

SUNI Review Complete
Template=ADM-013
E-RIDS=ADM-03

ADD: Ed Miller, Allen Fetter,
Mary Neely
Comment (277)
Publication Date: 9/10/2021
Citation: 86 FR 50745

As of: November 01, 2021
Received: October 29, 2021
Status: Pending_Post
Tracking No. kvc-jby2-9us6
Comments Due: October 29, 2021
Submission Type: Web

PUBLIC SUBMISSION

Docket: NRC-2021-0137

Systematic Assessment for how the NRC Addresses Environmental Justice in its Programs, Policies, and Activities

Comment On: NRC-2021-0137-0001

Systematic Assessment for How the NRC Addresses Environmental Justice in Its Programs, Policies, and Activities

Document: NRC-2021-0137-DRAFT-1835

Comment on FR Doc # 2021-14673

Submitter Information

Email: iliana.paul@nyu.edu

Organization: Institute for Policy Integrity at NYU Law

General Comment

The Institute for Policy Integrity at New York University School of Law respectfully submits the attached comments.

Attachments

Policy Integrity Comments on NRC EJ Policy

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

The Office of Public Participation

)
)
)

Docket No. AD21-09-000

**COMMENTS OF THE INSTITUTE FOR POLICY
INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW**

Pursuant to the Federal Energy Regulatory Commission’s (FERC or Commission) March 5, 2021 Notice of Virtual Listening Sessions and a Public Comment Period,¹ the Institute for Policy Integrity at New York University School of Law (Policy Integrity)² respectfully submits these comments highlighting the potential benefits of public participation by environmental justice communities and identifying best practices that FERC’s Office of Public Participation (OPP or Office) should adopt. 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.

FERC solicited comment from interested parties on how the Commission should structure OPP to facilitate public participation.³ Effective public participation will further FERC’s statutory mandates under the Federal Power Act (FPA) and the Natural Gas Act (NGA) and will improve regulatory outcomes. Congress granted FERC broad authority in determining how to structure this office and, given the benefits of effective public participation, FERC should follow best practices to drive participation in a meaningful way and maximize engagement.

¹ Notice of Virtual Listening Sessions and a Public Comment Period, *Office of Public Participation*, Docket No. AD21-9-000 (Mar. 5, 2021).

² These comments do not reflect the views of NYU School of Law, if any.

³ Notice of Workshop and Request for Panelists, *Office of Public Participation*, Docket No. AD21-9-000 (Feb. 22, 2021).

Policy Integrity recommends the following practices to improve FERC’s decisionmaking and engage environmental justice communities:

1. Tailor any guidelines for participation to the type of regulatory action being taken;
2. Engage the public early in the regulatory process;
3. Use targeted community outreach efforts;
4. Overcome logistical barriers to ensure that the individuals who are representative of the affected community are engaged in public participation;
5. Provide public liaisons; and
6. Provide technical assistance.

In implementing these best practices, the Commission should look to participation practices that other agencies have implemented to provide lessons learned and inform OPP’s own policies.

In addition, OPP should provide compensation to intervenors where doing so will secure effective, additional public participation. The Office must recognize that one of the most significant barriers to public participation, particularly by environmental justice communities, is the financial costs of intervention. Without addressing this issue, OPP will not foster sufficient level of public engagement.

Table of Contents

I.	FERC Has Broad Authority Under Section 319 to Establish an Office of Public Participation and Should Structure the Office to Maximize Engagement.....	3
II.	Well-Designed Public Participation Has Numerous Benefits.....	4
A.	Public Participation Facilitates FERC’s Statutory Mandates	4
B.	Public Participation Improves Regulatory Outcomes	5
III.	OPP’s Policies Should Incorporate Best Practices Identified by Past Studies.....	6
A.	OPP Should Tailor Guidelines for Participation to the Type of Regulatory Action Contemplated.....	7
B.	OPP Should Engage the Public Early in the Regulatory Process.....	9
C.	OPP Should Use Targeted Community Outreach Efforts	10
D.	OPP Should Work to Overcome Logistical Barriers to Participation	10
E.	OPP Should Provide Public Liaisons	12
F.	OPP Should Provide Technical Assistance	12
IV.	The Office Should Look to Other Agency Practices	14

