

July 26, 2018

## Comments on Docket No. PL18-1-000

### Introduction

The Federal Energy Regulatory Commission (FERC) recently decided to revisit its 1999 Pipeline Policy Statement and solicit public comment. The Pipeline Policy Statement governs FERC's policies on pipeline certification and helps FERC evaluate gas pipeline proposals. FERC acknowledged in its Notice of Inquiry (NOI) for public comment that the energy landscape has changed considerably over the past 20 years and there may be space for efficiency improvements.<sup>1</sup>

One area that has changed considerably since 1999 is our understanding of how increased greenhouse gas emissions are changing our climate. Between 1999 and 2018, atmospheric carbon dioxide has increased by nearly 40 ppm, and 17 of the 18 warmest years in the 136-year period we have kept records have occurred since 2001.<sup>2</sup> The National Oceanic and Atmospheric Administration has just reported 401 straight months of above-average temperatures<sup>3</sup>. We are seeing changes all across the planet from sea-level rise,<sup>4</sup> to increased frequency of extreme weather events,<sup>5</sup> to glacier loss,<sup>6</sup> to poleward migration of diseases and species.<sup>7</sup> These changes, driven by increased carbon dioxide emissions, have significant economic costs. We will be judged by future generations on our ability to mitigate and adapt to these damages.

As FERC evaluates projects that contribute to greenhouse gas pollution, it must have a comprehensive and defensible estimate of the total costs of greenhouse gas pollution. The Social Cost of Carbon (social cost of carbon) is commonly used to evaluate the economic costs of greenhouse gas pollution, but FERC continues to reject it, effectively taking the position that carbon pollution has no cost on society. That is clearly wrong.<sup>8</sup> It is also inconsistent with other

---

<sup>1</sup> See Notice of Inquiry, *Certification of New Interstate Natural Gas Facilities*, 163 FERC ¶ 61,042 (2018).

<sup>2</sup> National Aeronautics and Space Administration, *Global Climate Change: Vital Signs of the Planet* (last visited July 25, 2018), <https://climate.nasa.gov>.

<sup>3</sup> National Centers for Environmental Information, "Assessing the Global Climate in May 2018," (last updated June 18, 2018), <https://www.ncei.noaa.gov/news/global-climate-201805>.

<sup>4</sup> See, e.g., Donald J. Wuebbles, et al., U.S. Global Change Res. Program, *Climate Science Special Report: Fourth National Climate Assessment, Volume 1*, 52 (2017), available at [https://science2017.globalchange.gov/downloads/CSSR2017\\_FullReport.pdf](https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf)

<sup>5</sup> *Id.* at 47–49.

<sup>6</sup> *Id.* at 38.

<sup>7</sup> See, e.g., Gretta T. Pecl, *Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being*, 355 *Science* 6332 (2017).

<sup>8</sup> See, e.g., Kopp Hsiang, et al., *Estimating economic damage from climate change in the United States*, 356 *Science*, 1362 (2017).

states, businesses, federal agencies, and countries that now regularly use the social cost of carbon in their project analyses.

In this comment letter, we demonstrate that FERC already has the tools and authorities to use the social cost of carbon in its environmental reviews; that legal precedent compels it to do so; and that FERC's continuing failure to employ the social cost of carbon as a tool is out of step with the broad consensus on the use of the social cost of carbon. We conclude by demonstrating how FERC could approach this issue consistent with governing legal frameworks and existing research and guidance.

### **FERC's Tools and Authorities**

Two statutes require FERC to consider the upstream and downstream emissions in its project evaluation.

First, FERC is required to compile all relevant information on whether a project is in the public interest, as required by the Natural Gas Act (NGA). Under Section 7(c) of the NGA,<sup>9</sup> the commission weighs financing, technical competence, financing, market demand, gas supply, long-term feasibility, and environmental effects.<sup>10</sup> Calculating upstream and downstream climate emissions is relevant to the public interest determination under the NGA.

