



# Institute for Policy Integrity

NEW YORK UNIVERSITY SCHOOL OF LAW

June 19, 2017

## Via Electronic Mail

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**Subject:** Comments to the United States Forest Service on the Pine Mountain Late-Successional Reserve Habitat Protection and Enhancement Project Draft EIS

The Institute for Policy Integrity at New York University School of Law (“Policy Integrity”)<sup>1</sup> respectfully submits the following comments on the United States Forest Service’s (“Forest Service”) Pine Mountain Late-Successional Reserve Habitat Protection and Enhancement Project Draft Environmental Impact Statement (“Pine Mountain EIS” or “EIS”). Policy Integrity is a nonpartisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

The Forest Service gives three main reasons for not analyzing the climate change effects of the proposed project even while admitting that the activities will “without question” affect greenhouse gas emissions.<sup>2</sup> First, the Service claims that “project level emissions alone are not sufficient to cause climate change. It asserts that since greenhouse gases mix readily into the global pool of greenhouse gases, it is not currently possible to ascertain the indirect effects of emissions from single or multiple sources.” Second, the Service claims that the “large majority of Forest Service projects” are too “small” for it to be “presently possible to conduct quantitative analysis of actual climate change effects.” Finally, the Service questions whether “such disclosure would provide a practical or meaningful effects analysis for project decisions.” Each of these reasons is wrong according to economic principles, the requirements of the National Environmental Policy Act, and the Service’s own guidance regarding climate change.

When it finalizes the Pine Mountain EIS, the Service should abandon these inaccurate and misleading over-generalizations regarding the climate effects of individual projects. Instead, the Service must rationally apply its judgment to the evidence to answer whether this specific project’s greenhouse gas emissions are most likely too small to warrant quantification, such that the informational benefit of quantification does not justify the expense of quantification. Only if it is not feasible to quantify the greenhouse gas emissions of this particular project should the inquiry end.

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<sup>1</sup> No part of this document purports to present New York University School of Law’s views, if any.

<sup>2</sup> Forest Service, Draft Environmental Impact Statement Pine Mountain Late-Successional Reserve Habitat Protection and Enhancement Project, Lake and Mendocino Counties, California (April 2017) [Hereinafter “Pine Mountain EIS”], 203

Otherwise, if this project will likely have significant greenhouse gas effects, the Service must quantify those effects to the extent feasible, and should further monetize those effects using the social cost of greenhouse gas metrics.

### **I. Contrary to the Service's Statements, It Is Both Possible and Meaningful to Quantify the Climate Effects of Individual Projects**

The Forest Service does not quantify the potential greenhouse gas emissions in the Pine Mountain EIS on the ground that project-level emissions in general do not have identifiable climate effects. The Service further states without explanation that project-level emissions are too difficult to quantify and that quantification would not provide meaningful information.

Contrary to the Service's assumptions, sophisticated metrics known as the Social Costs of Greenhouse Gases are capable of monetizing the marginal climate damages associated with an additional unit of greenhouse gas emissions from a single project. Only if the Service concludes that this specific project will have so little effect on greenhouse gas emissions that the informational benefit of quantification does not outweigh the expense of doing so should the Service not move forward with quantification and monetization. And far from being a meaningless exercise, monetizing the climate effects of a small project may be the best way for the public and decisionmakers to put those effects into their proper context.

#### ***The Social Costs of Greenhouse Gases Can Be Applied to Individual Project and to Any Amount of Emissions***

The Service is wrong to over-generalize that all individual projects produce emissions "not sufficient to cause climate change." In fact, many resource management decisions have quite significant effects on greenhouse gas emissions: for example, the Bureau of Land Management recently finalized a single EIS for a coal lease expansion project at mines that produce 20% of the country's coal supply.<sup>3</sup>

More importantly, a blanket argument that individual projects are too small to monetize misunderstands the tools available for monetizing climate effects. The Social Cost of Carbon and Social Cost of Methane protocols were developed to assess the cost of actions with "marginal" impacts on cumulative global emissions,<sup>4</sup> and the metrics estimate the dollar figure of damages for one extra ton of greenhouse gas emissions.<sup>5</sup> This marginal cost is typically calculated using integrated assessment models. The models translate emissions into changes in atmospheric greenhouse concentrations, atmospheric concentrations into changes in temperature, and changes in temperature into economic damages.<sup>6</sup> A range of plausible socio-economic and emissions trajectories are used.<sup>7</sup> The marginal cost is attained by first running the models using a baseline emissions trajectory, and then running the same models again with one additional unit of emissions. The difference in damages between the two runs is the marginal cost of one additional unit. The approach assumes that the marginal damages from increased emissions will remain

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<sup>3</sup> See Bureau of Land Mgmt., Final Environmental Impact Statement for the Wright Area Coal Lease Applications, ES-60-61, 4-130-50 (July 2010).

