WRITTEN STATEMENT OF

DR. MICHAEL K. DORSEY

INTERIM DIRECTOR OF THE ENERGY AND ENVIRONMENT PROGRAM, JOINT CENTER FOR POLITICAL AND ECONOMIC STUDIES, WASHINGTON, DC

HEARING ON AN ANALYSIS OF THE OBAMA ADMINISTRATION'S SOCIAL COST OF CARBON

BEFORE THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON NAURAL RESOURCES

JULY 22, 2015

I am Dr. Michael K. Dorsey, Interim Director of the Energy and Environment Program at the Joint Center for Political & Economic Studies (hereafter, the Joint Center), a nonprofit, non-partisan public policy research institute located here in Washington DC. Before I begin my testimony, I would like to make clear that my comments are solely my own and do not represent any official position of the Joint Center.

What is the SCC

Since Ronald Reagan, we have decided that significant rules issued by the federal government be accompanied through intra-governmental review by a cost-benefit analysis.

As you know the Obama administration, like the Bush administration before it, has imposed a requirement to assess climate regulation through the lens of a range of figures collectively known as the "social cost of carbon" or SCC.

The SCC estimates the benefit to be achieved, expressed in monetary value, by avoiding the damage caused by each additional metric ton of carbon dioxide (CO_2) put into the atmosphere.[1]

Accordingly, the United States Court of Appeals for the Ninth Circuit ruled that executive branch agencies must include the climate benefits of a significant regulatory action in federal benefit-cost analyses (BCA) to comply with Executive Order 12,866.

In response, an Interagency Working Group on the Social Cost of Carbon was formed in 2010 to develop a consistent and accurate estimate of the social cost of carbon (SCC) using

---

[1] Bell, R.G. and D. Callan. 2011. More than Meets the Eye The Social Cost of Carbon in U.S. Climate Policy, in Plain English. WRI.

models drawn from scholarly and expert literature.[2] The SCC is the global cost to all future generations from one additional unit of carbon pollution in a given time period; forest fires, drought, and disease are just some of the costly consequences of climate change that are ideally included within it.[3]

Yet we need to keep improving the SCC estimate to ensure it reflects the latest science and economics. Doing so maintains an accurate SCC.

The SCC relies, as we know, on a discount rate greater than zero for the social cost of carbon. When we use such a discount rate we are making a value judgment –a moral judgment-- that our society in this period of time is more valuable than future societies—than that of our children and their children. In other words we are saying: that our generation's burning of fossil fuels is possibly more valuable than a safe and livable planet.

So choosing a discount rate is a moral and political exercise, not only a dispassionate, academic one. It is also a process.

While legally there is no need for increased transparency in the process to set the SCC, we should ensure a transparent process for updating and using this critical number going forward that especially involves citizens (and their designated representatives) that we know will be disproportionately harmed by the unfolding climate crisis.[4]

Further on any transparent SCC process must include the full disclosure of the financial interests of all of those who are involved in configuring the SCC. The full disclosure of the

---

[2] Masur, J. S., & Posner, E. A. (2011). Climate regulation and the limits of cost-benefit analysis. Cal. L. Rev., 99, 1557.
[3] Howard, P. 2014. *Omitted Damages: What's Missing from the Social Costs of Carbon*.
[4] Cleetus, R. 2013. "The Social Cost of Carbon: Setting the Record Straight Ahead of Today's House Hearing"

financial interests of those involved with SCC must emphasize the conflicts of interest of all parties. This especially must apply to any parties that have interests in the fossil fuel sector—inasmuch as parties from that sector may have a strong incentive to devalue the SCC (or inflate the discount rate used in part to calculate it).

Alas, today's House hearing on the SCC might simply be a sideshow aimed at undermining climate action, not likely to focus on issues of substance. Relying on those that downplay the extent of the unfolding climate crisis or seeking "opinions" from fossil fuel backed, industry economists is dangerous for the country—given that such interested parties can have financial and other conflicts with setting an accurate SCC.

Why Does the SCC Need to be Accurate

The Interagency Working Group's (IWG) values for the Social Cost of Carbon (SCC), as they stand, indicate that the discount rates used by the IWG may be too high, and that equity weighting of global damages was not conducted.

The IWG does give a justification for *including* a significantly higher- end discount rate of 5% (descriptive analysis of "possibility that climate damages are positively correlated with market returns").[5] The IWG should also provide a rationale for *excluding* significantly lower discount rates.

In fact, two members of the IWG—the Environmental Protection Agency (EPA) and Office of Management and Budget (OMB)—suggest that lower discount rates (between .5 and 3%) should be used in their own guidelines. The EPA suggests a use of lower discount rates in situations where there is "long-run uncertainty in economic growth and interest rates, intergenerational considerations, and the risk of high impact climate damages (which could reduce or reverse economic growth)".[6] OMB notes that although "most people demonstrate

[5] See: IWG 2010.
[6] See: EPA 2008.

time preference [ρ] in their own consumption behavior, it may not be appropriate for society to demonstrate a similar preference when deciding between the well-being of current and future generations".[7] These scenarios perfectly describe the scenario for rulemaking around carbon dioxide emissions and climate impacts; the lower discount rates, if modeled would, justify a much higher range of values for the SCC.