Second, the National Environmental Policy Act (NEPA) requires that agencies take a "hard look" at the beneficial and adverse effects of each alternative option for major federal government actions.<sup>11</sup> It is also important that agencies present costs and benefits fairly and do not selectively monetize benefits without monetizing related costs.

In order to fulfill the mandate to provide a meaningful explanation of environmental effects, NEPA requires more than simple disclosure of the volume of anticipated emissions. Agencies must explain the effects that carbon pollution has on the environment. The social cost of greenhouse gases provides a key aspect of this explanation.

NEPA also requires agencies to quantify carbon emissions and their associated damages to health and the environment. The statute directs agencies to identify and develop methods and procedures "which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations."<sup>12</sup> This requires that an agency seek out or, if not available, affirmatively

---

<sup>9</sup> 15 U.S.C. § 717(f)(c) (2012).

<sup>10</sup> See Environmental Assessment, *Okeechobee Lateral Pipeline Project*, CP17-463-000 (2018) ("Under section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.").

<sup>11</sup> *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983) (noting that NEPA requires "that the agency take a 'hard look' at the environmental consequences before taking a major action"); see also 42 U.S.C. § 4332(B) (2012).

<sup>12</sup> 42 U.S.C. § 4332(B) (2012).

develop proper methods to conduct a complete analysis of upstream and downstream carbon emissions and potential future damages from each project. An agency may not simply wait for others to identify appropriate methods under NEPA.

### **FERC's Current Position on the Social Cost of Carbon**

In two recent cases, FERC has refused to adopt a social cost of carbon. In the Southeast Market Pipelines (SMP) project, the U.S. Court of Appeals for the District of Columbia directed FERC to either better monetize the project's carbon emissions or explain why FERC maintained its position of not incorporating the social cost of carbon into its analysis.<sup>13</sup> FERC responded with a supplemental environmental impact statement that calculated the downstream emissions of the project.<sup>14</sup>

In a pipeline decision earlier this year, FERC again short-changed the carbon emissions accounting and did not use the social cost of carbon, stating:

To appropriately use the Social Cost of Carbon calculation for the MVP and Equitrans Expansion Projects in our decision-making under the Natural Gas Act (NGA), not only would we need to quantify all of the negative impacts of the project, but we would also need to calculate the project's benefits, including, but not limited to, replacement of coal and oil by natural gas, a task no easier than calculating costs. Without complete information, an analysis using the Social Cost of Carbon calculations would necessarily be based on multiple assumptions, producing misleading results.<sup>15</sup>

FERC essentially relies on two arguments to continue to ignore the social cost of carbon in its project review.

1. No consensus exists on the appropriate discount rate exists for use in cost benefit analysis and thus the social cost of carbon values are arbitrary.
2. Under NEPA, there are no established criteria identifying whether the climate damages that are to be considered are significant..

In short, it appears FERC's majority has taken the position that because the social cost of carbon is hard to calculate with precision, then it should not even try. As Commissioner LaFleur correctly observed in her dissent in the *Mountain Valley Pipeline* case:

The majority presents various excuses, including arguments about the application of a cost-benefit analysis in our pipeline review and lack of consensus regarding the appropriate discount rate. I continue to find these arguments unpersuasive.... I believe we could better account for changes in GHG emissions resulting from the end use of the transported gas, and calculate a Social Cost of Carbon that accurately reflects the climate

---

<sup>13</sup> *Sierra Club v. Fed. Energy Reg. Commn.*, 867 F.3d 1357, 1371 (D.C. Cir. 2017) (“[o]n remand, FERC should explain in the EIS, as an aid to the relevant decisionmakers, whether the position on the Social Cost of Carbon that the agency [previously] took . . . still holds, and why.”).

<sup>14</sup> *Florida Southeast Connection, LLC*, Order on Remand Reinstating Certificate and Abandonment Authorization, 162 FERC ¶ 61,233 (2018).