<sup>4</sup> Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12,866*, 1 (2010) [hereinafter 2010 TSD].

<sup>5</sup> EPA, The Social Cost of Carbon, <http://www.epa.gov/climatechange/EPAactivities/economics/scc.html> (last visited Feb. 11, 2015).

<sup>6</sup> 2010 TSD at 5.

<sup>7</sup> *Id.* at 15.

constant for small emissions increases relative to gross global emissions.<sup>8</sup> In other words, the monetization tools are in fact perfectly suited to measuring the marginal effects of resource management decisions, as well as rulemakings.

### ***The Monetization of Emissions Provides Useful Context for Decisionmaking***

The Service is wrong that a quantitative analysis of the climate effects of an individual project will not be meaningful. Quite the opposite, agencies often overlook or completely ignore nonquantified, i.e. purely qualitative, benefits, even if those effects are in fact significant.<sup>9</sup>

If an analysis only qualitatively discusses the general effects of global climate change, decision-makers and the public will tend to overly discount that individual action's potential contribution. Greenhouse gas emissions from forest clearing management activities, as well as ecosystem restoration from these same activities, undoubtedly have climate effects, which should be discussed in the Pine Mountain EIS. But without context, it is difficult for many decision-makers and the public to assess the magnitude and climate consequences of a proposed action, like the forest ecosystem management discussed in the EIS. Quantification of these emissions and the monetization of their effects is the best way to avoid this tendency.

More specifically, agencies and the public might suffer from base-rate bias, which causes the undervaluation of information that is generally applicable across a range of scenarios.<sup>10</sup> Agencies fall into this trap when their NEPA reviews provide generic narrative descriptions of climate change yet conclude that climate change is too global and general a problem to address in a project-specific environmental impact statement, like in the Pine Mountain EIS. This approach inappropriately forecloses the possibility of mitigating the effects of climate change.

Monetization provides much-needed context for otherwise abstract consequences of climate change. Monetization allows decision-makers and the public to weigh all costs and benefits of an action—and to compare alternatives—using the common metric of money. Monetizing climate costs, therefore, better informs the public and helps “brings those effects to bear on [the agency’s] decisions.”<sup>11</sup> The tendency to ignore non-monetized effects is the result of common but irrational mental heuristics like probability neglect. For example, the phenomenon of probability neglect causes people to reduce small probabilities entirely down to zero, resulting in these probabilities playing no role in the decision-making process.<sup>12</sup> This heuristic applies even to events with long-term certainty or with lower-probability but catastrophic consequences, so long as their effects are unlikely to manifest in the immediate future. Weighing the real risks that, decades or centuries from now, climate change will fundamentally and irreversibly disrupt the global economy, destabilize earth’s ecosystems, or compromise the planet’s ability to sustain human life is challenging; without a tool to contextualize such risks, it is far easier to ignore them. Monetization tools like the social cost of carbon and social cost of methane are designed to solve this problem: by translating long-term costs into present values, instantiating the harms of climate change, and giving due weight to the potential of lower-probability but catastrophic harms.

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<sup>8</sup> *Id.* at 1.

<sup>9</sup> Richard L. Revesz, Quantifying Regulatory Benefits. *California Law Review*. 2014, at 1425.

<sup>10</sup> See Fallacy Files, *The Base Rate Fallacy*, <http://www.fallacyfiles.org/baserate.html>; David B. Graham, Capt. Thomas D. Johns, *The Corporate Emergency Response Plan: A Smart Strategy*, 27 *Nat. Resources & Env't* 3 (2012) (on normalcy bias).

<sup>11</sup> See *Baltimore Gas & Elec. Co.*, 462 U.S. at 96.

<sup>12</sup> Cass R. Sunstein, *Probability Neglect: Emotions, Worst Cases, and Law* (John M. Olin Law & Economics, Working Paper No. 138, 2001), available at <http://ssrn.com/abstract=292149>.

