

Roger Caiazza Personal Comments on the  
Integrating Public Policy Task Force (IPPTF) Meeting on April 23, 2018  
April 25, 2018

Via email to NYISO at [IPP\\_feedback@nyiso.com](mailto:IPP_feedback@nyiso.com)

Response to DPS sent through Document and Matter Management System "Matter 17-01821"

These comments are submitted as a private retired citizen. They do not reflect the position of any of my previous employers or any other company I have been associated with, these comments are mine alone. The majority of New York State (NYS) ratepayers are unaware of the ramifications of this proceeding and have never heard of the Social Cost of Carbon (SCC). I am motivated to submit these comments so that there is at least one voice of the unaffiliated public whose primary interest is low electricity rates.

This attempt to incorporate carbon pricing in wholesale electric prices flies in the face of carbon price theory. In theory, the idea is to apply a carbon price across all energy sectors in as broad a market as possible so that market forces determine the most cost-effective solution. This plan to put a price on carbon on one sector in one state is therefore bound to fail to do anything other than raise NYS electricity prices at the expense of all NYS ratepayers.

I have an understanding of the basis of the rationale for a carbon price as embodied in the SCC as discussed in the April 23, 2018 IPPTF meeting. Based on the discussion at the meeting I got the impression that even many of those in attendance who have heard of the SCC don't understand the short-comings of the parameter. Therefore, I am submitting a third set of comments that addresses the SCC presentations at the meeting. I also want to point out a recent article to readers unfamiliar with the SCC: Julian Morris, [Climate Change, Catastrophe, Regulation and the Social Cost of Carbon](#).

#### Recommendations

For the purposes of this effort to develop a system that could put a price on carbon in the New York State wholesale electric market I agree with the Warren Myers presentation recommendation. I agree that the United States Interagency Working Group (IWG) SCC estimate minus the RGGI cost is the appropriate parameter to use. There is a basis for this SCC value and it is being used elsewhere by the DPS. It is also appropriate to subtract the RGGI cost to prevent double counting costs to the consumer for the two programs.

It is my understanding that this process is developing a system that could put a price on carbon to be presented to policy makers who will decide if this system will put a price on carbon in the New York State wholesale electric market. At that time, policy makers have to take into consideration that while the process used a single value of the SCC that there is a technically justified range of values and technical limitations to the use of the SCC. I therefore ask that the final report include just such a discussion and include a range of values of the SCC.

## Social Cost of Carbon Presentation

Bethany Davis Noll gave a [presentation](#) (Agenda 2 – Social Cost of Carbon) on the SCC at the April 23 meeting. I submitted [comments](#) on 10/31/17 advocating a range of values for the SCC. I argued that there are three technical reasons that the single value the IWG developed and proposed for use in this initiative should not be used exclusively: global benefits, discount rates and equilibrium climate sensitivity. Ms. Noll addressed two of those topics in her presentation but ignored the more important climate sensitivity issue.

The IWG SCC value considers global benefits and impacts not just New York State benefits and impacts. In other words New Yorkers are being asked to pay today for some estimated far future impact mostly elsewhere. Given that the State has limited resources to provide benefits to New Yorkers today is reason enough to consider whether the State can afford that luxury.

The EPA RIA for the revised Clean Power Plan includes an “interim” SCC value that uses a domestic rather than international social cost of carbon value which I think makes more sense for New York policy. Ms. Noll’s presentation argues that it is more appropriate to consider global impacts. The presentation responds to the use of domestic only damages as follows:

- But existing models cannot accurately calculate a domestic-only estimate because they were not built to include spillover effects.
- Even if the models could calculate an accurate domestic-only number, the calculation ignores the need to spur reciprocal actions from other countries to curb emissions.

