legislation's cost for the period studied in the analysis. Thus, by excluding them, we made an assumption that is favorable to Waxman–Markey.

Criticism #4: Complementary policies promoting clean energy and efficiency were not modeled.

In fact, these policies have largely already been enacted and, therefore, are included in the baseline. The diminishing returns from these types of subsidy and mandate policies are well documented, sug-

1. Laurie T. Johnson, "The Heritage Foundation's Waxman–Markey Analysis," Natural Resources Defense Council, May 21, 2009, at *http://co2mediaguide.org/Heritage%20Analysis%20Critique%204.pdf* (June 3, 2009).
2. William W. Beach, David Kreutzer, Karen Campbell, and Ben Lieberman, "The Economic Impact of Waxman–Markey," Heritage Foundation *WebMemo* No. 2438, May 13, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2438.cfm*.
3. *Ibid.*, p. 1 (emphasis added).

gesting that the costs would likely outweigh the benefits of additional provisions and would raise the price tag of this legislation.

Criticism #5: The allowance value disappears in the Heritage simulation.

The allowances are fully spent in the Heritage simulation and do not "evaporate."

Criticism #6: The Heritage study does not allow for an increase in renewable fuel sources.

On the contrary, the Heritage study does allow for an increase in renewable fuel sources.

Criticism #7: Costs to the economy are much higher in the Heritage study than in the EPA's analysis.

The EPA discounts the cost to the present and makes an unrealistic assumption regarding the growth of nuclear energy. The NRDC itself has attacked these assumptions.[4]

IGNORING ELEMENTARY ECONOMICS

Opportunity cost is a day-one topic in virtually every principles of economics class. Indeed, one can hardly imagine the science of economics without it. Johnson, however, appears to ignore this important concept.

Opportunity cost is what we sacrifice when we choose one action over its alternative. To economists, an action's cost is its opportunity cost. For example, if someone chooses to drive to Florida instead of flying, one opportunity cost would be the additional travel time required for driving. With or without Waxman–Markey, economic activity will continue. What matters in discussing the cost of the legislation are those things that change—or the goods and services we will forgo—if we choose to enact Waxman–Markey.

Johnson categorically rules out the only meaningful measure of cost with her insistence on talking about gross domestic product (GDP) only with cap and trade, never without it. As long as cap and trade does not completely eliminate GDP growth, Johnson seems to claim that there is no cost. In other words, instead of measuring the opportunity cost in terms of how GDP changes with cap and trade relative to no cap and trade, Johnson wants to measure GDP over time only under a cap-and-trade system. Her argument not only employs a meaningless measure of the economic cost of the legislation (something compared to nothing), but also ignores other relevant measures of the cost, such as changes in income, employment, and prices.

AVOIDING THE MORAL DIMENSIONS OF THE ARGUMENT

There is something more deeply troubling about this argument than its disregard of fundamental economics. Advocates of carbon-reduction legislation frequently argue that the economic concerns expressed by the legislation's critics are unwarranted. After all, nearly everyone will have a job and the economy will still be growing or at least not shrinking. Indeed, Dr. Johnson writes:

> Based upon the *Heritage Foundation's analysis last year of the Lieberman-Warner (LW) Bill*, we can expect GDP to increase significantly in this analysis as well. The LW analysis projected GDP increasing by almost 70% by 2030 (67.6%) relative to 2008 levels, under a cap on carbon emissions. *Healthy GDP growth is a ubiquitous result in economic climate models*, both partisan and non-partisan, so we should expect the same from this analysis.[5]

By embracing this line of argument, Johnson and others ignore that the economy will not perform at its full potential when weighed down with carbon taxes or fees. By ignoring this, they fail to see the moral problems associated with their stand.

Yes, the economy would continue to grow under Waxman–Markey, but it would create fewer jobs than it could, would not raise wages and incomes as much as it could, and would not support as much research and development or as much capital investment into production as it should. In short, it would fail to perform up to its potential.

4. David Hawkins, testimony before the Committee on Environment and Public Works, U.S. Senate, November 13, 2007, p. 23, at *http://docs.nrdc.org/globalwarming/files/glo_07111301A.pdf* (May 29, 2009), and Natural Resources Defense Council, "Nuclear Facts," at *http://www.nrdc.org/nuclear/plants/plants.pdf* (May 29, 2009).
5. Johnson, "The Heritage Foundation's Waxman–Markey Analysis," p. 1 (original emphasis, but shown with italics instead of a red font). See William W. Beach, David Kreutzer, Ben Lieberman, and Nicolas Loris, "The Economic Costs of the Lieberman–Warner Climate Change Legislation," Heritage Foundation *Center for Data Analysis Report* No. CDA08–02, May 12, 2008, at *http://www.heritage.org/Research/EnergyandEnvironment/cda08-02.cfm*.

The people who would bear the burden of these failures would likely be those who are least able to do so, such as poor families, elderly citizens, young people starting their careers, and immigrants. While climate scientists and economists may not notice how much meaner life becomes for those on the bottom rungs of society, there would likely be tighter budgets and fewer opportunities.