## ***The Forest Service Must Assess Whether It Is Feasible to Quantify the Climate Effects of This Particular Project***

An individual project may have such small climate effects that the informational benefit of quantification is not worth the expense. However, the Service cannot make a blanket assumption about all individual projects. Rather, it needs to assess the evidence of this specific project and decide whether its greenhouse gas emissions are likely to be significant and require monetization, or else so insignificant as to not make monetization feasible.

## **II. Legal Requirements and Precedents for Monetizing Climate Effects in EISs**

### ***NEPA May Require Quantifying and Monetizing Climate Effects***

NEPA requires “hard look” consideration of beneficial and adverse effects of each alternative option for major federal government actions. The U.S. Supreme Court has called the disclosure of impacts the “key requirement of NEPA,” and held that agencies must “consider and disclose the actual environmental effects” of a proposed project in a way that “brings those effects to bear on [the agency’s] decisions.”<sup>13</sup> Courts have repeatedly concluded that an EIS must disclose relevant climate effects.<sup>14</sup> Though NEPA does not require a formal cost-benefit analysis,<sup>15</sup> agencies’ approaches to assessing costs and benefits must be balanced and reasonable. Courts have warned agencies, for example, that “[e]ven though NEPA does not require a cost-benefit analysis, it was nonetheless arbitrary and capricious to quantify the *benefits* of [federal action] and then explain that a similar analysis of the *costs* was impossible when such an analysis was in fact possible.”<sup>16</sup>

While often eschewing formal cost-benefit analysis in environmental impact statements, agencies typically include in their NEPA reviews of resource management decisions both quantitative and monetized analyses of the economic benefits and distributional effects of the decision, including estimated tons of recoverable resources per acre and the market value thereof; rental rates per acre and annual royalty rates; temporary and permanent job growth, including annual wages and indirect job effects from local expenditures; construction of infrastructure supporting the project; and other related benefits.<sup>17</sup> This draft EIS, for example, estimates revenue effects.<sup>18</sup> As the U.S. District Court for the District of Colorado concluded, “[i]t is arbitrary to offer detailed projections of a project’s upside while omitting a feasible projection of the project’s costs.”<sup>19</sup> Thus, to the extent that agencies continue to quantify and monetize many of the economic and distributional effects of

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<sup>13</sup> *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 96 (1983).

<sup>14</sup> As the Ninth Circuit has held: “[T]he fact that climate change is largely a global phenomenon that includes actions that are outside of [the agency’s] control . . . does not release the agency from the duty of assessing the effects of *its* actions on global warming within the context of other actions that also affect global warming.” *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008); *see also* *Border Power Plant Working Grp. v. U.S. Dep’t of Energy*, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003) (failure to disclose project’s indirect carbon dioxide emissions violates NEPA).

<sup>15</sup> 40 C.F.R. § 1502.23 (“[T]he weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis.”).

<sup>16</sup> *High Country Conservation Advocates v. Forest Service*, 52 F. Supp. 3d 1174, 1191 (D. Colorado, 2014).

<sup>17</sup> *See, e.g.*, *Forest Service, Federal Coal Lease Modifications COC-1362 & COC-67232*, at pp. 190–91 (Aug. 2012); *Forest Service, Pawnee National Grassland Oil and Gas Leasing Final Environmental Impact Statement* 317, at 291–98 (Dec. 2014); *Bureau of Land Mgmt., Final Environmental Impact Statement for the Wright Area Coal Lease Applications, ES-60-61, 4-130-50* (July 2010).

<sup>18</sup> *Pine Mountain EIS* at 212.

<sup>19</sup> *High Country*, 52 F. Supp. 3d. at 1195.

resource management decisions, agencies must also treat climate effects with proportional analytical rigor.

The recent withdrawal of the Council on Environmental Quality's guidance on greenhouse gas emissions does not change the fact that using the social cost of greenhouse gases is consistent with—and may be required under—NEPA obligations. As CEQ explained in its withdrawal, the “guidance was not a regulation,” and “[t]he withdrawal of the guidance does not change any law, regulation, or other legally binding requirement.”<sup>20</sup> In other words, when the guidance recommended the appropriate use of the social cost of greenhouse gases in EISs,<sup>21</sup> it was simply explaining that the social cost of greenhouse gases is consistent with longstanding NEPA regulations and case law, all of which are still in effect today.