<sup>15</sup> *Mountain Valley Pipeline, LLC*, Order on Rehearing, 163 FERC ¶ 61,197 at 143 (2018).

change impacts of a particular project. Additionally, the Commission could estimate the appropriate discount rate or to use more than one discount rate in our calculations or to provide a range of numbers for consideration.<sup>16</sup>

Failing to adopt a social cost of carbon because it is difficult to agree on an exactly accurate number puts the FERC into the anomalous position of defaulting to the clearly erroneous proposition that the social cost of carbon is zero.

### **Courts are Directing Federal Agencies to Use of the Social Cost of Carbon**

FERC's continuing refusal to adopt the social cost of carbon is out of step with clear direction being given to federal agencies by courts. Numerous courts have concluded that climate change must be considered in an environmental impact statement as an adverse effect.<sup>17</sup> Agencies must present costs and benefits fairly and cannot selectively monetize benefits without monetizing related costs, and using a social cost of carbon is an appropriate way of monetizing costs for climate change. No court has concluded that the social cost of carbon is not legitimate simply because there is no precise consensus value; a reasonable, principled, and sincere effort ought to yield a result that survives judicial scrutiny.<sup>18</sup>

In 2006, the National Highway Transportation Safety Administration (NHTSA) promulgated a rule for vehicle fuel economy standards that failed to monetize costs of carbon emissions from vehicles, arguing that the values were too uncertain. In 2007, the U.S. Court of Appeals for the Ninth Circuit rejected NHTSA's uncertainty argument, finding that the cost of carbon pollution is "certainly not zero"<sup>19</sup> and its "decision not to monetize the benefit of carbon emissions

---

<sup>16</sup> *Id.* at 4 (LaFleur, Comm'r, dissenting).

<sup>17</sup> See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008); *High-Country Conservation Advocates v. Forest Service*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014); *Border Power Plant Working Grp. v. U.S. Dep't of Energy*, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003). Courts have also directed agencies to better quantify the upstream and downstream emissions coming from energy projects. In New Mexico, *San Juan Citizens Alliance v. United States Bureau of Land Management*, 586 F. Supp. 2d 1270 (D.N.M. 2008), a federal district court found that NEPA requires the BLM to consider the "upstream" and "downstream" and cumulative emissions from the use of fuel produced from the oil and gas production on public lands. The court decision stated, "an agency must first prepare a draft EIS in which it evaluates the proposed action and its direct, indirect, and cumulative impact on the environment." *Id.* at 1279. A federal court in Montana earlier this year also ruled against an Interior Department plan to open more than 15 million acres of public land and mineral rights to fossil fuel extraction, concluding the government failed to adequately consider how the oil, gas and coal development would affect the climate and other environmental resources. See *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, 2018 WL 1475470 (D. Mont. 2018). Specifically, the decision notes that "NEPA requires BLM to consider in the EIS the environmental consequences of the downstream combustion of the coal, oil and gas resources potentially open to development under these RMPs." *Id.* at \*13.

<sup>18</sup> See *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357 (D.C. Cir. 2017).

<sup>19</sup> *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 508 F.3d 508, 533 (9th Cir. 2007).

reduction was arbitrary and capricious.”<sup>20</sup> Specifically, it was arbitrary to “assign no value to *the most significant benefit* of more stringent [vehicle fuel efficiency] standards: reduction in carbon emissions.”<sup>21</sup> As the court found, it is arbitrary to “put a thumb on the scale by undervaluing the benefits and overvaluing the costs.”<sup>22</sup>

Since that decision, additional federal courts have come to similar conclusions. The U.S. Court of Appeals for the Tenth Circuit told Bureau of Land Management (BLM) that its analysis of greenhouse gas emissions was arbitrary and capricious when it concluded that issuance of four coal leases in Wyoming’s Powder River Basin would not result in higher national greenhouse gas emissions than declining the leases.<sup>23</sup> In *High Country Conservation Advocates v. Forest Service*, the U.S. District Court of Colorado found that it was “arbitrary and capricious to quantify the *benefits* of the lease modifications and then explain that a similar analysis of the *costs* was impossible when such an analysis was in fact possible. . . .”<sup>24</sup> In that instance the agency had “weighed several specific economic benefits—coal recovered, payroll, associated purchases of supplies and services, and royalties,”<sup>25</sup> but arbitrarily failed to monetized climate costs using the readily available social cost of carbon protocol.<sup>26</sup> Likewise, in *Montana Environmental Information Center v. Office of Surface Mining*, the U.S. District Court of Montana found it was arbitrary and capricious for an agency to quantify the benefits of action (such as employment payroll, tax revenue, and royalties) while failing to use the social cost of carbon to quantify the costs.<sup>27</sup> This year, a three-judge panel from the U.S. Court of Appeals for the D.C. Circuit ruled that the agency must consider the effects of carbon emissions that would result from FERC’s SMP project.<sup>28</sup>