FLAWED MEASUREMENTS

Johnson's critique points to an NRDC study of the cost of climate change, which further belies their flawed cost-measurement methodologies.[6] That paper presents climate damage costs without showing the economic base upon which these costs occur. In particular, they claim that the impact costs reach 1.84 percent of GDP in 2100. They do not report that GDP in 2100 will be 648 percent larger than in 2006. Subtracting their exaggerated climate costs means the economy in 2100 will be 7.466 times the 2006 economy instead of 7.484 times the size of the 2006 economy—a difference of 1.86 percent.

While 1.86 percent of the economy is significant, the NRDC "Cost of Climate Change" implicitly assumes that any climate policy will eliminate 100 percent of the global-warming costs. In fact, no proposed or conceivable climate policy would eliminate all the projected global-warming impacts. The NRDC does not even pretend to offer a policy designed to eliminate the costs laid out in their study. Nor do they offer an estimate of the fraction of their costs that would be avoided by any policy.

On the other hand, the Heritage study shows the economic costs of the Waxman–Markey bill for 2012–2035 (which is only a fraction of the total cost of the nearly century-long program). In the Heritage study, we erred on the side of *underestimating* the full opportunity cost while we report the benefit in terms of moderated global warming—0.05 degree Celsius by 2050 and 0.2 degree Celsius by 2100. The Heritage study found that, compared to no cap-and-trade, Waxman–Markey reduces GDP by $9.4 trillion, reduces employment by 2.5 million jobs, increases the national debt 26 percent, and increases household energy prices by 50 percent to 90 percent. In return, Waxman–Markey will moderate world temperature increases by 0.2 degree by the end of the 21st century compared to doing nothing.

BANKING PROVISIONS

Johnson says the Heritage analysis contains no provision for banking allowances. This is true, but her comment is misleading. Banking pulls allowances off the market for use in later years—years that come after the period that we analyze. Thus, banking increases the costs in the earlier years in order to reduce the costs in later years. Including these banking allowances would *increase* the bill's cost for the years we analyze. Yet again, the Heritage study erred on the side of reducing the legislation's cost.

THE OFFSETS

Contrary to Johnson's criticism, we do include offsets. We just do not include the 2 billion tons of offsets that Johnson thinks we should. Even the recent EPA analysis points out that only a fraction of the allowed domestic offsets are even feasible.[7] All of this is well documented in the Heritage study as are the many concerns from environmentalists themselves about the usefulness of offsets.

ENERGY EFFICIENCY AND MANDATES

Johnson says we do not include complementary policies promoting energy efficiency. Many energy efficiency mandates are already legislated and those efficiencies are included in the Heritage analysis. However, their costs are attributed to existing legislation and, therefore, built into the baseline rather than added to the costs of Waxman–Markey.

The whole point of cap and trade is to let markets find the least costly way of reducing emissions. Conversely, technology mandates reduce the market's flexibility to meet those caps while not changing the carbon dioxide (CO_2) caps. Nevertheless, Waxman–Markey includes additional mandates and subsidies. Trying to combine these competing policies reduces efficiency and is evidence that the bill's authors either do not understand cap and trade or do not believe that it works. Adele Morris, Deputy Director of Climate and Energy Economics at the Brookings Institution, writes:

6. Frank Ackerman and Elizabeth A. Stanton, "The Cost of Climate Change," Natural Resources Defense Council, May 2008, at *http://www.nrdc.org/globalWarming/cost/cost.pdf* (June 3, 2009).
7. 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 5, 2009).

> Proponents argue that higher fuel economy standards are part of the climate solution. But once the emissions caps are set and firms are trading rights to emit, fuel economy *and other regulatory standards* produce no incremental climate benefits.… Because mandating greater automotive fuel efficiency tends to be a more costly way to reduce emissions than other methods, the California rules could only *end up increasing the cost of achieving the emission target* without providing additional climate benefits.[8]

In short, mandates hinder the country's ability to reach the CO_2 targets, as stated in the Heritage study. The Heritage analysis forgives the Waxman–Markey's mandate-induced inefficiencies by assuming that the economy meets the CO_2 caps as efficiently as is possible. Once again, we erred on the side of giving the costs of Waxman–Markey the benefit of the doubt.

MISUNDERSTANDING BASIC PUBLIC FINANCE

Johnson says, "'Losses' in GDP appear to *exceed* the value of the allowances.… Does the allowance value just evaporate?"[9] This comment exhibits a misunderstanding of public finance. The losses (scare quotes are unnecessary) in GDP are the excess burden or deadweight loss of taxation. Depending on the tax rate and elasticities of supply and demand, excess burden can be greater than, smaller than, or equal to the tax revenue. With punitive tax rates the ratio of excess burden (GDP losses in this case) to tax revenue (allowance value) will be higher. We find the aggregate allowance value (the value of the cap-and-trade carbon tax) at $5.7 trillion is indeed smaller than the aggregate GDP losses at $9.4 trillion. The allowance value is fully spent. GDP losses exceed the allowance revenues because Waxman–Markey is an extraordinarily inefficient way of raising revenue.

