



July 15, 2021

To: Tennessee Valley Authority

Subject: Consideration of Greenhouse Gas Emissions in Upcoming Environmental Impact Statement for the Kingston Fossil Plant

The Institute for Policy Integrity at New York University School of Law (“Policy Integrity”)¹ respectfully submits the following comments on the Tennessee Valley Authority’s (“TVA” or the “Authority”) Notice of Intent regarding the Kingston Fossil Plant.² Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Policy Integrity regularly submits comments to federal agencies on the consideration of climate change impacts under the National Environmental Policy Act (“NEPA”).

In the Notice of Intent, the Authority announces that it will prepare an environmental impact statement “to assess the impacts associated with the proposed retirement of nine units at the Kingston Fossil Plant ... and the construction and operation of facilities to replace the retired generation.”³ As part of the environmental review process, the TVA will “formulate, evaluate, and compare alternatives” for these replacement facilities.⁴ Alternatives currently being considered include “construction and operation of a Combined Cycle Combustion Turbine Gas Plant,” “investment in local and regional transmissions, and construction and operation of Simple Cycle Combustion Turbine Gas plant,” and “construction and operation of Solar and Storage Facilities.”⁵ These different alternatives will each have different climate impacts, including the potential to reduce emissions on net by replacing more polluting generation,⁶ which the TVA should assess in the environmental impact statement.

The Authority Should Contextualize the Climate Impacts of Each Alternative Using the Social Cost of Greenhouse Gases

The Authority will use the environmental impact statement to “address the effects of each alternative on the environment, including ... [e]mission of greenhouse gases.”⁷ As it undergoes the NEPA review process, the TVA should consider providing context to the potential greenhouse gas implications of these alternatives using the social cost of greenhouse gases—a

¹ This document does not purport to represent the views, if any, of New York University School of Law.

² Tennessee Valley Authority, Environmental Impact Statement for Kingston Fossil Plant Retirement, 86 Fed. Reg. 31,780 (June 15, 2021).

³ *Id.*

⁴ *Id.*

⁵ *Id.* at 31,781.

⁶ The existing facility is coal-fired.

⁷ *Id.*

tool developed by a federal Interagency Working Group that assesses the economic and human-health impacts from an incremental increase or decrease in emission of greenhouse gases. The social cost of greenhouse gases helps fulfill an agency's obligation to assess climate impacts under NEPA and offers the best method for agencies to consider and weigh those impacts in permitting decisions.

As a federal appeals court has explained, the “impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires,” and thus agencies must “provide the necessary contextual information about the[se] cumulative and incremental environmental impacts.”⁸ To fulfill their obligation to take a “hard look” under NEPA, agencies should assess the impact of a project on climate change and resulting health and welfare impacts such as mortality or property damage. The U.S. Supreme Court has called impact disclosure 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.”⁹ The actual effects of greenhouse gas emissions (or emission reductions) are not those emissions themselves, but rather the incremental climate impacts caused by those emissions.¹⁰ For this reason, numerous federal courts have held that mere quantification of greenhouse gas emissions and comparisons to geographic inventories is insufficient because this fails to capture the project's incremental climate effects.¹¹

An available and widely-used tool—the social cost of greenhouse gases—allows for the assessment of incremental climate benefit or cost. The social cost of greenhouse gases calculates

⁸ *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008); *see also id.* (“[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.”); *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).

⁹ *Balt. Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 96 (1983).

¹⁰ For a more complete discussion of actual climate effects, including air-quality mortality, extreme temperature mortality, lost labor productivity, harmful algal blooms, spread of West Nile virus, damage to roads and other infrastructure, effects on urban drainage, damage to coastal property, electricity demand and supply effects, water supply and quality effects, inland flooding, lost winter recreation, effects on agriculture and fish, lost ecosystem services from coral reefs, and wildfires, *see* EPA, *Multi-Model Framework for Quantitative Sectoral Impacts Analysis: A Technical Report for the Fourth National Climate Assessment* (2017); U.S. Global Change Research Program, *Climate Science Special Report: Fourth National Climate Assessment* (2017); EPA, *Climate Change in the United States: Benefits of Global Action* (2015); Union of Concerned Scientists, *Underwater: Rising Seas, Chronic Floods, and the Implications for U.S. Coastal Real Estate* (2018).

¹¹ *See, e.g., Ctr. for Biological Diversity*, 538 F.3d at 1216–17 (rejecting analysis under NEPA when agency “quantifie[d] the expected amount of [carbon dioxide] emitted” but failed to “evaluate the incremental impact that these emissions will have on climate change or on the environment more generally,” noting that this approach impermissibly failed to “discuss the *actual* environmental effects resulting from those emissions” or “provide the necessary contextual information about the cumulative and incremental environmental impacts” that NEPA requires); *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1190 (D. Colo. 2014) (“Beyond quantifying the amount of emissions relative to state and national emissions and giving general discussion to the impacts of global climate change, [the agencies] did not discuss the impacts caused by these emissions.”); *Mont. Env't Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1096–99 (D. Mont. 2017) (rejecting the argument that the agency “reasonably considered the impact of greenhouse gas emissions by quantifying the emissions which would be released if the [coal] mine expansion is approved, and comparing that amount to the net emissions of the United States”).