Finally, NEPA does not excuse agencies from analyzing the effects of individual actions that contribute to global phenomena. As the U.S. Court of Appeals for the Ninth Circuit has held in a case involving the National Highway Traffic and Safety Administration, “the fact that climate change is largely a global phenomenon that includes actions that are outside of [the agency's] control . . . does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also affect global warming.”<sup>22</sup> The Forest Service, in saying that “greenhouse gases mix readily into the global pool of greenhouse gasses,”<sup>23</sup> uses the same logic that the Ninth Circuit rejected.

Numerous federal agencies have used the social cost of greenhouse gases in EISs. In 2013, EPA called on agencies to include a monetized estimate of anticipated greenhouse gas effects in their environmental impact statements,<sup>24</sup> and multiple agencies have applied the social cost of carbon in their environmental impact statements, including the Office of Surface Mining Reclamation and Enforcement,<sup>25</sup> the Bureau of Land Management,<sup>26</sup> the National Highway Traffic Safety Administration,<sup>27</sup> and the Forest Service.<sup>28</sup> Clearly there are no legal, conceptual, methodological, or

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<sup>20</sup> 82 Fed. Reg. 16,576, 16,576 (Apr. 5, 2017).

<sup>21</sup> See CEQ, *Revised Draft Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* at 16 (Dec. 2014), available at [https://obamawhitehouse.archives.gov/sites/default/files/docs/nepa\\_revised\\_draft\\_ghg\\_guidance\\_searchable.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf) (“When an agency determines it appropriate to monetize costs and benefits, then, although developed specifically for regulatory impact analyses, the Federal social cost of carbon, which multiple Federal agencies have developed and used to assess the costs and benefits of alternatives in rulemakings, offers a harmonized, interagency metric that can provide decisionmakers and the public with some context for meaningful NEPA review. When using the Federal social cost of carbon, the agency should disclose the fact that these estimates vary over time, are associated with different discount rates and risks, and are intended to be updated as scientific and economic understanding improves.”); see also CEQ, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* at 33 n.86 (Aug. 2016), available at [https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa\\_final\\_ghg\\_guidance.pdf](https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf).

<sup>22</sup> *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008); see also *Border Power Plant Working Grp. v. U.S. Dep't of Energy*, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003) (failure to disclose project's indirect carbon dioxide emissions violates NEPA).

<sup>23</sup> Pine Mountain EIS at 203

<sup>24</sup> Letter from Cynthia Giles, Assistant Adm'r, U.S. Environmental Protection Agency, to Jose W. Fernandez & Dr. Kerri Anne Jones, U.S. Department of State (Apr. 22, 2013), at 2.

<sup>25</sup> Available at <http://www.wrcc.osmre.gov/initiatives/fourCorners/documents/FinalEIS/Section%204.2%20-%20Climate%20Change.pdf>; see also <http://www.wrcc.osmre.gov/initiatives/fourCorners/documents/FinalEIS/Appendix%20A%20-%20Air%20Quality%20and%20Climate%20Change%20Information.pdf>.

<sup>26</sup> Bureau of Land Management, Environmental Assessment DOI-BLM-MT-C020-2014-0091-EA, 76 (May 2014).

<sup>27</sup> Available at [http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL\\_EIS.pdf](http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf) at 9-77; see also [http://ntl.bts.gov/lib/55000/55200/55224/Draft\\_Environmental\\_Impact\\_Statement\\_for\\_Phase\\_2\\_MDHD\\_Fuel\\_Efficiency](http://ntl.bts.gov/lib/55000/55200/55224/Draft_Environmental_Impact_Statement_for_Phase_2_MDHD_Fuel_Efficiency)

practical barriers to applying the social cost of greenhouse gases in NEPA reviews. Even if under the current administration some of those agencies try to shift away from using these metrics, past precedent confirms not only that it is possible to use the social cost of greenhouse gases in EISs, but that there is much to recommend applying the metric in EISs. In Section III, we further discuss how the most recent guidance from the current administration still requires agencies to monetize greenhouse gas emissions, and why the social cost of greenhouse gases is an appropriate tool for doing so.