IGNORING BASIC ECONOMIC ANALYSIS

Johnson writes, "How is it that this study finds net job losses, when it likely…predicts substantial increases in GDP?"[10] Again, she does not consider opportunity cost. One opportunity cost of Waxman–Markey in 2035 is that nearly 2.5 million fewer people will be employed than if the bill were not enacted. Comparing statistics from 2009 without the bill to 2035 with the bill tells us nothing about the bill's impact.

She continues, "[E]conomic analyses of past environmental regulations on average show an increase in jobs from environmental regulation."[11] Notably, she does not say a net increase in jobs. Although analysts from across the political spectrum may argue about magnitude, they agree that cap and trade will negatively affect the economy.

For example, while the EPA dodges the question of employment in their analysis, even they find that GDP goes down with Waxman–Markey. Falling below baseline GDP means that the economy is not performing as well as it could and that net employment is likely lower than it could be. This is a perfectly consistent result, regardless of her criticism. In addition, the legislation contains numerous provisions to assist displaced workers, which suggests that its sponsors expect job losses. The problem is not whether there will be a cost to enacting Waxman–Markey, but as in Office of Management and Budget Director Peter Orszag's words, "whether we are willing to pay that cost."[12]

Johnson cites a study from the Political Economy Research Institute that claims that transferring $100 million from the petroleum industry to "green" jobs creates more employment than it destroys.[13] The PERI study strangely considers lower capital (and

8. Adele Morris, "Fuel Efficiency Standards: A Detour from the Cheapest Climate Protection," The Brookings Institution, February 3, 2009, at *http://www.brookings.edu/opinions/2009/0203_climate_change_morris.aspx* (June 3, 2009) (emphasis added).
9. Johnson, "The Heritage Foundation's Waxman–Markey Analysis," p. 2 (original emphasis).
10. *Ibid.*
11. *Ibid.*, p. 3.
12. Peter R. Orszag, "Issues in Designing a Cap-and-Trade Program for Carbon Dioxide Emissions," testimony before the Committee on Ways and Means, U.S. House of Representatives, September 18, 2008, at *http://waysandmeans.house.gov/media/pdf/110/orszag.pdf* (June 4, 2009). He was director of the Congressional Budget Office at the time.
13. Robert Pollin, Heidi Garrett-Peltier, James Heintz, and Helen Scharber, "Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy," University of Massachusetts Amherst, Political Economy Research Institute, September 2008, at *http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/peri_report.pdf* (June 5, 2009).

the ensuing lower wages) a benefit because $100 million can hire more people at a lower wage than at a higher wage. Moving toward an economy with higher labor intensity is a move toward greater poverty. However, the study has an even more basic flaw because it ignores the value of the energy in $100 million of petroleum and ignores any other costs of taxing this large amount away from the petroleum industry. Analyses purporting to show job gains from subsidizing "green" jobs ignore the costs of the subsidies.

She is also confused by job losses declining from 2012 to 2020. Because of the slack provided by offsets (which she erroneously claimed were not included), the caps in the Heritage model do not tighten over the first five years. This allows the economy greater ability to adjust to the shock of introducing cap and trade in 2012. Once the slack is used up and the caps bite progressively harder, the economy struggles and unemployment grows continuously for the remainder of period analyzed.

RENEWABLES

Johnson asserts that the Heritage study allows no increase in renewables. In fact, the Heritage study assumes renewable electricity generation (not counting conventional hydroelectric) and biofuels grow by a factor of four from 2010 to 2035. The Heritage analysis includes significant increases in wind energy, solar power, ethanol, biodiesel, and biomass-derived energy in the baseline.

THE EPA'S ANALYSIS

Johnson wonders why the Heritage costs are so much higher than those of the EPA. First, the EPA discounts all costs using a 5 percent real discount rate. Discounting can be a reasonable tool if used for both the costs and the benefits of environmental regulations. In any event, the NRDC has come out strongly against discounting. For example, the NRDC criticizes a CRA International report that used discounting when measuring the impact of an earlier energy bill:

> It is also possible to make the benefits of avoided climate damages "disappear" through the use of the mathematically convenient, but ethically questionable, practice of discounting future benefits. The CRA analysis uses a 5% annual discount rate. At this rate, a dollar of income fifty years from now is worth only $.08 today.[14]

The NRDC needs to decide whether it is for or against discounting and then argue for consistency in its application.

Further, the EPA assumes a doubling of nuclear power by 2035, yet the NRDC has already pointed out the absurdity of this assumption:

> New nuclear power plants are unlikely to provide a significant fraction of future U.S. needs for low-carbon energy.
>
> …[E]xpanding nuclear power is not a sound strategy for diversifying America's energy portfolio and reducing global warming pollution.[15]

Eliminating discounting and nuclear power from the EPA analysis significantly raises their cost estimates and brings them much closer to the cost estimates of the Heritage study.

CONCLUSION

Far from turning all that is positive into "all that is bad," the Heritage study presents a fair and increasingly corroborated analysis of the likely costs and benefits. It is up to policymakers and the public to decide if the benefits are worth the costs.

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14. Hawkins, testimony before Committee on Environment and Public Works.
15. Natural Resources Defense Council, "Nuclear Facts."