I. FERC Has Broad Authority Under Section 319 to Establish an Office of Public Participation and Should Structure the Office to Maximize Engagement

Section 319 of the FPA grants FERC expansive authority to establish an Office of Public Participation. The statute provides that a Director shall determine the functions and duties of the Office and that she shall “coordinate assistance to the public” and “coordinate assistance available to persons intervening or participating or proposing to intervene or participate in proceedings before the Commission.”⁴ It also allows the Commission to provide compensation for a variety of costs to intervenors and participants.⁵ This broad, but clear, authority enables FERC to structure the Office of Public Participation in a manner that will maximize its impact and spur meaningful participation.

Enhancing public participation will benefit the Commission, including by facilitating FERC’s statutory mandates and improving regulatory outcomes, both discussed below. Improved participation policies can also ensure that environmental justice voices are heard and enable these communities to be effective participants in agency proceedings.⁶ Through the participation of environmental justice communities, FERC can “more aggressively fulfill its responsibilities to ensure its decisions don’t unfairly impact historically marginalized communities.”⁷ However, such benefits will accrue only if the Office is structured to maximize engagement and

⁴ 16 U.S.C. § 825q-1(a)-(b).

⁵ *Id.* § 825q-1(b).

⁶ Jenny J. Tang, *Public Participation in Brownfield Redevelopment: A Framework for Community Empowerment in Zoning Practices*, 3 SEATTLE J. ENV’T L. 241, 251 (2013) (concluding that public participation mechanisms can help environmental justice communities to “gain mastery over their lives,” to feel competent to change a situation, and to feel confident that their efforts will produce positive outcomes); Marc Mihaly, *Citizen Participation in the Making of Environmental Decisions: Evolving Obstacles and Potential Solutions Through Partnership with Experts and Agents*, 27 PACE ENV’T L. REV. 151, 164-65 (2009) (stating that public participation can serve as a “political entrance vehicle for new stakeholders” by bringing communities together to form new group identities and new community organizations that work together to “reorder public priorities and advocate for new governing processes”).

⁷ Press Release, Fed. Energy Reg. Comm’n, FERC Chairman Acts to Ensure Prominent FERC Role for Environmental Justice (Feb. 2, 2021), <https://perma.cc/9J3Z-PAQD>.

opportunities for participation are well-designed. In order to drive meaningful and effective engagement, FERC should expressly task OPP with establishing procedural guidance for public participation in the Commission’s proceedings that are based on best practices identified in past studies and those used by other agencies. These practices are discussed *infra* Section III.

II. Well-Designed Public Participation Has Numerous Benefits

Engagement of the public—and specifically environmental justice communities—can provide important benefits to the Commission. Meaningful participation by environmental justice communities will help FERC to fulfill its statutory mandates under the FPA and NGA. Furthermore, participation can enhance regulatory outcomes by helping the Commission obtain more comprehensive information on relevant issues and build public confidence in its ultimate decisions.

A. Public Participation Facilitates FERC’s Statutory Mandates

Greater public participation by environmental justice communities can aid FERC in fulfilling its statutory mandates under the FPA and NGA. Both statutes declare that the interstate sale and transmission electric energy and gas “for ultimate distribution to the public is affected with a public interest.”⁸ Likewise both statutes refer throughout to FERC’s obligation to act in the public interest in approving actions and setting wholesale rates that are just and reasonable.⁹ And, while FERC may not have a “broad license” to protect the general public welfare, it is charged with setting rates that are just and reasonable in the public interest.¹⁰

⁸ 16 U.S.C. §§ 824, 717a.

⁹ *See, e.g.*, 16 U.S.C. §§ 824a, 824c, 717b, 717f(a); *see also* Nat’l Assoc. for the Advancement of Colored People v. Fed. Power Comm’n, 520 F.2d 43, 438-39 (D.C. Cir. 1975) (cataloguing references to the public interest in the FPA and NGA).