### ***The Forest Service Can Refer to Ample Guidance for Quantifying Greenhouse Gas Emissions***

The Forest Service has extensive internal and USDA guidance to draw from on greenhouse gas emissions accounting. The Forest Service's Climate Change Strategy (the Strategy)<sup>29</sup> directs the Forest Service to systematically consider how its activities and actions can contribute to climate change adaptation and mitigation.<sup>30</sup> The document specifically notes that mitigation may require landscape-level approaches. One of the guiding principles of the Strategy notes that "[i]mproved risk analysis and decision support tools will be critical to facilitate new policies and management approaches in the face of uncertainty,"<sup>31</sup> and a main goal of the Strategy is to "[i]ntegrate climate change...into Forest Service policies, program guidance, and communications and put in place effective mechanisms to coordinate across and within Deputy Areas."<sup>32</sup> The Strategy also explicitly discusses greenhouse gas accounting and goes on to say that:

The Forest Service should continue to improve existing methods and tools to enable accurate and consistent greenhouse gas accounting that can be applied to all lands...The Forest Service **goal should be to move toward full greenhouse gas accounting for Forest Service activities**, and to improve existing methods and tools to enable more accurate and consistent accounting that can be applied to all lands.<sup>33</sup>

This document, released under the George W. Bush administration in 2008, clearly directs the Forest Service to take climate effects into consideration in decisionmaking documents like EISs. The Strategy also says that "[t]he Forest Service will need to build consideration of climate change into virtually all aspects of agency operations including consideration of life cycle analysis of activities."<sup>34</sup> Because the effects of the Pine Mountain project on climate change are not even discussed in a detailed qualitative way, the Forest Service is not complying with the institutional guidance described above.

There is also USDA guidance on greenhouse gas accounting in forestry. The USDA's Office of the Chief Economist released a technical bulletin in July 2014, "Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory," which details a carbon accounting

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\_Standards.pdf.

<sup>28</sup> Forest Service, *Rulemaking for Colorado Roadless Areas: Supplemental Final Environmental Impact Statement* (Nov. 2016), available at [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd525072.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd525072.pdf) (using both the social cost of carbon and the social cost of methane).

<sup>29</sup> Forest Service, *Forest Service Strategic Framework For Responding to Climate Change*, Version 1. Oct 2008. [Hereinafter "Climate Change Strategy"]. available at <https://www.fs.fed.us/climatechange/documents/strategic-framework-climate-change-1-0.pdf>

<sup>30</sup> *Id.* at 4

<sup>31</sup> Climate Change Strategy at 6.

<sup>32</sup> *Id.* at 7.

<sup>33</sup> *Id.* at 11

<sup>34</sup> *Id.* at 12

methodology for, among other relevant land use areas, forestry. This guidance notes that “establishing,” “re-establishing,” and “clearing” forest are all activities that “can significantly alter forest carbon stocks.”<sup>35</sup> The guidance notes that forest clearing, which is covered by the proposed management activities in the Pine Mountain EIS, is the biggest source of greenhouse gas emissions from the forestry sector.<sup>36</sup> The Forest Service should refer to such guidance when preparing environmental impact statements for projects that may have an effect on greenhouse gas emissions. Moreover, the Forest Service has a number of its own tool for quantifying emissions from small-scale projects, with varying degrees of ease of use and spatial scale.<sup>37</sup> If the Forest Service determined that it would be too burdensome to use any of these tools, then it should have indicated this and explained why in the relevant section of the Pine Mountain EIS.

### **III. The Service Should Use the Social Cost of Greenhouse Gases to Monetize Climate Effects Whenever Feasible**

A federal government-wide value of the social cost of carbon (SCC) was first developed in response to a Ninth Circuit decision that required the federal government to account for the economic effects of climate change in a regulatory impact analysis of fuel efficiency standards.<sup>38</sup> In 2009, the federal government convened the Interagency Working Group on the Social Cost of Carbon (IWG), which used a set of peer-reviewed models to develop an SCC value for use in federal regulatory analysis; between 2009 and 2016, the IWG convened several times to refine the SCC estimates and also produced estimates for the social costs of methane and nitrous oxide emissions. The IWG’s August 2016 central estimate<sup>39</sup> of \$50 in 2016 dollars per ton of carbon dioxide emissions is based on the best available science<sup>40</sup> and is still likely an underestimate because some forms of damage, like catastrophic risks, are omitted from present calculations due to data limitations and scientific uncertainty.<sup>41</sup> Nonetheless, the IWG’s SCC is the best available estimate of climate damages and has been used in approximately one hundred federal regulations and a number of state proceedings,<sup>42</sup> reflecting close collaboration and consistency across agencies.