Ms. Noll only gave one spillover effect example but a [Columbia Journal of Environmental Law paper](#) addresses the spillover effect in more detail:

In 2010, the [interagency working group](#) used the results of one economic model as well as the U.S. share of global GDP to generate an “approximate, provisional, and highly speculative” range of 7–23% of the global SCC as an estimate of the purely direct climate effects to the United States. Yet, as the interagency group acknowledged, this range is almost certainly an underestimate because it ignores significant, indirect costs to trade, human health, and security likely to “spill over” to the United States as other regions experience climate change damages.

In the paper spillover effects described include:

- Climate change disruption of the economies of other countries will spill over to the US as decreased availability of imported inputs, intermediary goods, and consumption goods and “may cause supply shocks to the U.S. economy. Shocks to the supply of energy, technological, and agricultural goods could be especially damaging. As seen historically, economic disruptions in one country can cause financial crises that reverberate globally at a breakneck pace.”
- The human dimension of climate spillovers includes migration and health effects. Water and food scarcity, flooding or extreme weather events, violent conflicts, economic collapses, and a number of other climate damages could precipitate mass migration to the United States from regions worldwide.
- Infectious disease could also spill across the U.S. borders, exacerbated by ecological collapses, the breakdown of public infrastructure in poorer nations, declining resources available for prevention, shifting habitats for disease vectors, and mass migration.

- Climate change is predicted to exacerbate existing security threats—and possibly catalyze new security threats—to the United States.

Ultimately whether or not a domestic SCC approach fails to include spillover effects matters only if decision makers decide that those effects should be a driver of NYS policy. While these spillover scenarios could entail a variety of serious costs to the United States the question for New York is whether the surety of increased costs of a price on carbon to our wholesale electric market is appropriate relative to those speculative effects. If we decide that we should worry about those effects then it is as important to decide whether New York should fund mitigation efforts like a carbon price or adaptation efforts that avoid climate damages to foreign countries to reduce the chance that these impacts will radiate benefits back to New York. It is likely that investments in foreign infrastructure adaptation will be a more cost-effective response.

The [Columbia Journal of Environmental Law paper](#) also claims that the need to spur reciprocal actions from other countries to curb emissions is a rationale for a global rather than a domestic SCC. The paper states that:

Game theory predicts that one viable strategy for the United States to encourage other countries to think globally in setting their climate policies is for the United States to do the same, in a tit-for-tat, lead-by-example, or coalition-building dynamic.

The fundamental issue for New York is that even the domestic SCC is not really appropriate for this program. If a New York SCC economic model were developed the direct impacts to New York would be a fraction of any global SCC value. I believe that our potential to lead-by-example potential is proportional to our proportional NY-only SCC value. As a result, advocates for this policy must explain how this New York action will lead to a “coalition-building dynamic” that will have anything more than a symbolic effect on global policies as opposed to simply adding cost to New York electric bills.

In previous comments I noted that the IWG SCC value did not follow Office of Management Budget Circular A-4 guidance that states that regulatory analyses “should provide estimates of net benefits using both 3 percent and 7 percent.” The 7 percent rate is intended to represent the average before-tax rate of return to private capital in the U.S. economy. The 3 percent rate is intended to reflect the rate at which society discounts future consumption, which is particularly relevant if a regulation is expected to affect private consumption directly.

In response to the 7 percent discount rate used in the “interim” SCC value in the EPA RIA for the revised Clean Power Plan Ms. Noll noted that:

- The 7 % discount rate obscures the harm that emissions will have on the younger and future generations.
- It was rejected by the IWG as inappropriate.

I am not enough of an expert on economics to argue these points. However, I am a cynic and suggest that the fact that it was rejected by the IWG was as much because when it was used it indicated much less cost as any other reason.

Throughout Ms. Noll's presentation and the [Columbia Journal of Environmental Law paper](#) the harms of climate change impacts were repeatedly emphasized. For example, the paper includes the following: "greenhouse gas pollution can impose great harms", "significantly increased risks of severe harms", and "A handful of geographic regions may experience short-term benefits from climate change, such as temporary agricultural gains in colder regions, but even in those areas, long-term, catastrophic scenarios would bring significant harms." The problem is that the estimates of catastrophic impacts are directly related to the likelihood of high sensitivity of temperature to carbon dioxide levels.

