New report finds near-term update to social cost of carbon unwarranted

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There would not be sufficient benefit to updating estimates of the social cost of carbon (SCC) within a year based only on the revision of a specific climate parameter in the existing framework used by the government's interagency group to measure the SCC, says a new interim report from the National Academies of Sciences, Engineering, and Medicine. The committee that is conducting the study and wrote the report recommended ways to change federal technical support documents on the SCC to enhance the characterization of uncertainties associated with the estimates, including when used in regulatory impact analyses.

The committee considered whether a near-term change is warranted based on updating the probability distribution for equilibrium climate sensitivity (ECS)—a parameter that translates carbon dioxide emissions to global temperature change—and that was updated by the Intergovernmental Panel on Climate Change in its most recent Fifth Assessment Report (AR5). Because ECS is only one input to the detailed framework used to estimate the SCC, updating the ECS alone may not significantly improve the estimates.

The SCC estimates, in dollars, the net long-term damage to society caused by a 1-metric ton increase in carbon dioxide emissions in a given year. It is intended to be a comprehensive estimate of the costs associated with climate change, such as changes in net agricultural productivity, risks to human health, and property damage from increased flood risks. The federal Interagency Working Group on the Social Cost

of Carbon (IWG) developed a methodology to estimate the SCC, which government agencies use to place a value on the carbon dioxide impacts of various regulations, including standards for vehicle emissions and fuel economy, air pollutants from industrial manufacturing, and emissions from power plants and solid waste incineration.

Rather than simply updating the ECS within models used in the current framework, the IWG could undertake efforts to develop a common representation of the relationship between carbon dioxide emissions and changes in temperature, its uncertainty, and its profile over time. The report outlines specific criteria that could be used to assess whether such a representation is consistent with the best available science.

Phase two of this study will examine the merits and challenges of potential approaches for a more comprehensive, longer-term update to the SCC estimates to ensure they continue to reflect the best available science. The final report will be released in early 2017.

More information: www.nap.edu/catalog/21898/asse … ocial-cost-of-carbon

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