Courts have also upheld at least one federal agency’s use of the social cost of carbon against an industry challenge. In 2016, the U.S. Court of Appeals for the Seventh Circuit upheld the Department of Energy’s use of the social cost of carbon in the agency’s standards for commercial refrigeration equipment.<sup>29</sup> The court rejected most of industry’s arguments stating, “DOE conducted a cost-benefit analysis that is within its statutory authority and is supported by substantial evidence. Its methodology and conclusions were not arbitrary or capricious. It also

---

<sup>20</sup> *Id.* at 535.

<sup>21</sup> *Id.* at 531 (emphasis added).

<sup>22</sup> *Id.*

<sup>23</sup> See *WildEarth Guardians v. United States Bureau of Land Mgmt.*, 870 F.3d 1222, 1240 (10th Cir. 2017).

<sup>24</sup> *High Country Conservation Advocates v. United States Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014).

<sup>25</sup> *Id.* at 1190.

<sup>26</sup> See *id.*

<sup>27</sup> See *Montana Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074 (D. Mont. 2017), amended in part, adhered to in part sub nom. *Montana Env'tl. Info. Ctr. v. United States Office of Surface Mining*, 2017 WL 5047901 (D. Mont. 2017).

<sup>28</sup> See *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357 (D.C. Cir. 2017).

<sup>29</sup> See *Zero Zone, Inc. v. United States Dep't of Energy*, 832 F.3d 654 (7th Cir. 2016).

gave appropriate consideration to the rule's effect on small businesses and the role of other agency regulations."<sup>30</sup>

### **Broad Consensus Exists to Use the Social Cost of Carbon**

FERC's refusal to use the social cost of carbon in its project reviews is out of step with the trend of states, businesses, executive branch agencies, and other countries that are adopting the social cost of carbon.

As the state level, the New York Public Service Commission and Illinois state legislature have incorporated a social cost of carbon into their zero-emission credit (ZEC) programs. The New York ZEC program bases its social cost of carbon value on the U.S. Interagency Working Group on the Social Cost of Carbon (IWG), which provides a range of numbers to consider in providing subsidies to their states existing nuclear fleet.<sup>31</sup> New Jersey recently enacted a clean energy standard that includes the social cost of carbon.<sup>32</sup> The New Jersey program incorporated payments for its existing nuclear fleet using IWG values as its baseline for generating payments.<sup>33</sup>

Decisions from the Minnesota, Washington, and Colorado energy regulators also support the use of social cost of carbon estimates in evaluating potential infrastructure projects.<sup>34</sup> Since 1993, the Minnesota Public Utilities Commission has required utilities to consider the estimated cost of carbon emissions in planning for new infrastructure projects. Last year, the commission voted to raise its social cost of carbon to \$43 per ton.<sup>35</sup> The Colorado Public Utilities Commission recently ordered the local utility Xcel to use the social cost of carbon in its resource planning documents. Colorado told its utilities to use \$43 per ton starting in 2022 and to ramp up to nearly \$70 per ton by 2050.<sup>36</sup> The Washington Utilities and Transportation Commission directed its

---

<sup>30</sup> *Id.* at 661.

<sup>31</sup> Interagency Working Group on Social Cost of Carbon, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (2016), [https://www.epa.gov/sites/production/files/2016-12/documents/sc\\_co2\\_tsd\\_august\\_2016.pdf](https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf).

