Is It Really a Huge Mistake? Choosing Between Carbon Fees and Cap-and-Trade: A Commentary on "The Huge Mistake – Climate Change Solutions 2009"

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In the video, "The Huge Mistake – Climate Change Solutions 2009,"[1] Laurie Williams and Allan Zabel (two highly experienced attorneys from the Environmental Protection Agency) appeal to both emotion and reason to convince viewers that the cap-and-trade program, embodied in the Waxman-Markey climate change bill,[2] is a huge mistake, and that carbon fees are the way to go.

The authors posit that cap-and-trade proposed by the bill is a mistake because it is based on a "big lie," and perpetuates a "big rip-off." They then argue that carbon fees with rebates are preferable because they would make renewable energy more cost competitive. Carbon fees, according to Williams and Zabel, would also make energy more affordable because there would be rebates for consumers. Unfortunately, the video does not give the entire picture.

This commentary does not intend to discredit the video; rather, it intends only to present counterarguments to the video's positions. Each segment of the video is examined *in seriatim*.

THE SO-CALLED "BIG LIE"

According to Williams and Zabel, the "big lie" is the proposition that the cap-and-trade system will work for carbon dioxide (CO_2) because it worked to

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1. YouTube.com, "The Huge Mistake – Climate Change Solutions 2009" (2009), http://www.youtube.com/watch?v=06aYJ8Ja75c (last visited Nov. 20, 2009).

2. American Clean Energy and Security Act (Waxman-Markey), H.R. 2454, 111th Cong. (2009).

reduce sulfur dioxide emissions that cause acid rain. They argue that this is not really true because the reduction in sulfur dioxide was due to the use of lower-sulfur coal, and not the cap-and-trade system itself, and that the acid rain program did not lead to technology innovation but only to the installation of scrubbers.[3]

While there is merit to the argument that a system for reducing sulfur dioxide will not necessarily work for CO_2 given the different natures of these gases, there is evidence that the cap-and-trade system induced industries to reduce sulfur emissions. The profits derived from trading emission permits alone was additional reason to look for and adopt the use of lower sulfur coal, as well as install emission-reducing scrubbers in their plants. Without the acid rain program, polluters would have had less incentive to resort to these emission-reducing measures.[4] A cap-and-trade system did work to reduce sulfur dioxide emissions, and the system's flaws should not merit its utter disregard.[5]

Williams and Zabel also allege that the CO_2 cap-and-trade system will not encourage investments in clean renewable energy. While this may be true if cap-and-trade were considered by itself, Waxman-Markey's Renewable Electric Standard, more popularly known as the Renewable Portfolio Standard (RPS), compensates for this potential pitfall.[6] The interaction of this climate change instrument should be considered along with the cap-and-trade program.

An RPS requires retail suppliers of electricity or utilities to include a fixed percentage of renewable energy as part of their total energy mix. The minimum proportion of renewables may be raised over time.[7] Each megawatt of electricity generates a Renewable Energy Certificate (REC), which is tradable among utilities to help them to comply with their targets.[8]

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3. *See also* Cutrix A. Moore, *The 1990 Clean Air Act Amendments: Failing the Acid Test*, 34 Envtl. L. Rep. (Envtl. Law Inst.) 10366, 10379 (2004).

4. Although the reduction in sulfur coincided with availability of low sulfur coal, sulfur dioxide emissions from power plants included in the program also fell 35 percent from 1990 levels. EPA, ACID RAIN PROGRAM, 2005 PROGRESS REPORT 2 (2006) (cited in HOLLY DOREMUS ET AL., ENVIRONMENTAL POLICY LAW: PROBLEMS, CASES, AND READINGS 711 (5th ed. 2008)).

5. *See* David M. Driesen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control/Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 313–19, 324–38 (1998) (cited in DOREMUS ET AL., *supra* note 4, at 713–17.

