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Cap-and-Trade Schemes Are *Not* Markets

By Marlo Lewis*

Barring the trickery of a lame duck conference committee, cap-and-trade legislation to curb carbon dioxide (CO_2) emissions is dead in the 111th Congress. Some cap-and-trade supporters blame President Obama for not taking a more hands-on role. Others blame environmental groups for waging a $100 million lobbying campaign without winning a single GOP convert to the Kerry-Lieberman bill.[1] Others blame the allegedly "well-funded denial machine," even though proponents, who include major corporations[2] like BP as well as the big green lobby groups, heavily outspent free-market and conservative advocacy groups.

Now some cap-and-trade supporters are trying to get Republican lawmakers on board pushing cap-and-trade as a "market-based" environmental policy and trying to spin GOP opposition to cap-and-trade as self-contradictory. Recent statements by Exelon Vice President Betsy Moler and Resources for the Future President Phil Sharp illustrate this approach.

"Cap and trade is really a Republican instrument that grew out of a lot of the Republican thought leaders as a market-sensitive, market-friendly, anti-command-and-control mechanism," Moler told the Climatewire news service in August. "Now, some of the same people who invented it have turned on it as an energy tax … It's a huge missed opportunity. I don't know where you go next."[3]

Sharp, who, as a Democratic House member from Indiana, supported energy deregulation, told Climatewire, "[W]hat is really unfortunate in the public debate is that the current Republican leadership has overthrown one of the great Republican successes in this country [under President George H.W. Bush], to capitalize on the flexibility of the marketplace" to improve environmental regulation.[4]

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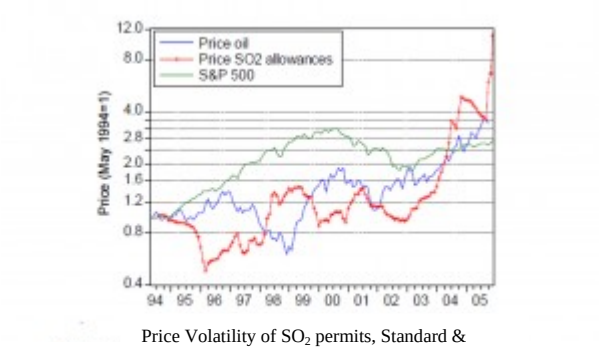
Moler and Sharp miss several key points. They confuse ends and means. Only if Republicans want government to raise energy prices, make coal uneconomical as an electricity fuel, or restrict Americans' access to carbon-based energy would they be inconsistent to oppose a "market-based" strategy to accomplish those objectives. But those are the environmental movement's goals, not the GOP's.

Moreover, the alleged successes they cite are not as impressive as they seem. More importantly, experience with cap-and-trade programs in other areas has little relevance to the control of carbon emissions, for the reasons outlined below.

Price Volatility. The cap-and-trade programs enacted under President George H.W. Bush have not been "magnificent" successes, because they fail to provide predictable compliance costs, which businesses need for long-term planning. As Yale University economist William Nordhaus points out, sulfur dioxide (SO_2) allowance prices have been highly volatile. He says, "SO_2 trading prices have varied from a low of $70 per ton in 1996 to $1500 per ton in late 2005. SO_2 allowances have a monthly volatility of 10 percent and an annual volatility of 43 percent over the last decade."[5] For perspective, Nordhaus notes that, during 1994-2005, SO_2 permit prices were more volatile than either crude oil prices or stock-market prices.[6]



Price Volatility of SO_2 permits, Standard & Poor's stock price index comprising the 500 largest U.S. companies (S&P 500), and Crude Oil, 1994 – 2005. *Source: Nordhaus, Life After Kyoto (Dec. 2005).*

Drawing on more recent experience, Nordhaus reiterates that, "[Q]uantitative limits [i.e. cap-and-trade schemes] have proven to produce severe volatility in the market price of carbon under an emissions-targeting approach. The volatility arises because of the inelasticity of both supply and demand for permits."[7] He continues:

> I have reviewed the history of the market prices of tradable permits for both the SO_2 trading system in the U.S. and for the CO_2 system in the EU. These prices have shown an extremely high level of volatility. I found that the prices of U.S. SO_2 emission allowances have been approximately as volatile as oil prices ... The volatility of CO_2 allowances in the EU ETS is similarly large: in the period from October 2008 to February 2009 alone, ETS carbon prices have varied between €9 and €24 per ton of CO_2.

Note also that, according to Nordhaus, "[T]he volatility of allowances is not due to policy errors. It is inherent in this kind of instrument. The high level of volatility is economically costly and provides inconsistent signals to private-sector decision makers."[8]

Federal Energy Regulatory Commission data also reveal high price volatility under cap-and-trade.[9] SO_2 permit prices fell from about $500 per ton in January 2008 to about $100

per ton in July. NO_X allowance prices jumped from about $800 per ton in June 2008 to about $1,400 per ton in August, and then declined to less than $100 per ton in late 2009.

CO_2 is Different. Whatever limited success the SO_2 trading program may have had, it is a dubious model for climate policy, because SO_2 and CO_2 are different. Utilities participating in the SO_2 emissions trading program could meet part—and sometimes all—of their obligations by purchasing low-sulfur coal, installing scrubbers (a commercially-proven emission control technology), or both. In contrast, there is no low-carbon coal, and no commercial technology to "scrub" CO_2 emissions out of power plant exhaust streams.[10] Thus, unlike an SO_2 trading program, a carbon cap-and-trade program has a high potential to become a job-killing energy rationing scheme.