<sup>32</sup> See Gavin Bade, *New Jersey passes bills for nuke subsidies, 50% RPS, 2 GW storage target*, Utility Dive (April 13, 2018), <https://www.utilitydive.com/news/new-jersey-passes-bills-for-nuke-subsidies-50-rps-2-gw-storage-target/521314/>.

<sup>33</sup> N.J. Stat. Ann. § 48:3-87.3 (West) ("The social cost of carbon, as calculated by the U.S. Interagency Working Group on the Social Cost of Carbon in its August 2016 Technical Update, is an accepted measure of the cost of carbon emissions. Carbon emissions avoided by selected nuclear power plants are but one component of their emissions avoidance benefits")

<sup>34</sup> See Peter Fairley, *States are Using the Social Cost of Carbon in Energy Decisions, Despite Trump's Views*, Inside Climate News (Aug. 14, 2017), <https://insideclimatenews.org/news/11082017/states-climate-change-policy-calculate-social-cost-carbon>.

<sup>35</sup> See *id.*

<sup>36</sup> See *id.*

utilities to use the social cost of carbon<sup>37</sup> as outlined by the IWG in its planning documents for new approvals.

Private companies in the United States and around the globe are incorporating the social cost of carbon into their own operations and accounting. Investors are beginning to demand that corporations perform this kind of analysis in order to qualify for investment.<sup>38</sup> The *Washington Post* reported that 1,200 global businesses either have adopted or are adopting a carbon price in some form.<sup>39</sup> The Center for Climate and Energy Solutions found that companies like Microsoft, Disney, Swiss Re, Unilever, Shell, BP, Rio Tinto, and General Motors have all taken steps to put a price on their own use of carbon.<sup>40</sup> Even oil giants like ExxonMobil factor a social cost of carbon into their planning and accounting.<sup>41</sup>

Regulators in other countries like Canada and the United Kingdom require their departments and agencies to conduct cost-benefit analysis taking into consideration GHG emission changes and effects.<sup>42</sup> In Canada, the social cost of carbon is not only being used by all federal departments in regulatory analyses, but also by some provinces. In 2016, Canada published its first official guidance on how the social cost of carbon is to be used in a cost benefit analysis, largely justifying the values it used by the United States' IWG.<sup>43</sup> The United Kingdom's Treasury Green Book provides a range carbon values to be used in policy decisions and project

---

<sup>37</sup> Wash. Util. & Transp. Comm'n, *Energy regulators want closer look at utilities' coal plant costs* (May 7, 2018), <https://www.utc.wa.gov/aboutUs/Lists/News/DispForm.aspx?ID=527>.

<sup>38</sup> *Companies are moving faster than many governments on Carbon Price*, The Economist (Jan. 11, 2018), <https://www.economist.com/business/2018/01/11/companies-are-moving-faster-than-many-governments-on-carbon-pricing>.

<sup>39</sup> Sophie Yeo, *General Motors, Disney, Shell and 1,200 other companies are taking steps to fight climate change; report says*, Wash. Post (Sept. 12, 2017), [https://www.washingtonpost.com/news/energy-environment/wp/2017/09/12/general-motors-disney-shell-and-1200-other-companies-are-taking-steps-to-fight-climate-change-report-says/?utm\\_term=.679ee41b9dc7](https://www.washingtonpost.com/news/energy-environment/wp/2017/09/12/general-motors-disney-shell-and-1200-other-companies-are-taking-steps-to-fight-climate-change-report-says/?utm_term=.679ee41b9dc7).

<sup>40</sup> Manjyot Bhan Ahluwalia, Center for Climate and Energy Solutions, *The Business of Pricing Carbon* (2017), <https://www.c2es.org/site/assets/uploads/2017/09/business-pricing-carbon.pdf>.

<sup>41</sup> See Benjamin Hulac, *This is how an oil giant uses an internal carbon pricing*, ClimateWire (June 15, 2017), <https://www.eenews.net/stories/1060056076>.