6. H.R. 2454, 111th Cong., § 101 (2009).

7. *Id.*, § 101(a) amending Title VI of the Public Utility Regulatory Policies Act of 1978, 16 U.S.C. § 2601 (2006). Retail suppliers of electricity are required to include:
Six percent of renewables by 2012
Twenty percent of renewables by 2020
Five to eight percent can come from efficiency improvements.
See also Kate Sheppard, *Everything You Always Wanted to Know About the Waxman-Markey Energy/ Climate Bill—in bullet points*, GRIST, June 3, 2009, http://www.grist.org/article/2009-06-03-waxman-markey-bill-breakdown/.

8. For a detailed discussion of RPS and the RECs, see RYAN WISER & GALEN BARBOSE, LAWRENCE BERKELEY NAT'L LABORATORY, RENEWABLE PORTFOLIO STANDARDS IN THE UNITED STATES: A STATUS REPORT WITH DATA THROUGH 2007 (2008) *available at* http://eetd.lbl.gov/ea/ems/reports/lbnl-154e-revised.pdf.

To illustrate, suppose Utility A buys fifteen megawatts (MW) in renewable energy constituting 15 percent of the 100 MW it distributes to its ratepayers, it is entitled to fifteen RECs. Since the requirement is only 6 percent annually until 2012, it can sell its surplus RECs, representing nine MW, to another utility, which may not have access to renewables. Effectively, this monetizes the greenness of renewable electricity by generating tradable RECs. Thus, renewable generators can deal with two products—the fungible electricity, and the RECs representing its environmental friendliness.[9]

Given the potential for an RPS to mandate increases in the use of renewable sources of energy, the concern of Williams and Zabel for the absence of incentives for investments in renewable energy seems misplaced. While an RPS may not be sufficient in and of itself to achieve CO_2 reduction goals, it is not accurate to state that the Waxman-Markey bill does not encourage a shift of investments from traditional fossil fuels to renewables.

Taken in proper conjunction with the cap-and-trade system, the RPS should actually shrink the caps or permitted emissions to avoid "phantom reductions" and allocations of "hot air."[10] RPS increases investments in renewables, which effectively lowers the aggregate emissions for the total electricity produced. With the theoretical influx of renewables, there will be lower emissions to produce similar amounts of energy. If the target emissions of the cap-and-trade system are not reduced accordingly, more "phantom reductions" will result from the reduction of the baseline aggregate carbon emissions from renewables without the concurrent ratcheting down of the carbon cap.[11]

Moreover, the required renewable percentages in the RPS can even constrict the proliferation of offsets, another qualm that Williams and Zaber have with the current cap-and-trade approach. Using their own argument, carbon reductions generated by the RPS should not count as carbon offsets because they are legally required, and thus do not add any *additional* carbon reductions below the legal baseline.[12] The electricity generators already invested in renewables because of the RPS; they do not have to be encouraged further by carbon offsets.

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9. *See* BRUCE ELDER, ENERGY POLICY INITIATIVE CTR, RENEWABLE ENERGY CREDITS IN CALIFORNIA: STATUS AFTER PASSAGE OF SENATE BILL 107 OF 2006, 107 (2007) *available at* http://www.sandiego.edu/epic/publications/documents/070625_RECs_SB107_FINAL_000.pdf.

10. "Phantom reductions" refer to illusory reductions, where reductions occur in paper only. "Hot air" has been used to describe vesting capped entities with excess credits allowing them to emit more than they are supposed to. These occur when the number of offsets is actually greater than actual reductions. *See* DOREMUS ET AL, *supra* note 4, at722.

11. Professor Steven Weissman, Lecture on Class 3: State Programs (1) for the Law 270.7 Renewable Energy: Law Policy and Promise (Sep. 3, 2008) (notes on file with author). For more discussion, see Juan Arturo Iluminado C. de Castro, *The Philippine Renewable Energy Act of 2008: Law Policy and Promise of Renewable Energy in the Philippines,* ATENEO L. J. (forthcoming 2009).

12. In the video, Williams and Zaber say that reductions caused by actions that are legally required are not entitled to offsets because these reductions are no longer additional.