Executive Order 13,783 withdraws the guidance of both the IWG and the Council on Environmental Quality on greenhouse gas emissions. The Executive Order refers agencies to the Office of Management and Budget’s (OMB) Circular A-4 on cost-benefit analysis. The Order assumes that federal agencies will continue to “monetiz[e] the value of changes in greenhouse gas emissions” and instructs agencies to ensure such estimates are “consistent with the guidance contained in OMB

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<sup>35</sup> USDA, Office of the Chief Economist. *Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory*. Technical Bulletin 1939. (July 2014) at 2-21

<sup>36</sup> *Id.* at 2-22

<sup>37</sup> <https://www.fs.usda.gov/ccrc/tools/carbon-primer>

<sup>38</sup> *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172 (9th Cir. 2008).

<sup>39</sup> The IWG produced a range of social cost of carbon estimates, reflecting a 5-percent discount rate, a 3-percent discount rate, a 2.5-percent discount rate, and a 95<sup>th</sup> percentile estimate. This \$50 per ton figure corresponds to the “central” 3-percent discount rate.

<sup>40</sup> INTERAGENCY WORKING GROUP ON SOCIAL COST OF GREENHOUSE GASES, UNITED STATES GOVERNMENT, TECHNICAL SUPPORT DOCUMENT: TECHNICAL UPDATE OF THE SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12866 (2016), at 4, tbl.ES-1 (showing a value of \$42 in 2007 dollars for 2020 emissions, which yields \$50 in 2016 dollars when updated using a Consumer Price Index Inflation Calculator, <http://data.bls.gov/cgi-bin/cpicalc.pl>).

<sup>41</sup> See Richard L. Revesz et al., *Improve Economic Models of Climate Change*, 508 NATURE 173 (2014) (co-authored with Nobel Laureate Kenneth Arrow, among others) (attached as Exhibit B); 2010 TSD, *supra* note 11; PETER HOWARD, OMITTED DAMAGES: WHAT’S MISSING FROM THE SOCIAL COST OF CARBON (2014) [hereinafter “OMITTED DAMAGES”] (attached as Exhibit C); Peter Howard, *Flammable Planet: Wildfires and the Social Cost of Carbon* (2014); *The Cost of Carbon Pollution*, <http://costofcarbon.org/>.

<sup>42</sup> JANE A. LEGGETT, CONGRESSIONAL RESEARCH SERVICE, FEDERAL CITATIONS TO THE SOCIAL COST OF GREENHOUSE GASES (2016); see discussion of state proceedings in Section I.D below.

Circular A-4.”<sup>43</sup> Consequently, while the Forest Service and other federal agencies no longer have technical guidance directing them to exclusively rely on the IWG’s estimates to monetize climate effects, by no means does the new Executive Order imply that agencies should not monetize important effects in their regulatory analyses or environmental impact statements. In fact, Circular A-4 instructs agencies to monetize costs and benefits whenever feasible.<sup>44</sup> Circular A-4 also directs agencies to consider uncertain consequences or outcomes of actions in a transparent manner,<sup>45</sup> which should not be read to exclude providing the best possible estimates of greenhouse gas emissions that would result as a consequence of a particular action. Moreover, though Executive Order 13,783 withdrew the IWG’s technical documents, the estimates developed by the IWG continue to reflect the best available data and methodological choices consistent with Circular A-4, as required by the new Executive Order. For a more detailed discussion of the social costs of greenhouse gases for use in environmental impact statements in light of Executive Order 13,783, please refer to Policy Integrity’s recent joint comments to the U.S. Army Corps of Engineers.<sup>46</sup>

In conclusion, the Forest Service should quantify the potential greenhouse gas emissions in the final Pine Mountain EIS for the reasons discussed above. We also encourage the Forest Service to monetize the effects of these emissions to improve the agency’s decisionmaking.

Respectfully submitted,

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<sup>43</sup> *Id.* § 5(c).

<sup>44</sup> OMB, Circular A-4 at 27 (2003) (“You should monetize quantitative estimates whenever possible.”).

<sup>45</sup> A-4, E.7.b.

<sup>46</sup> Environmental Defense Fund, Institute for Policy Integrity at NYU School of Law, National Resources Defense Council, Union of Concerned Scientists. Joint Comments to the U.S. Army Corps of Engineers on the Use of the Social Cost of Greenhouse Gases in the Draft Environmental Impact Statement for the Proposed Missouri River Recovery Management Plan (MRRMP-EIS) (May 2017). Available at [http://policyintegrity.org/documents/Joint\\_Comments\\_to\\_Army\\_Corps\\_on\\_SCC\\_in\\_EIS.pdf](http://policyintegrity.org/documents/Joint_Comments_to_Army_Corps_on_SCC_in_EIS.pdf)