REGENERATIVE
CRISIS RESPONSE
COMMITTEE

June 21, 2021

Dominic J. Mancini
Deputy Administrator, Office of Information and Regulatory Affairs
The Office of Management and Budget
725 17th Street NW
Washington, D.C. 20503

RE: Comments regarding "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990"

Dear Mr. Dominic Mancini:

The Regenerative Crisis Response Committee (RCRC) welcomes the opportunity to submit comments in response to the Office of Management and Budget's (OMB's) request for public input on the "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990" issued in the Federal Register on May 7, 2021.

The RCRC is a nonpartisan group of 10 senior leaders from the banking, financial services, regulatory and policy arenas who care deeply about ensuring the United States' economic recovery is durable, equitable and puts us on a path toward lasting sustainability.[1] Founded in late 2020, the RCRC works to identify, compare and recommend changes in fiscal, monetary and financial regulatory policies that are likely to enable the United States to achieve net carbon neutrality before 2050.

This letter represents the views of the undersigned members and our comments to OMB focus on the following key points: (1) the discount rate should be substantially lowered; (2) the Obama era SCC is too conservative; and (3) the SCC should be constructed to be consistent with U.S. nationally determined contributions and Paris Agreement goals.

The undersigned RCRC members have decades of experience working with and within government, the private sector, and international organizations. It is with this perspective the undersigned members provide the following comments to support the administration's work to update and apply the Social Cost of Greenhouse Gases (SC-GHG) to government decision making.

[1] REGENERATIVE CRISIS RESPONSE COMMITTEE, https://regenerativecrisisresponsecommittee.org/ (last visited June 11, 2021).

I. THE DISCOUNT RATE SHOULD BE SUBSTANTIALLY LOWERED

In any cost benefit analysis, a crucial challenge is considering costs and benefits that take place over different periods of time. As is well known, the appropriate way to add together costs or benefits occurring in the future is to discount them using the appropriate discount rate. In many analyses, the discount rate can be a minor technical consideration (for example when all costs and benefits take place within a few years of the present), but for longer term questions, and in particular for intergenerational questions, the discount rate can be the most important decision. In the current social cost of carbon (SCC), three discount rates are used for analysis: 2.5%, 3%, and 5%.

There are many science-based reasons well-established in the literature that the current range of discount rates used is too high. We point you towards CEA 2017 (Discounting for Public Policy: Theory and Recent Evidence on the Merits of Updating the Discount rate) for discussion. That document shows that the way the 3% "safe" rate was calculated in prior decades should be updated and would certainly lead to a revision of the "safe" rate to 2% *at most*. The rate of interest to be used for discounting intergenerationally is based on projections of rates of growth of per capita consumption (income) and assumptions (supported by limited empirical evidence) of the elasticity of marginal utility. Since the beginning of the century, growth in per capita consumption has averaged under 1.5%, and a standard estimate of the elasticity of marginal utility is unity.[2]

The document also reviews the literature that intergenerational considerations suggest a possibly declining discount rate for questions around climate change (as is used in some countries). But climate poses substantial risks, and in precisely those states of nature where climate change's impacts are large are those where income and consumption will be low. As Arrow *et al* and others have pointed out, this entails using discount rates substantially lower, and possibly negative.[3]

Based on this evidence, it seems clear that the central rate should be lowered to substantially lower than 2% (and possibly put on a declining path) and the range should consider rates as low as zero. Such a change would have a substantial impact on the estimated social cost of carbon and would better take into account the importance of costs of climate change in the future.

Some of the other changes recommended by the National Academy or points made in our second bullet point (below) may be more time consuming or challenging to implement. Changing the discount rate could be done swiftly and generate a new set of social cost of greenhouse gases that could be used immediately. A number of states are already using lower discount rates in their analyses, and the Federal Government should move to do so expeditiously and not wait for the entire rebuilding of the SCC machinery.

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[2] For further discussion, see N. Stern and J. E. Stiglitz, The Social Cost of Carbon, Risk, Distribution, Market Failures: An alternative approach, NBER Working Paper, February 2021.

[3] See K. Arrow, W.R. Cline, K-G. Maler, M. Munasinghe, R. Squitieri and J. E. Stiglitz "Intertemporal Equity and Discounting," *Global Climate Change: Economic and Policy Issues,* M. Munasinghe (ed.), World Bank Environment Paper 12, Washington, D.C. 1995, pp. 1-32. Reprinted in an abbreviated format as "Intertemporal Equity, Discounting, and Economic Efficiency," *Climate Change 1995: Economic and Social Dimensions of Climate Change,* J. Bruce, H. Lee, and E. Haites (eds.), Cambridge: Cambridge University Press, 1996, pp. 125-144.