Indeed, the foregoing interaction between the RPS and the cap-and-trade system needs harmony and balance, which may be tricky and complex to say the least. The correct mix can lead to substantive emissions reductions. This possibility still reflects the viability of the cap-and-trade system as a tool for climate change policy. This tag team potential between cap-and-trade and the RPS will be wiped out if carbon fees take the place of the cap-and-trade system.

Although a carbon fees system is not incompatible with an RPS, the resulting dynamic would differ. There would be no emissions reduction target, and there would be more dependence on the carbon reductions from renewable energy. Both the RPS (which make renewables more profitable by monetizing greenness) and the carbon fees (which make traditional fossil fuel use more expensive) have the same objective of promoting renewables. This can be seen as overreliance on renewables, which can be a concern when there are studies showing that some renewables, like biofuels,[13] result in a net increase in carbon emissions.[14] Relying on the shift to renewables alone, without any caps, may therefore be insufficient to achieve the desirable emission requirements.

A tag team between the RPS and cap-and-trade system, which promotes renewable energy while capping and monitoring emissions, is thus better than the RPS and carbon fees combination, which does not cap emissions.

THE SO-CALLED "BIG RIP-OFF"

According to Williams and Zabel, offsets are a big rip-off because they do not actually result in emissions reductions. They only cause big windfalls for energy investors, and give a misimpression of carbon emissions reductions. They even cite examples where polluters make money off carbon offsets without actually reducing emissions. The big problem they cite is leakage because the carbon emitting activity prevented by the offset can easily shift elsewhere.

In sum, the authors refer to the offsets' "lack of integrity." What if we suppose that the problems in implementation were solved and that additionality could be ensured? Certainly, cheating in elections does not lead to discarding elections altogether. The system is generally tweaked, while improving monitoring and implementation methodologies. This may be true for the cap-and-trade system as well.

The video discusses the example of earning offsets for not cutting trees, which a landowner could have done anyway even without the offsets given to

13. Although biofuels are primarily used for transportation, it qualifies as a renewable for the Renewable Energy Standard. (H.R. 2454, 111th Cong., §101(a)(18)) Although Williams and Zaber only focus on electricity generation, they espouse carbon fees for fossil fuels, also used for transportation.

14. *See* Elizabeth Rosenthal, *Biofuels Deemed a Greenhouse Threat*, N.Y. TIMES, February 8, 2008, *available at* http://www.nytimes.com/2008/02/08/science/earth/08wbiofuels.html?scp=1&sq=rosenthal&st=nyt; *see also* Severin Borenstein, *The Market Value and Cost of Solar Photovoltaic Electricity Production* (University of California Energy Institute, CSEM Working Paper 176, 2008), *available at* http://www.ucei.berkeley.edu/PDF/csemwp176.pdf.

him. Since that particular area has not satisfied the demand for lumber, trees in other areas would still probably be cut, thus giving polluters more rights to pollute without any emissions reductions.

Notice that the actual criticism lies in the implementation of the cap-and-trade system rather than the core of its concept. Perhaps the solution is better implementation and enforcement of the mechanics of the cap-and-trade system rather than simply discarding it. Better formulae, methodologies, and effective monitoring can lead to better solutions.

First, paying a landowner to preserve a forest as a carbon offset is a reasonable way to achieve additional carbon reductions, so long as additionality is ensured. If that landowner had intended to do the emission-reducing activity without the investment anyway, then there is no additionality and offsets should not have been given.

Second, technology such as satellite monitoring can pinpoint shifts in emissions. There can be a system where offsets should be awarded only when demand for carbon-emitting activities are quelled, and not shifted. Assuming that there is compliance with the additionality requirement, emissions are reduced,[15] which is always better than no reductions at all.

The authors then cite examples in the United States and Europe to support their proposition that offsets are a big rip-off. Unfortunately, they do not consider any example from developing countries where offsets are spurring development and a better standard of living.