how the emission or offset of an additional unit of greenhouse gases affects atmospheric greenhouse concentrations, how that change in atmospheric concentrations affects temperature, and how that change in temperature incrementally contributes to the various impacts resulting from climate change.¹² The social cost of greenhouse gases tool therefore captures the factors that actually affect public welfare and assesses the degree of impact to each factor, in ways that merely estimating the volume of emissions cannot. In fact, various agencies have used the social cost of greenhouse gases to assess a project's climate impacts.¹³ Moreover, federal agencies have recognized that the social cost of greenhouse gases is “essential ... to quantify the costs and benefits associated with a proposed action's [greenhouse gas] emissions and relevant to the choice among different alternatives being considered.”¹⁴

Applying the social cost of greenhouse gases is straightforward and provides information that would be very useful to the TVA's assessment. The most widely used social cost estimates were developed by the federal Interagency Working Group on the Social Cost of Greenhouse Gases (“Working Group”), a coordinated effort among twelve federal agencies and White House offices. The National Academies of Sciences has issued two reports that broadly supported the use of the Working Group's estimates by federal agencies.¹⁵ Distinguished economists have explained that the Working Group's estimates are the best numbers available.¹⁶ And the U.S. Court of Appeals for the Seventh Circuit has upheld agency reliance on these estimates.¹⁷

The Working Group released estimates in 2010 and updated them in 2016 to “provide a consistent approach for agencies to quantify [climate change] damage in dollars.”¹⁸ This past February, the Working Group once again reaffirmed its previous numbers as reflecting “the best available science,” though the Working Group acknowledged that these valuations “likely underestimate societal damages from [greenhouse gas] emissions” and began a process to update these valuations by January 2022.¹⁹ And as the Working Group explained, agencies should apply the social cost metrics to any “relevant agency actions”—not just regulations.²⁰ This advice

¹² Interagency Working Group on the Social Cost of Greenhouse Gases, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis* 5 (2010).

¹³ See, e.g., Bureau of Ocean Energy Mgmt., Final Environmental Impact Statement of Cook Inlet Planning Area Oil and Gas Lease Sale 244 (BOEM 2016-069) (Dec. 23, 2016); see also Peter Howard & Jason Schwartz, *Think Global: International Reciprocity as Justification for a Global Social Cost of Carbon*, 42 COLUM. J. ENV'T L. 203, 270–84 (2017) (listing all uses by federal agencies through mid-2016, including numerous NEPA assessments).

¹⁴ Department of the Interior Secretarial Order 3399 §5(b), Department-Wide Approach to the Climate Crisis and Restoring Transparency and Integrity to the Decision-Making Process (Apr. 16, 2021); see also Max Sarinsky et al., *Broadening the Use of Social Cost of Greenhouse Gases in Federal Policy* 1–2 (2021) (explaining that “use of the social cost of greenhouse gases allows agencies to capture climate effects and seamlessly compare them against other monetized economic effects,” which “is highly useful in assessments and determinations that involve balancing of beneficial and adverse impacts, such as in [NEPA] assessments”).

¹⁵ Nat'l Acads. Sci., Eng'g & Med., *Valuing Climate Damages: Updating Estimates of the Social Cost of Carbon Dioxide* (2017); Nat'l Acads. Sci., Eng'g & Med., *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update* (2016).

¹⁶ See, e.g., Richard L. Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 Science 655 (2017) (co-authored with economists Michael Greenstone, Michael Hanemann, Peter Howard, and Thomas Sterner).

¹⁷ *Zero Zone, Inc. v. U.S. Dep't of Energy*, 832 F.3d 654, 678 (7th Cir. 2016).

¹⁸ *Fla. Se. Connection, LLC*, 162 FERC ¶ 61,233, at P 45 (Mar. 14, 2018).

¹⁹ Interagency Working Group on the Social Cost of Greenhouse Gases, *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide – Interim Estimates under Executive Order 13,990* at 3–4 (2021).

²⁰ *Id.* at 14.

echoed similar language in Executive Order 13,990, in which President Biden recognized that the social cost of greenhouse gases could be useful for a wide range of agency processes including “decision-making, budgeting, and procurement.”²¹ In that Executive Order, President Biden called on the Working Group to provide additional guidance by September 2021 on the decisions for which the executive branch should apply the social cost of greenhouse gases.²²

Accordingly, the Authority should consider applying the Working Group’s social cost of greenhouse gases valuations to assess the incremental climate benefits of this project.

Sincerely,

Iliana Paul, Senior Policy Analyst
Max Sarinsky, Senior Attorney
Jason A. Schwartz, Legal Director

Attachments:

Max Sarinsky et al., Inst. for Pol’y Integrity, *Broadening the Use of Social Cost of Greenhouse Gases in Federal Policy* (2021).

²¹ Exec. Order No. 13,990 § 5(b), 86 Fed. Reg. 7037 (Jan. 25, 2021).

²² *Id.*