My fundamental problem with the IWG SCC value is that they did not use the latest value of the Equilibrium climate sensitivity (ECS). This is the expected change in temperature when the atmospheric CO2 concentration doubles. As noted, the costs of this warming are dominated by the higher possible values of the ECS. This problem was documented on July 23, 2015 by Patrick Michaels who presented relevant [testimony](#) to the House Committee on Natural Resources. Excerpts:

"In May 2013, the Interagency Working Group produced an updated SCC value by incorporating revisions to the underlying three Integrated Assessment Models (IAMs) used by the IWG in its initial 2010 SCC determination. But, at that time, the IWG did not update the equilibrium climate sensitivity (ECS) employed in the IAMs. This was not done, despite there having been, since January 1, 2011, at least 14 new studies and 20 experiments (involving more than 45 researchers) examining the ECS, each lowering the best estimate and tightening the error distribution about that estimate. Instead, the IWG wrote in its 2013 report: "It does not revisit other interagency modeling decisions (e.g., with regard to the discount rate, reference case socioeconomic and emission scenarios, or equilibrium climate sensitivity)."

"Clearly, the IWG's assessment of the low end of the probability density function that best describes the current level of scientific understanding of the climate sensitivity is incorrect and indefensible. But even more influential in the SCC determination is the upper bound (i.e., 95th percentile) of the ECS probability distribution. Apart from not even being consistent with the AR4, now, more than five years hence, the scientific literature tells a completely different story. And this is very significant and important difference because the high end of the ECS distribution has a large impact on the SCC determination—a fact frequently commented on by the IWG2010."

I previously commented that [Dr. Judith Curry had prepared a table](#) of different values of the ECS that illustrates the relative impacts of the indefensible cherry picking of a value that suited the agenda of the IWG rather than a more recent value.

## Equilibrium Climate Sensitivity

	Median	5 <sup>th</sup> pctile	95 <sup>th</sup> pctile
US IWG	3.0	1.72	7.14
AR4	3.0	1.5	-
AR5	-	1.0	6.0
CMIP5	3.45	2.08	4.67
Lewis & Curry 14	1.64	1.05	4.05
Lewis (15)*	1.45	1.05	2.2

\* Incorporates lower aerosol forcing of Stevens (2015)

Because the extreme values are a key driver of the ECS, the 95<sup>th</sup> percentile values are of most interest. Refer back to the Michaels testimony above to see that the IWG had lower values available to it for years but chose not to use them.

Furthermore, a [paper](#) just published by the *Journal of Climate* concludes that high estimates of future global warming from most computer climate simulations are inconsistent with observed warming since 1850. The implication is that future warming will be 30 to 45% lower than suggested by the simulations. This continues the trend of more recent data reducing the likelihood that temperature is highly sensitive to CO2 and therefore reduces the probability of the high impact “harms” that advocates for this carbon pricing initiative claim justify the use of the IWG SCC value.

## Conclusion

For the purposes of this effort to develop a system that could put a price on carbon in the New York State wholesale electric market I agree that the IWG SCC estimate minus the RGGI cost is the appropriate parameter to use. However, when the time comes for policy decision makers to decide whether to proceed, a range of SCC values should be provided.

The fundamental problem is that the IWG SCC value does not accurately reflect the current state of the science relative to the probability of temperature being highly sensitive to CO<sub>2</sub>. As a result that value over-estimates the potential benefit of New York emission reductions. The final report must also explain the rationale for NYS ratepayers to definitely increase our cost of electricity with a price on carbon is appropriate relative to the speculative effects of any SCC value.

Ultimately the SCC relies on a complex causal chain from carbon dioxide emissions to social impacts that are alleged to result from those emissions. [Richard Tol](#) testified that these connections are “long, complex and contingent on human decisions that are at least partly unrelated to climate policy. The social cost of carbon is, at least in part, also the social cost of underinvestment in infectious disease, the social cost of institutional failure in coastal countries, and so on.”

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