To take an example closer to home, there is the Biogas Emission Reduction Project in the Philippines run by an Italian firm. It is situated in the slums of Payatas, Quezon City where a "garvalanche" (a landslide of mounds of garbage) killed hundreds in July 2000.[16] The energy project utilizing methane from the garbage landfill was financed by carbon credits—the offsets[17] in Kyoto Protocol's cap-and-trade system. With the establishment of the project, crime rates have reportedly decreased since its vicinity and surrounding neighborhood are now well lit by methane gas-generated electricity. Overall health and physical safety has also been enhanced by the reduction of nauseating gases and better landfill management.[18]

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15. *See generally* EXECUTIVE BOARD OF THE CLEAN DEVELOPMENT MECHANISM, TOOL FOR DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY, EB16 REPORT ANNEX 1, at 1 (August 2008) *available at* http://cdm.unfccc.int/EB/016/eb16repan1.pdf.

16. *Landfill Stability*, WASTE MANAGEMENT WORLDS, May 1, 2004 *available at* http://www.waste-management-world.com/display_article/273039/123/ONART/Display/none/1/Landfill-stability/; *see also* Urban Poor Asia, Payatas Landslide, http://www.achr.net/payatas_2.htm (last visited Oct. 25, 2009).

17. *See* United Nations Framework Convention on Climate Change, About CDM, http://cdm.unfccc.int/about/index.html (last visited Nov. 22, 2009) (describing the Certified Emission Reduction Credits program under the Kyoto Protocol's Clean Development Mechanism).

18. Marlon Ramos, *Payatas Biogas Plant Now Income-Generating Facility*, PHILIPPINE DAILY INQUIRER, July 3, 1008, *available at* http://newsinfo.inquirer.net/inquirerheadlines/metro/view/20080806-152921/Payatas-biogas-plant-now-income-generating-facility.

The Payatas energy project is only one of hundreds of energy projects funded by offset investments in developing countries. These include the Salta Landfill Gas Capture Project in Argentina,[19] the installation of solar home systems in Bangladesh,[20] the Santa Cruz de la Sierra Wastewater Methane Capture Project in Bolivia,[21] the Jepirachi Wind Farm in Colombia,[22] and Humbo Assisted Renegeration in Ethiopia,[23] among others.[24] Most of the projects were possible only because offsets attracted investors to put their money in projects, which were probably not feasible prior to any cap-and-trade offset system.[25]

The arguments of Williams and Zabel in support of their opposition to offsets are probably true. They cite foreign examples of how offsets worked to the detriment of climate change mitigation. These examples, however, failed the additionality requirement and should not have been awarded any offset or carbon credit. These issues can be ameliorated with better implementation, as discussed above.

Unfortunately, Williams and Zabel failed to consider situations where offsets have worked to the benefit of the environment and local communities. Certainly, there are situations around the world, as enumerated above, where there are clear emission reductions attributable to offset investments - more definite than mere preservation of a forest.

THE SO-CALLED "REAL SOLUTION"

Williams and Zabel propose "carbon fees with rebates" as an alternative to a "cap-and-trade" system. Under this framework, a carbon fee would be added to the cost of fossil fuels, making it more expensive to operate traditional electric generators than their renewable energy counterparts. This should eventually shift investments to renewable energy.

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19. *See* The World Bank Carbon Finance Unit, Argentina: Salta Landfill Gas Capture Project, http://wbcarbonfinance.org/Router.cfm?Page=Projport&ProjID=33518 (last visited Nov. 22, 2009).

20. *See* The World Bank Carbon Finance Unit, People's Republic of Bangladesh: Installation of Solar Home Systems in Bangladesh (IDCOL), http://wbcarbonfinance.org/Router.cfm?Page=Projport&ProjID=37263 (last visited Oct. 25, 2009).

21. *See* The World Bank Carbon Finance Unit, Bolivia: Santa Cruz de la Sierra Wastewater Methane Capture Project, http://wbcarbonfinance.org/Router.cfm?Page=Projport&ProjID=33342 (last visited Oct. 25, 2009).

