

Social cost of carbon: Obama's end run around Congress

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PART 52

The term “social cost of carbon” (SCC) sounds fairly harmless. So why did the U.S. House pass a bill on Sept. 25 forbidding its use? Why does our National Rural Electric Cooperative Association and your cooperative consider the use of SCC to be ambiguous and arbitrary?

First, Congress never authorized or set guidelines for the SCC or even how to calculate it. Secondly, SCC has become the key to imposing indirect taxes on the economy through expensive government regulations. In essence, the U.S. executive and judicial branches of government have created an end-run around Congress' law-making authority. The use of SCC to justify and implement federal regulations may be “legal” from a judicial point of view, but from an elected congressional viewpoint, it constitutes legislative fraud.

The second major problem with setting an SCC number is you must first make policy decisions about the “science” of global warming, and whether, and what, if anything, can or should be done about that “science” judgment. That is why we have devoted several previous editorials to exploring the global warming theory (see especially December 2014, Part 42 editorial). Even if one wanted to focus only on the details of the EPA's Clean Power Plan (See Part 38 and Part 50 editorials at www.lmre.org under the *Country Living* tab), you cannot escape the underlying science question, which is, “How much of a ‘scientifically proven’ problem are these regulations trying to address?”

The third major problem with setting an SCC number is that it's really a subjective process highly influenced not only by how federal agencies answer the policy questions above, but also by many technical assumptions one must make to use multiple computer models to generate SCC numbers. As in all things political, “the devil is in the details.” So let's take a closer look.

Figure 1 was published in May 2013 by 11 federal agencies called the Interagency Working Group (IWG) on SCC. This table revises the one they published in February 2010. The numbers in the 3 percent discount rate column are 54-60 percent higher than the February 2010

numbers. This means U.S. regulatory agencies can now justify 54-60 percent more expensive regulations! The EPA's November 2013 *Fact Sheet: Social Cost of Carbon* explains, “EPA and other federal agencies use the SCC to estimate the climate benefits of rulemaking. The SCC is an estimate of the economic damages associated with a small increase in carbon dioxide (CO₂) emissions, conventionally one metric ton, in a given year. This dollar figure also represents the value of damages avoided for a small emission reduction (i.e., the benefit of a CO₂ reduction). The SCC is meant to be a comprehensive estimate of climate change damages and includes, among other things, changes in net agricultural productivity, human health, and property damages from increased flood risk.”

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The fact sheet says, “the timing of the emission release (or reduction) is key to estimation of the SCC, which is based on a present value calculation. The integrated assessment models (IAM) first estimate damages occurring after the emission release and into the future, often as far out as the year 2300. The models then discount the value of those damages over the entire time span back to present value to arrive at the SCC. For example, the SCC for the year 2020 represents the present value of climate change damages that occur between the years 2020 and 2300 (assuming 2300 is the final year of the model run); these damages are associated with the release of one ton of carbon dioxide in the year 2020. The SCC varies based on the year of emissions for multiple reasons. In model runs where the last year is fixed (e.g., 2300), the time span covered in the present value calculation will be smaller for later emission years — the SCC in 2050 will include 40 fewer years of damages than the 2010 SCC estimates.” Therefore, the EPA believes its regulations are valid today, based on computer model projections of climate 300 years in the future!

The July 2015 IWG “Response to Comments” about the new Figure 1 SCC numbers states, “Climate

Figure 1
Revised Social Cost of Carbon (2010-50)
in 2007 dollars per metric ton of CO₂

Discount Rate	5% Avg.	3% Avg.	2.5% Avg.	3.0% 95th
2010	\$11	\$33	\$52	\$90
2015	\$12	\$38	\$58	\$109
2020	\$12	\$43	\$65	\$129
2025	\$14	\$48	\$70	\$144
2030	\$16	\$52	\$76	\$159
2035	\$19	\$57	\$81	\$176
2040	\$21	\$62	\$87	\$192
2045	\$24	\$66	\$92	\$206
2050	\$27	\$71	\$98	\$221

change and its impacts, such as sea level rise, have been exhaustively documented, and synthesized internationally by the [United Nations (U.N.)] IPCC ... The IWG believes that: (1) anthropogenic emissions of greenhouse gases are causing atmospheric levels of greenhouse gases in our atmosphere to rise to levels unprecedented in human history; (2) the accumulation of greenhouse gases in our atmosphere is exerting a warming effect on the global climate; (3) there are multiple lines of evidence, including increasing average global surface temperatures, rising ocean temperatures and sea levels, and shrinking ice in glaciers, ice sheets, and the Arctic, all showing that climate change is occurring ... and (6) risks and impacts to public health and welfare are expected to grow as climate change continues ...” Therefore, the U.N. IPCC’s climate change assumptions for global temperatures, sea level rise, etc., are the basic inputs for estimating future damages evaluated by the IAM models. Our federal agencies are saying the U.N. IPCC reports are reliable enough for evaluating the cost versus benefits of U.S. environmental regulations!