<sup>42</sup> Environment Canada's Economic Analysis Directorate, *Selecting a Value for CO2 Emissions of Government of Canada Regulatory Impact Analysis Statements* (2011), <http://www.ec.gc.ca/cc/default.asp?lang=En&n=BE705779-1>.

<sup>43</sup> Warren Goodlet, *Canada's Approach on the Social Cost of Greenhouse Gases*, (June 14, 2017), [https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse\\_180944.pdf](https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse_180944.pdf).

evaluations.<sup>44</sup> The Green Book also requires a comprehensive set of reporting requirements regarding climate change impacts.<sup>45</sup>

Even federal agencies now run by teams with close ties<sup>46</sup> to the fossil fuel industry, like Scott Pruitt's EPA and Rick Perry's DOE, continue to use the social cost of carbon in their analyses. EPA has recently submitted detailed comments to FERC on this current Notice of Inquiry (NOI) providing them equations and a framework on how it could use the social cost of carbon in its environmental review. Specifically, EPA provided FERC with concrete ways to calculate the downstream emissions and background and governmental guidance on how to calculate the social cost of carbon, using calculated emissions data.<sup>47</sup>

### **How FERC Can Calculate the Climate Damages Using the Social Cost of Carbon**

FERC can and should rely on existing models and guidance to determine a range of climate damages using the social cost of carbon. While FERC has written previously that “no consensus exists on the appropriate [discount] rate to use for analyses spanning multiple generations,”<sup>48</sup> that has not prevented other regulators and industry from adopting a social cost of carbon to guide decision-making. Indeed, the social cost of carbon values and recommendations of the IWG were peer-reviewed, subject to public comment, and have been used in more than 75 rulemakings since 2010.<sup>49</sup>

---

<sup>44</sup> See United Kingdom Depart for Business, Energy & Industrial Strategy, Updated Short-Term Traded Carbon Values 2 (2018), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/671194/Updated\\_shortterm\\_traded\\_carbon\\_values\\_for\\_appraisal\\_purposes.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671194/Updated_shortterm_traded_carbon_values_for_appraisal_purposes.pdf).

<sup>45</sup> United Kingdom Dep't for Bus., Energy & Indus. Strategy, Valuation of Energy Use and Greenhouse Gas (2018), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/671205/Valuation\\_of\\_energy\\_use\\_and\\_greenhouse\\_gas\\_emissions\\_for\\_appraisal\\_2017.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671205/Valuation_of_energy_use_and_greenhouse_gas_emissions_for_appraisal_2017.pdf).

<sup>46</sup> One could argue that this is putting it mildly. The leadership of those agencies is actually demonstrating clear signs of “regulatory capture” by the fossil fuel industry. See, e.g., Lindsey Dillon, et al., *The Environmental Protection Agency in the Early Trump Administration: Prelude to Regulatory Capture*, *Am. J. of Pub. Health* 108, S89 (2018) (“Our study demonstrates a decisive shift to the overt and systematic influence of regulated industries in the first year of the Trump administration.”); see also Senator Whitehouse Comments on EPA Administrator Scott Pruitt's improper involvement in Clean Power Plan-related rulemaking, Docket ID No. EPA-HQ-OAR-2017-0355, available at <https://www.whitehouse.senate.gov/news/release/senators-call-for-scott-pruitt-to-recuse-himself-from-all-clean-power-plan-related-rulemaking-> (documenting Pruitt's extensive ties to the fossil fuel industry dating back to his time as Attorney General of Oklahoma).

<sup>47</sup> See Letter to Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, from United States Environmental Protection Agency re: Docket No. PL18-1-000, available at [https://elibrary.ferc.gov/idmws/file\\_list.asp?accession\\_num=20180621-5095](https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20180621-5095).

<sup>48</sup> *Mountain Valley Pipeline, LLC*, Order on Rehearing, 163 FERC ¶ 61,197 (2018).