22. *See* The World Bank Carbon Finance Unit, Colombia: Jepirachi Wind Farm, http://wbcarbonfinance.org/Router.cfm?Page=Projport&ProjID=9605 (last visited Oct. 25, 2009).

23. *See* The World Bank Carbon Finance Unit, Ethiopia: Humbo Assisted Regeneration, http://wbcarbonfinance.org/Router.cfm?Page=Projport&ProjID=9625 (last visited Oct. 25, 2009).

24. *See* The World Bank Carbon Finance Unit, Project Portfolio, http://wbcarbonfinance.org/Router.cfm?Page=ProjPort&ItemID=24702 (last visited Nov. 22, 2009).

25. Under the carbon offset system embodied in Kyoto's Clean Development Mechanism, governments and companies contributed money to the World Bank Finance Unit to purchase project-based greenhouse gas emissions reductions in developing countries. These funds are actually offset investments used for said projects. *See* The World Bank, About World Bank Finance Unit (CFU), http://wbcarbonfinance.org/Router.cfm?Page=About&ItemID=1 (last visited Oct. 25, 2009).

According to the video, carbon fees would finance monthly rebates that would be allocated to consumers to ensure that energy is affordable by putting money in the pockets of the consumers instead of the offset investors.

As with any policy proposal, there is a downside. The carbon fees do not set targets, and there is no apparent need to quantify emissions reductions. This may even allow stationary sources to emit limitlessly as long as they can afford to pay for the fossil fuels along with the carbon fees. It may be cheaper to pay carbon fees rather than retrofit or replace a traditional fossil fuel plant. It is not definite if and when utilities will shut down traditional fossil fuel plants simply because of carbon fees, especially considering the nature of ratemaking, as discussed below.

The alleged shift in investments from traditional fossil fuels to renewables under William's and Zabel's proposed carbon fees system is as uncertain as the intended shift caused by the RPS. Note that the RPS and carbon fees have the same goal of making renewables more viable: carbon fees make traditional fossil fuels more expensive than renewables, while an RPS makes renewables more profitable by monetizing the green aspect of its energy. The RPS, which is already in the Waxman-Markey bill, may work as well as carbon fees proposed by the video. The policies proposed by Waxman-Markey may even be more effective since emissions must be quantified and capped.[26]

Another possible glitch in the carbon fee with rebates policy proposal concerns the ratemaking process in the electric power industry. Fuel costs are necessary costs for operating a power plant, and thus, constitute part of the rate base.[27] This means that carbon fees along with fuel costs can be passed on to consumers through electricity rates, translating into more expensive monthly electric bills.

Since carbon fees can be part of the rate base, there exists the danger that investors and operators of traditional fossil fuel plants may be indifferent to the carbon fees simply because they can pass on this extra cost to consumers. In effect, the monthly rebates to consumers taken from carbon fees are only raked back to utilities through monthly electric bills.

INTERNATIONAL IMPLICATIONS

The proponents also mention that if the United States adopts the carbon fees with rebates policy and seeks agreements with other countries, the United States can lead the world to a clean energy future. This statement leaves developing countries out of the global climate change equation.

Making developing countries adopt similar programs, as the authors propose, would make energy investments and development in their respective jurisdictions more expensive because this would mean additional operational

26. For an interesting side-by-side comparison of these approaches, *see* Tim Kelly, *Carbon Tax or Cap-and-Trade? The Debate We Never Had*, BRAVENEWCLIMATE, February 14, 2009, http://bravenewclimate.com/2009/02/14/carbon-tax-or-cap-and-trade-the-debate-we-never-had/.