Figure 2, from the May 2013, report shows the distribution of the average SCC results generated by the IAM model results using multiple scenarios over three discount rates. As Ruth Greenspan Bell explains in her July 13, 2011, article “The ‘Social Cost of Carbon’ and Climate Change Policy”: “A key variable in calculating the social cost of carbon is the ‘discount rate.’ The discount rate reflects the challenge of capturing the time factor in climate policy. It contains three assumptions. These are that humans prefer to receive benefits in the present rather than the future, the future generations will be richer and a dollar worth less to them as a result, and the opportunity cost of capital (that there are a variety of investment options for any given sum).

“In the calculation of cost-benefit and SCC, the choice of discount rate influences whether economists recommend investing in greenhouse gas reductions today or much later. From this perspective, the higher the discount rate, the less significant future costs become.

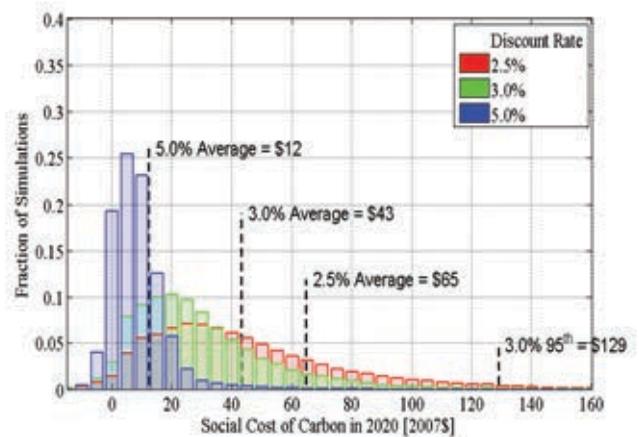
“Consider this point by economists Burtraw and Sterner: ‘At a discount rate of 1 percent, the discounted value of \$1 million 300 years [from today] is around \$50,000 today. But if the discount rate is 5 percent, the [current]...value is less than a mere 50 cents.’ This range of discount rates, which span those commonly used in calculating the SCC, lead to differences in net present value after 300 years that vary by a factor of one hundred thousand.”

The IWG adopted a 3 percent discount rate, which resulted in an average 2020 SCC of \$43. However, choosing a 2 percent higher discount rate results in an average SCC 72 percent lower, while choosing a .5 percent lower discount rate results in an average SCC 51 percent higher. A small change in the discount rate has

a major effect on the SCC.

The different colored bars in Figure 2 also represent the SCC results based on estimates of “Climate Sensitivity,” which the IWG defines as “the long-term increase in the annual global-average surface temperature from a doubling of atmospheric CO₂ concentration relative to pre-industrial levels (or...approximately 550 parts per million (ppm).”

Figure 2 Distribution of SCC Estimates for 2020



The IWG uses a probability distribution of temperature rise with a median value of 3.0 degrees C and 5th and 95th percentile values of 1.72 C and 7.14 C, respectively. Dr. Patrick J. Michaels, in his July 22, 2015, testimony before the U. S. House Committee on Natural Resources, testified that “the corresponding values averaged from the recent scientific literature are 2.0 C (median), 1.1 C (5th percentile), and 3.5 C (95th).” The upper temperature number is more than 50 percent lower, which would dramatically lower the SCC numbers. One research paper cited by Dr. Michaels said by up to 41 percent! He also stated if the positive economic benefits of CO₂ from the study discussed in last month’s editorial had been used by IWG in their models, then the SCC value would have been still lower with one study, saying the SCC could be lower by nearly \$15 per ton CO₂! Incorporating the latest science and adding the known positive benefits of CO₂, the SCC number can approach \$0 in some scenarios.

Folks, its one thing for our government to argue for regulations based on “science.” It’s another to ignore the latest science when the result runs counter to your political ideology. After all, a very low SCC number undercuts political arguments for greenhouse gas regulations, fuel mileage standards, renewable energy subsidies and mandates, equipment efficiency regulations, bio-fuel mandates, etc. Is SCC “science” or “politics?” As always, the devil is in the details. You be the judge. ☹