<sup>49</sup> See Interagency Working Group on Social Cost of Carbon, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive



FERC should consider the range provided by either the IWG,<sup>50</sup> Office of Management and Budget (OMB),<sup>51</sup> or a recent National Academy of Sciences report (NAS).<sup>52</sup> In determining which discount rates to use for the social cost of carbon, both the IWG and the 2003 OMB Circular A-4 guidance offer a range of discount rates to use in regulatory analysis of projects.<sup>53</sup> The OMB guidance recommends using sensitivity analysis with discount rates of 3 percent and 7 percent, with a default rate of 7 percent.<sup>54</sup> Using, by way of example, both ends of this range, the social cost of carbon values would be between \$8 and \$50/per ton (in today's dollars). FERC calculated the downstream emissions from the SMP project and found it would increase emissions by 8.3 million metric tons of CO<sub>2</sub>/year, so the project when completed would produce annual climate damages between \$66 and \$415 million (see Table 1).

**Table 1**

<b>Discount Rate</b>	<b>Social Cost of Carbon Value (in 2018 dollars)</b>	<b>Emissions from Project (million metric tons)</b>	<b>Climate Damages (in millions/year)</b>
3%	\$50	8.3 MMT/CO <sub>2</sub>	\$415
7%	\$8	8.3 MMT/CO <sub>2</sub>	\$66

Even if one assumes the low-end estimate for the potential climate damages,<sup>55</sup> it is still \$66 million a year in economic harm. FERC cannot reasonably ignore millions of dollars in potential harm from its project reviews. As an agency with public health and safety responsibilities, this would be the least defensible end of the range FERC could choose, and still it is a significant harm.

The OMB guidance specifically notes that a discount rate below 7 percent should be used when considering intergenerational consequences, which is important when considering CO<sub>2</sub> emissions and long-term climate change affects. In March 2017, President Trump signed an Executive Order that ordered agencies to follow the cost-benefit analysis framework from 2003 OMB guidance.<sup>56</sup> The NAS recommends using declining discount rates from 2.5 to 5 percent due to the atypically long time frame and important intergenerational consequences associated with

---

Order 12866 (2016), available at [https://www.epa.gov/sites/production/files/2016-12/documents/sc\\_co2\\_tsd\\_august\\_2016.pdf](https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf).

<sup>50</sup> See *id.*

<sup>51</sup> Office of Mgmt. & Budget, Exec. Office of the President, Circular A-4: Regulatory Analysis 31-37 (2003).

<sup>52</sup> National Academies of Sciences, Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide 17-20 (2017), <https://www.nap.edu/catalog/24651/valuing-climate-damages-updating-estimation-of-the-social-cost-of>.

<sup>53</sup> Office of Mgmt. & Budget, Exec. Office of the President, Circular A-4: Regulatory Analysis 31-37 (2003).

<sup>54</sup> *Id.* at 33-34.

<sup>55</sup> Exec. Order No. 13783, 82 FR 31396 (June 27, 2017).

<sup>56</sup> *Id.*

CO<sub>2</sub> emissions.<sup>57</sup> We agree with the OMB, IWG, and NAS that a lower than 7 percent discount rate should be used when considering climate change affects.

### **Economists Warn of a Carbon Bubble**

As FERC reconsiders its Pipeline Policy Statement, and considers permitting fossil fuel infrastructure projects with lifetimes of up to 50 years, it should also be aware of the increasing risk and volatility in the fossil fuel market.

Respected economists have begun predicting an economic crash through a so-called carbon bubble for the fossil fuel companies. As fossil fuels are priced out of the market by renewable energy, and nations enact carbon emissions restrictions, fossil fuel reserves now claimed as assets by energy companies may become undevelopable “stranded assets.” A recent publication by economists in the journal *Nature Climate Change* warned, “The magnitude of . . . stranded assets of fossil fuel companies (in a 2 degrees C economy) has been estimated to be around 82 percent of global coal reserves, 49 percent of global gas reserves, and 33 percent of global oil reserves.”<sup>58</sup> And that at 2 degrees C; as the safer 1.5 degrees C, the losses would be even greater.