27. *See* JOSEPH TOMAIN & RICHARD D. CUDAHY, ENERGY IN A NUTSHELL 130 (2004).

costs, which discourages potential investors. This implicates the moral issue of making development more expensive for developing countries when the developed countries were able to cheaply and limitlessly emit when they were developing decades ago.[28] As fossil fuels have become an essential cost for basic commodities, the increasing expense of carbon fees worsens the moral issue. More expensive fuel costs mean more expensive food.[29]

Although carbon fees and the cap-and-trade approach both make fossil fuels more expensive, the cap-and-trade-with-offsets approach discriminates between developed and developing countries. Developed countries would have emissions caps imposing a direct burden for emission reductions, while developing countries would be given more leeway by not having their emissions capped and by serving as sources of offsets. In the carbon fees approach, fuel is made expensive for all without any distinction, which is a major concern where a minimum hourly wage can be below one dollar.[30]

A counterargument to the need for a dichotomy of developed and developing countries in global climate change policy is illustrated by China, today's largest emitter, which still claims the status of a developing country.[31] Then again, the developing world is not China alone, and China alone is not the developing world. Global climate change policy in the treatment of developing countries should not hinge on what China does or does not do. There are scores of smaller developing countries, which emit less and deserve more leeway in development.

On the other hand, the Waxman-Markey bill can be viewed as the United States making up for its action and position in the Kyoto Protocol.[32] Notice how similar the bill is in adopting the cap-and-trade approach, which also allows for offsets. By having its own climate change legislation similar to the Kyoto Protocol voluntarily, separate and independent from any international regime, the US is apparently legitimizing its reason for not ratifying the Kyoto

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28. *See* Susan E. Holley, *Global Warming: Construction and Enforcement of an International Accord*, 10 STAN. ENVTL. L.J. 44, 45–46 (1991).

29. Susan Koeppen, Food Prices Follow Fuel Through the Roof, CBS NEWS, April 1, 2008, http://www.cbsnews.com/stories/2008/04/01/earlyshow/contributors/susankoeppen/main3985519.shtml (last visited Oct. 29, 2009); *see also* International Monetary Fund, Impact of High Food and Fuel Prices on Developing Countries—Frequently Asked Questions, http://www.imf.org/external/np/exr/faq/ffpfaqs.htm (last visited Nov. 21, 2009).

30. For example, the minimum wage in the National Capital Region of the Philippines is PhP382 per day. At today's exchange rate of approximately PhP50 to $1, an eight-hour work day earns around $7.64, less than $1 per hour. *See* PHILIPPINE DEPARTMENT OF LABOR AND EMPLOYMENT, MINIMUM WAGE RATES BY SECTOR AND REGION tbl.20 (Mar. 2009), *available at* www.bles.dole.gov.ph/CLS'08/cls_apr09/pdf_files/Tab20.pdf.

31. James Kanter, *China Increases Lead as Biggest Emitter of Carbon Dioxide*, N.Y. TIMES, June 13, 2008 *available at* http://www.nytimes.com/2008/06/13/business/worldbusiness/13iht-13emit.13689957.html.

32. *See* Kyoto Protocol to the U.N. Framework Convention on Climate Change, Dec. 10, 1997, U.N. Doc. FCCC/CP/1997/7/Add.1, 2303 U.N.T.S. 148 (entered into force Feb. 16, 2005), *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf.

Protocol—that China was not a mere excuse to avoid reducing carbon emissions.

Waxman-Markey also considers offsets generated abroad. Under an offset system, developing countries can actively participate and be beneficiaries in climate change mitigation. With the help of offset investments, a developing country can utilize clean wind power instead of coal plants (which it would have used if there were no offsets) to satisfy its energy needs, thus causing additional reductions in emissions. This promise is not evident in the climate change mitigation equation of carbon fees as proposed by Williams and Zaber.

Indeed, it is unfair to expect a ten-minute video to effectively discuss a complex issue; however, it is only fair to paint the entire picture through open dialogue and discussion. To reiterate, this commentary does not intend to discredit the proposal for carbon fee with rebates. It merely seeks to present aspects of the cap-and-trade approach that the authors of the video may have overlooked. It also looks into possible glitches in their proposal for a carbon fee with rebates system. Only by deciphering each and every aspect of the bill can we truly consider and weigh the merits of the cap-and-trade system under Waxman-Markey.