

## CLIENT ALERT

### Don't Sleep on The Social Cost of Carbon

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Potentially the most consequential, yet least noticed, part of President Biden's Day 1 *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle Climate Change* (Jan. 20, 2021) ("EO 13990") is the directive to re-establish the Interagency Working Group on the Social Cost of Greenhouse Gases ("Working Group"), which President Trump disbanded during his administration. See E.O. 13990, Sec. 5. One of the Working Group's primary mandates is to calculate what is referred to as the "Social Cost of Carbon," which measures the cost to society of emitting one additional ton of carbon dioxide into the atmosphere. These include the costs associated with sea level rise and extreme weather events, and adverse effects on water and agricultural resources and human health. Section 5 directs the Working Group to publish an interim Social Cost of Carbon within 30 days of the date of the Executive Order, and to publish a final value by January 2022. (The Executive Order also directs the Working Group to publish Social Costs for two other global warming chemicals, i.e., nitrous oxide and methane.) The Working Group has not yet published the interim value, but it doesn't take a clairvoyant to predict at least interim reinstatement of the values used by the Obama Administration. One signal is the Council on Environmental Quality's decision to rescind the Trump Administration's "Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions" and directive that until a replacement is adopted "agencies should consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including, as appropriate and relevant, the 2016 GHG Guidance." (86 Fed. Reg. 10252.)

The Biden Administration's decision to resurrect the Working Group and to restore a robust calculation of the Social Cost of Carbon will likely have a profound effect on numerous regulatory decisions, such as Department of Interior leasing and permitting conditions on oil, gas and coal activities, and EPA's upcoming decisions regarding emission standards for fossil fuel power plants (which have been in flux for the last six years between the Obama-era Clean Power Plan and the Trump Administration's Affordable Clean Energy Rule). The use of a higher Social Cost of Carbon value, a lower discount rate, or a review based on global (as opposed to U.S.-only) benefits will dramatically impact whether the costs associated with a particular regulatory option are less than or greater than the benefits.

#### Background on the Social Cost of Carbon

Before discussing the origins of the Social Cost of Carbon, we must start with President Reagan's 1981 Executive Order 12291 requiring federal agencies to perform a cost-benefit analysis of the effect of every "significant" regulatory action (i.e., costing more than \$100 million) before its adoption. This action helped to formalize the review of pending regulations by the Office of Management and Budget and to better define the scope and effects of regulatory alternatives. As discussed below, the Social Cost of Carbon has become a key metric in performing the cost-benefit analysis of regulatory proposals involving GHG emissions.

The Social Cost of Carbon is an estimate of the present value of the costs associated with the emission of carbon dioxide. In order to calculate this number, EPA has employed various models and discount rates to determine how future impacts should be valued. In general, models begin with assumptions to predict economic activity over a period of time, which then are translated

into projected GHG emissions. These modeled emissions are fed into a model of the global climate system, which in turn translates into estimates of surface temperature, precipitation and sea level rise and other impacts. These outputs are then used to estimate economic damages per ton of carbon dioxide emitted. As these damages stretch out for into the future, the models must calculate the present value of future damages using a discount rate. Depending on the discount rate used, the present value can vary dramatically. The higher the discount rate, the lower the present value. For example, in 2020 dollars the Social Cost of Carbon is \$11 using a 5% discount rate, \$42 using a 3% rate and \$62 using a 2.5% rate.

In 2007, the U.S. Supreme Court ruled in *Massachusetts v. EPA*, 549 U.S. 497, that carbon dioxide and GHG emissions from motor vehicles are air pollutants under the Clean Air Act because “they may reasonably be anticipated to endanger public health or welfare,” and therefore must be regulated by EPA. The Obama Administration established the first iteration of Working Group in 2009 to standardize the valuation of damages associated with incremental increases in GHG emissions across all federal agencies, settling on \$52/ton when measured in 2020 dollars. Prior to that time, a range of values has been utilized.

In the first post-*Massachusetts* Clean Air Act regulation directly controlling GHGs – namely, EPA’s 2010 regulation of tailpipe emissions from automobiles – EPA was obligated to perform a cost-benefit analysis, which in turn required the Agency to determine the costs associated with emitting carbon dioxide into the atmosphere. This analysis examined the lifetime discounted cost, benefits and net benefits for new vehicles subject to the regulation (so that these estimates could be compared with those of various regulatory alternatives, including taking no action to regulate greenhouse gases from light duty vehicles). Other EPA regulations in which a cost-benefit analysis involving consideration of the Social Cost of Carbon include emission standards for power plants, cement production, boilers and process heaters, alkali plants, and solid waste incinerators.

The Trump Administration disbanded the Working Group in March 2017 under Executive Order 13783, and thereafter EPA changed assumptions in calculating the Social Cost of Carbon – including only domestic damage (rather than global damage) and using a higher discount rate to convert future damages to present value. As a consequence, under EPA’s new calculation the Social Cost of Carbon dropped to between \$1 and \$7/ton.

## **The Future Is Now**

President Biden’s Executive Order portends a dramatic reversal of the Trump Administration’s approach to the Social Cost of Carbon. First, the Working Group is directed to “capture the full cost of greenhouse gas emissions as accurately as possible, including by taking global damages into account.” Second, the Working Group must consider recommendations of the National Academies of Science, Engineering and Medicine, which in a 2017 report recommended use of a variable discount rate instead of a fixed discount rate. Some observers predict these changes alone will lead to a Social Cost of Carbon that exceeds \$125/ton. This higher figure may in turn lead to regulatory decisions that more strongly control greenhouse gas emissions, given the higher calculation of the cost of damages associated with emissions. In addition, as the Biden Administration seeks to formulate policies to meet its commitment to a 100% clean energy economy and net-zero greenhouse gas emissions no later than 2050, a wide range of industries and activities may be subject to analysis using the Social Cost of Carbon tool and could be subject to more costly regulation as a result.

A higher Social Cost of Carbon obviously will create winners and losers – and accordingly every affected industry has an acute interest in the Social Cost of Carbon. There will be a number of opportunities for companies to weigh in through comments on the activities of the Working Group, and they are well advised to seize those opportunities. For more information, please contact the professional(s) listed below, or your regular Crowell & Moring contact.

**Peter Gray**

Senior Counsel – Washington, D.C.

Phone: +1 202.624.2513

Email: [pgray@crowell.com](mailto:pgray@crowell.com)

**Byron R. Brown**

Senior Counsel – Washington, D.C.

Phone: +1 202.624.2546

Email: [bbrown@crowell.com](mailto:bbrown@crowell.com)

**Thomas A. Lorenzen**

Partner – Washington, D.C.

Phone: +1 202.624.2789

Email: [tlorenzen@crowell.com](mailto:tlorenzen@crowell.com)

**Robert Meyers**

Partner – Washington, D.C.

Phone: +1 202.624.2967

Email: [rmeyers@crowell.com](mailto:rmeyers@crowell.com)