Unlike sulfur, which is an impurity in coal and oil, carbon is intrinsic to the chemistry of fossil fuels. Consequently, whereas capping SO_2 does not necessarily alter the nation's fuel mix, capping CO_2 points to the total suppression of fossil fuel use as its ultimate objective. The abolitionist impulse is audible in the apocalyptic rhetoric of the global warming movement,[11] in petitions demanding that EPA establish national ambient air quality standards (NAAQS) for CO_2 at 350 parts per million[12]—a level that not even a global depression lasting several decades would achieve—and in Al Gore's campaign to "repower America "with "zero-carbon energy" by 2018.[13] Triggers for pull-out-the-stops, sky-is-the-limit regulation also lurk in the Waxman-Markey and Kerry-Lieberman bills' escalator clauses, which all but ensure that the explicit emission reduction target (83 percent below 2005 levels by 2050) would be superseded by more aggressive requirements.[14]

Climate Change is Not Air Pollution. The health effects of SO_2 and other air quality contaminants depend on short-term—annual, monthly, or even daily—emission levels. Thus, in theory, setting quantitative targets and timetables (caps) can produce significant, measurable public health benefits, making it reasonable to accept price volatility as an unavoidable risk. The same does not hold for climate "forcing" agents such CO_2. The health effects of greenhouse gas emissions (if any) depend on the total stock of greenhouse gases in the atmosphere, not annual emissions. As Willaim Pizer of Resources for the Future observes, "It cannot matter whether a ton of CO_2 is emitted this year, next year or 10 years in the future if all we care about is the total amount in the atmosphere."[15]

Not only is there no plausible public health rationale for capping annual greenhouse gas emissions, the costs would likely far exceed any public health benefits. As climate scientist Chip Knappenberger shows, based on United Nations Intergovernmental Panel on Climate Change climate sensitivity assumptions, reducing U.S. greenhouse gas emissions 83 percent below 2005 levels—the Waxman-Markey bill target—would have a negligible impact on global climate change, averting a mere 0.05°C of global warming by 2050.[16] Even if one considers global warming to be a serious problem, the benefits of capping emissions are too paltry to justify the risks—which in addition to volatile compliance costs include rampant opportunities for corruption in the form of creative accounting and rent-seeking.

Pizer and Nordhaus argue that across-the-board carbon taxes are more efficient than cap-and-trade in limiting the total stock of emissions over time. Carbon taxes are administratively simpler more transparent in their costs, and present fewer opportunities for corruption and rent-seeking. Most importantly, the costs are fixed and therefore entirely predictable.

However, carbon taxes do make energy more expensive, and thus carry substantial economic risks. Accordingly, nobody would accuse anti-tax Republicans of being inconsistent for opposing them.

A greenhouse cap-and-trade program, on the other hand, is a sneaky, implicit, less efficient form of taxing carbon-based energy. Republicans are right to oppose it, and entirely consistent in doing so.

Notes

[1] Darren Samuelsohn, "Climate bill blame game begins," *Politico*, July 22, 2010, http://www.politico.com/news/stories/0710/40132.html.
[2] See, for example, the U.S. Climate Action Partnership, which is comprised of large corporations and environmental groups, http://www.us-cap.org/.
[3] Peter Behr, "How the GOP and a slumping economy killed a 'Republican instrument'," Greenwire, August 11, 2010, http://www.eenews.net/climatewire/2010/08/11/1/ (subscription required).
[4] Ibid.
[5] William Nordhaus, "Life after Kyoto: Alternative Approaches to Global Warming Policies," National Bureau of Economic Research, Working Paper No. W11889, December 2005, http://www.econ.yale.edu/~nordhaus/kyoto_long_2005.pdf.
[6] Ibid.
[7] Nordhaus, "Economic Issues in a Designing a Global Agreement on Global Warming," Copenhagen, Denmark: COP15 keynote address, March 2009, http://climatecongress.ku.dk/speakers/professorwilliamnordhaus-plenaryspeaker-11march2009.pdf.
[8] Ibid.
[9] Federal Energy Regulatory Commission, "Emissions Market: Emission Allowance Prices," accessed August 18, 2010, http://www.ferc.gov/market-oversight/othr-mkts/emiss-allow/othr-emns-no-so-pr.pdf.
[10] Kenneth P. Green, Steven F. Hayward, and Kevin A. Hassett, "Climate Change: Caps vs. Taxes," *Policy Outlook* No. 2, American Enterprise Institute, June 2007, http://www.aei.org/docLib/20070601_EPOg.pdf.
[11] See, for example, James Hansen, "Coal-fired power stations are death factories. Close them," *The Guardian*, February 15, 2009, http://www.guardian.co.uk/commentisfree/2009/feb/15/james-hansen-power-plants-coal.
[12] "Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act," Center for Biological Diversity and 305.org, December 2, 2009, http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf.
[13] Al Gore, "A Generational Challenge to Repower America," Al's Journal, July 17, 2008, http://blog.algore.com/2008/07/a_generational_challenge_to_re.html.
[14] Marlo Lewis, "Kerry-Boxer: Its Bite is Worse than its Bark," MasterResource, October 27, 2009, http://www.masterresource.org/2009/10/kerry-boxer-its-bite-is-worse-than-its-bark/.
[15] William Pizer, "Choosing Price or Quantity Controls for Greenhouse Gases," *Climate Issues Brief* No. 17, Resources for the Future, July 1999, http://www.rff.org/rff/Documents/RFF-CCIB-17.pdf.
[16] Chip Knappenberger, "Climate Impacts of Waxman-Markey (the IPCC-based arithmetic of no gain)," MasterResource, May 6, 2009, http://www.masterresource.org/2009/05/part-i-a-climate-analysis-of-the-waxman-markey-climate-bill%E2%80%94the-impacts-of-us-actions-alone/.