Another estimate of potential fossil fuel company losses warns that as much as \$12 trillion of financial value “could vanish off their balance sheets globally in the form of stranded assets.” The report notes that this is over 15 percent of global GDP.<sup>59</sup> There is a recommended solution to avoid this shock in asset prices, and that is for the United States to begin decarbonizing, to invest more in renewables, and to broaden our national energy portfolio away from this asset collapse risk and towards renewable energy.

The warning from economists on a carbon bubble are developments worth paying attention to, especially the fact that the United States could rapidly lose large parts of its oil and gas industry. This economic shock would be dramatic, spilling over into other industries and into the economy at large. As with the social cost of carbon, the increasing potential for this kind of economic shock cannot simply be ignored by FERC. While one rulemaking by FERC will not avert this cumulative regulatory ignorance of this risk and refusal to take steps to create a predictable path (as the social cost of carbon and price on carbon provide). For this reason, this concern should be a factor in all regulatory rulemakings.

### **Conclusion**

In the NOI for the current pipeline review, FERC says, “As for the use of the Social Cost of Carbon tool, the Commission has found that although this tool is appropriate to use as part of

---

<sup>57</sup> National Academies of Sciences, *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* 17-20 (2017), <https://www.nap.edu/catalog/24651/valuing-climate-damages-updating-estimation-of-the-social-cost-of>.

<sup>58</sup> See Stefano Battiston, *A Climate stress-test of the financial system*, 7 *Nature Climate Change* 283 (2017).

<sup>59</sup> See Jean-Francois Mercure, *Macroeconomic Impact of Stranded Fossil Fuel Assets*, 8 *Nature Climate Change* 588 (2018).

cost-benefit analyses associated with certain rulemakings, it is not useful or appropriate to apply in its NEPA documents.”<sup>60</sup> We believe that view is contrary to law and established practice, short-sighted, and inconsistent with the direction in which most regulators are headed.

States, businesses, executive branch agencies, and other countries are adopting the social cost of carbon and courts are directing its use. FERC appears out of step with the broad consensus that is backing the use of the social cost of carbon. FERC has all the tools and authorities to use the social cost of carbon in its environmental reviews and is at odds with the courts that are now directing it to use the social cost of carbon. FERC cannot continue to ignore the costs that climate change will inflict on current and future generations.

Therefore, we urge FERC to update its policy document to:

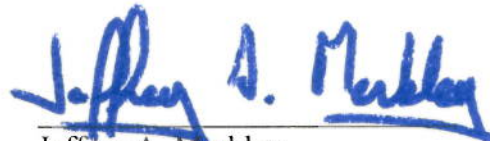
- Explicitly state that upstream and downstream climate emissions must be quantified in all pipeline projects;
- Create a significance threshold for evaluating the cost and benefits in its project reviews; and
- Require the use of the social cost of carbon in FERC’s environmental reviews, in cases when the emissions from the project can be calculated.

We look forward to FERCs prompt consideration of this comment.

Sincerely,



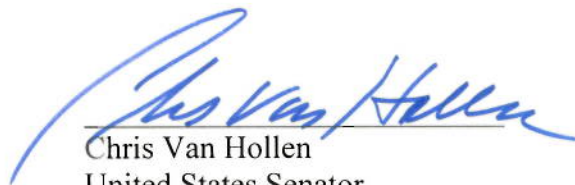
Sheldon Whitehouse  
United States Senator



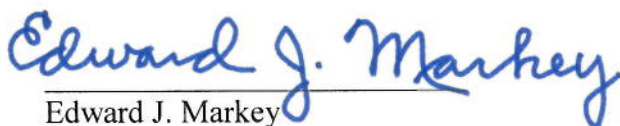
Jeffrey A. Merkley  
United States Senator



Benjamin L. Cardin  
United States Senator



Chris Van Hollen  
United States Senator



Edward J. Markey  
United States Senator



Brian Schatz  
United States Senator

---

<sup>60</sup> Notice of Inquiry, *Certification of New Interstate Natural Gas Facilities*, 163 FERC ¶ 50 (2018).