The IWG must equity-weigh the expected damages of climate change, which means that their models assume that the relative impacts of a dollar of damages do not vary regionally—or that this type of judgment is an inappropriate one to make. Since the IWG used a global social cost of carbon dioxide, which was not mandatory under rulemaking, as they were concerned about the global impacts of emissions. It then follows that they should be concerned about the disproportionate impacts that a dollar of damages might have on different regions of the globe *and in the country*. Climate damages should be weighed by relative per-capita income in the region where they occur. This would also justify a much higher range of values for the SCC. Further on, this could also allow those that bear more responsibility for the generating carbon pollution, share a large burden in abating it—and ultimately avoid catastrophic climate change and the associated political, social, economic and ecological crises associated with it.

Beyond the work on the SCC, we need to develop an Interagency Working Group on the Social Cost of Methane, analogous to the Interagency Working Group on the Social Cost of Carbon. Methane pollution is becoming a greater and greater problem for the United States as we expand our natural gas production. As scientists say we are nearing more and more climate tipping points, methane is also hugely important because although it is shorter lived in the atmosphere, it's radiative forcing is much higher than carbon dioxide over any relevant time frame. Promulgating a Social Cost of Methane will allow the Administration to be more

---

[7] See: OMB 2003.

proactive in rulemaking and allow us to better mitigate the impacts of methane emissions on our nation and the world.

Who's Harmed if the SCC is Not Accurate

There is a highly academic discussion underway on the "right" discount rate to use in calculating the social cost of carbon. Discount rates are based on the assumption that a dollar in the future is worth less than a dollar today, assuming the global economy and prosperity grow. The SCC report provides estimates discounted at 2.5 percent, 3 percent, and 5 percent. The choice of discount rate matters greatly because the impacts and costs of our carbon emissions will be borne primarily by future generations. The concept of discounting makes some sense when applied to individuals, not across generations.[8]

Unlike conventional pollutants, CO_2 persists in the atmosphere for 200 years or more. If we use a high discount rate for the SCC calculations, future costs could be minimized to the point of being ignored. And as a result, the benefits of actions to reduce emissions will also be greatly discounted. The math of compounding discount rates means that, for example with a rate of 7 percent, beyond the next two decades even a fairly significant cost would look small, and by the latter half of the century would approach zero. That is neither sensible from an economic point of view or an ethical point of view.[9]

In fact, there is a growing consensus among economists that the best approach would be to use a ***declining discount rate*** to better reflect inter-generational considerations.

---

[8] Cleetus, R. 2013. "The Social Cost of Carbon: Setting the Record Straight Ahead of Today's House Hearing".
[9] Cleetus, R. 2013. "The Social Cost of Carbon: Setting the Record Straight Ahead of Today's House Hearing".

There is a general consensus that future integrated assessment models (IAM) research must focus on hot spots. The "hot spot" regions are those that are geographically predisposed to climate change (for example, low lying nations and island nations), and those nations as well as communities in the US with insufficient ability to adapt (for example, the poorest amongst us in the US).[10]

In the US the number of "hot spots" is growing and perhaps too numerous to elaborate. Examples include, but are by no means limited to Alaska, the southern Gulf Coast states and the west—who are suffering from sea level rise, exceptionally strong hurricane events and sustained carbon pollution exacerbated droughts, respectively.

A small example of the possible magnitude of these relocation costs are Alaskan native villages. In the case of relocating three Alaskan villages (Kivalina, Shishmaref, & Newtok), the cost is estimated by the U.S. Army Corps of Engineers to be between $275 million and $455 million.[11]

In the US morbidity and mortality can be directly influenced by climate in six ways: (1) high and low temperature (that is, heat and cold stress), (2) vector-borne infectious disease (3) non-vector-borne infectious disease (including, zoonotic and waterborne diseases (4) air quality, (5) floods and storms, and (6) inter-sector effects of agriculture and water quality.[12]

---

[10] Howard, P. 2014. *Omitted Damages: What's Missing from the Social Costs of Carbon*.

[11] Lynn, K., & Donoghue, E. 2011. Tribal Climate Profile: Relocation of Alaska Native Communities. Tribal Climate Change Project at the University of Oregon. Retrieved from http://tribalclimate.uoregon.edu/files/2010/11/AlaskaRelocation_04-13-11.pdf.

[12] National Institute of Environmental Health Sciences. (2010). A human health perspective on climate change: A report outlining the research needs on the human health effects of

In a 2012 study, we conducted at the Joint Center, we found that marginalized communities of color in six southern and western states (Arizona, Arkansas, Louisiana, Oklahoma, New Mexico and Texas) face a "perfect storm" of poor health, socioeconomic barriers and climate-related challenges, and many are being left out of government climate change and disaster planning activities.[13]

Accordingly, in the face of such knowledge, since the SCC IWG should be concerned about the disproportionate impacts that a dollar of damages *will* have on different regions of *the country*—and world.

Our children and their children deserve to live in a world free from the extremely negative social, political, economic and ecological impacts of unchecked climate change. Our generation and the members of this Committee have an obligation to step up to make sure we're taking reasonably robust actions to ensure that we're drastically reducing carbon pollution in a timely manner proportionate with the unfolding climate crisis. Setting an accurate social cost of carbon is one critical step to achieve this end. I would urge the members of the Committee to keep this in mind.

---

climate change. In A Human Health Perspective On Cli- mate Change: A Report Outlining the Research Needs on the Human Health Effects of Climate Change. Environmental Health Perspectives (EHP); National Institute of Environmental Health Sciences.

[13] JCPES and THI. 2012. *Climate Change, Environmental Challenges and Vulnerable Communities: Assessing Legacies of the Past, Building Opportunities for the Future*.