It may be worth observing that, while market rates of interest are of only limited relevance for assessing the SCC, the real safe interest rate in recent years has been markedly lower than it was historically, and at times has been negative. Over a longer period of time, there appears to have been some secular decline in the real safe interest. Prediction of future interest rates or growth rates is highly uncertain; while it would, accordingly, be wrong to predicate environmental policy on the assumption of a return of those rates to past levels, the weak evidence of regression towards the mean suggests that those who argue that the appropriate discount rate should be based on market rates (as reflecting opportunity costs) have a heavy burden in arguing for any rate in excess of 1%, once one takes into account risk, as noted in earlier paragraphs.[4]

II. OBAMA ERA SCC IS TOO CONSERVATIVE

The Obama era SCC was informed by the Integrated Assessment Models (IAM) being used at that time. Since then, the evidence is that the damage function used in those models is much too conservative. Moreover, those models have been extensively criticized by Stern and Stiglitz (2021), for their inadequate treatment of risk—which is central to climate change; for their failing to come to terms with the myriad of other market failures which interact with those associated with climate change, and with their failure to deal adequately with distributive effects within and across generations. Stern and Stiglitz show that dealing with each of these defects in the standard IAM models leads to a higher SCC, and cite studies showing that dealing even with a single one of these effects leads to substantially higher SCC. Indeed, the standard IAM models do not adequately incorporate the value of lives, health, or biodiversity, all of which should be central to assessing the social cost of carbon.

There are other lacuna in the standard IAM models which raise questions about their suitability for addressing key policy questions[5], and suggest the desirability of employing alternative approaches, such as that discussed in section III.

In short, the implication of research since the Obama era SCC established that the social cost of carbon—even using the unacceptable discount rates employed—is substantially higher than the number adopted by the Obama Administration.

III. SCC SHOULD BE CONSISTENT WITH ACHIEVING U.S. NATIONALLY DETERMINED CONTRIBUTIONS AND PARIS AGREEMENT GOALS

The construction of the social cost of carbon should also consider whether the rate chosen is consistent with the nationally determined contributions of the United States under the Paris Agreement, whether such a social cost of carbon, if implemented on a widespread basis would keep

[4] The argument that discount rates should not be based on the opportunity cost of funds has long been established. See, e.g. J. E. Stiglitz, "The Rate of Discount for Cost-Benefit Analysis and the Theory of the Second Best," *Discounting for Time and Risk in Energy Policy*, R. Lind (ed.), Resources for the Future, 1982, pp. 151-204

[5] These include the failure to treat adequately the endogeneity of preferences or technology; the assumption of a complete ordering—making the normative approach underlying the models suspect; the failure to deal with fat tailed distributions, which may with plausible utility functions result in expected utility not being well defined. Each of these issues is analyzed at length in Stern and Stiglitz (2021).

the warming of temperatures below 2 or 1.5 degrees Celsius. Given the uncertainty of modeling, it is important to make sure that the social cost of carbon calculated can accomplish climate goals necessary to avoid catastrophic damage from climate change. Standard IAM models suggest that a social cost of carbon in the order of magnitude of that employed by the Obama Administration would result in an increase in temperature of around 3.5 to 4 degrees centigrade, so it clearly fails this criterion.

The international consensus today is that not achieving net carbon neutrality by 2050 poses high and unacceptable risks. Thus, the price (social cost of) carbon should be that which guides the economy towards carbon neutrality by 2050. Kaufman *et al (*2020), have made such a calculation, and they come up with a SCC based on marginal damages around $125 per ton by 2030.[6] These numbers are broadly consistent with those of the Stern-Stiglitz Commission, especially noting the changes in the evidence concerning the costs and risks associated with climate change and changes in technology that have occurred since their report.[7]

CONCLUSION

The social cost of carbon is a key input into so many analyses. It needs to be updated quickly to take into account state of the art modeling information. A rapid update that simply takes the clear evidence that the long run safe real interest rate is well below 3% would be an important interim step in the process. Updating all cost benefit analysis to reflect climate risk and intergenerational equity is essential, and such an updating would almost surely result in a discount rate substantially lower than 1.5%, but in the meantime, the central rate for climate related issues should be reset from 3% to 1.5% or lower.

In addition, there are a number of issues with the current IAM based modeling techniques that leave out important costs of climate change. As such, the current estimates used are biased downwards. Taking as many of these issues into consideration as possible would improve the accuracy of the SCC and other social cost of greenhouse gases.

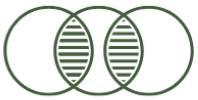
Given the uncertainty, it would also be helpful to calculate what the SCC would need to be to hit the emissions paths the United States is already committed to, as well as the rates needed to avoid a catastrophic increase in temperatures.

Thank you for the opportunity to share our views regarding the social cost of greenhouse gases. For further conversation and follow up, please feel free to contact the RCRC Secretariat:

- SaraJoy Pond, Secretariat Advisor: sarajoy@conveners.org
- Jennifer Silvi, Secretariat Advisor: jennifer@conveners.org

[6] Kaufman *et al (*2020), who come up with a SCC based on marginal damages around $125 per ton by 2030

[7] Stern, N., & Stiglitz, J.E., et al (2017). Report of the high-level commission on carbon prices. World Bank. Stern and Stiglitz (2021).



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CRISIS RESPONSE
COMMITTEE

Respectfully,

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Lawrence Baxter
RCRC Member & Professor of Law
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ATTACHED SUPPORTING DOCUMENTS

Executive Office of the President, Council of Economic Advisors. (U.S.). Discounting for Public Policy: Theory and Recent Evidence On The Merits of Updating The Discount Rate. January 2017.

Stern, Nicolas and Stiglitz, Joseph E., "The Social Cost of Carbon, Risk, Distribution, Market Failures: An Alternative Approach." NBER Working Paper No. 28472, February 2021.