¹⁰ Nat’l Assoc. for the Advancement of Colored People v. Fed. Power Comm’n, 425 U.S. 662, 669-71 (1976) (explaining that “the words ‘public interest’ in a regulatory statute is not a broad license to promote the general public welfare” but rather must be understood with reference to “the purposes for which the Acts were adopted”).

The engagement of environmental justice communities will help the Commission act in the public interest because these communities can identify problems, direct and collateral effects, unintended consequences, and novel solutions in a manner that will improve FERC’s decisions.¹¹ In particular, because environmental justice communities are often disproportionately affected by energy prices and projects,¹² engaged environmental justice communities could provide information that will help bring to light potential disparate impacts and other issues early on. Early and active engagement by these communities could also avoid conflict and lengthy and costly legal processes. Meaningful and effective public participation by environmental justice communities can therefore facilitate FERC’s accomplishment of its statutory mandates to act in the public interest.

B. Public Participation Improves Regulatory Outcomes

Public participation by environmental justice communities can improve FERC’s regulatory outcomes by allowing the Commission to obtain more comprehensive information for use in its decisions. Frontline communities may be experts on the real-world consequences of FERC’s regulatory decisions because of their personal experience, such as living near transmission lines, and can provide information and a deeper understanding that can only be gleaned from lived experiences.¹³ Additionally, environmental justice communities might

¹¹ MICHAEL SANT’AMBROGIO & GLEN STASZEWSKI, ADMIN. CONF. OF THE U.S., FINAL REPORT: PUBLIC ENGAGEMENT WITH AGENCY RULEMAKING 11 (2018).

¹² Ariana Skibell, *Texas Grid Crisis Exposes Environmental Justice Rifts*, E&E NEWS (Feb. 23, 2021), <https://perma.cc/LC75-LRUP>; SARAH WRAIGHT ET AL., ENVIRONMENTAL JUSTICE CONCERNS AND THE PROPOSED ATLANTIC COAST PIPELINE ROUTE IN NORTH CAROLINA (2018).

¹³ Cynthia R. Farina et al., *Knowledge in the People: Rethinking “Value” in Public Rulemaking Participation*, 47 WAKE FOREST L. REV. 1185, 1197 (2012) (explaining that these communities have “situated knowledge” of the “impacts, ambiguities and gaps, enforceability, contributory causes, and unintended consequences that are based on the lived experience in the complex reality into which the proposed regulation would be introduced”); Eileen Gauna, *The Environmental Justice Misfit: Public Participation and the Paradigm Paradox*, 17 STAN. ENV’T. L.J. 3, 72 (1998) (“[F]ormal expertise cannot capture the knowledge that exists within affected communities.”); SANT’AMBROGIO & STASZEWSKI, *supra* note 11, at 26.

provide further information about public opinion that can help FERC identify and analyze potential areas of conflict or litigation risk.¹⁴ The Office of Public Participation can provide a clear and direct opportunity for environmental justice communities to pass on this information that the Commission might not otherwise obtain.

Moreover, engagement of environmental justice communities in the regulatory process can build public confidence in FERC’s decisionmaking. Stakeholders and the general public may be more supportive of agency action when they are given a meaningful opportunity to be heard.¹⁵ Stakeholders may have greater confidence in a process that brings community interests to the forefront of the discussion by engaging environmental justice communities and reducing emphasis on stakeholder politics.¹⁶ Where the public is able to participate in the process and see that their concerns are heard and considered, they may be more inclined to accept, or even support, the outcome of the process.

III. OPP’s Policies Should Incorporate Best Practices Identified by Past Studies

The benefits of public participation will accrue only where opportunities for participation are well-designed and allow for meaningful engagement. Therefore, OPP should incorporate best practices identified by past studies to ensure that the Office achieves its goal of *effectively* securing “participation by tribes, environmental justice communities, and other affected

¹⁴ Mihaly, *supra* note 6, at 164-65 (discussion how citizen participation can provide information about “the nature and depth of public opinion” and “the substance, weight, significance and politics of stakeholder concerns”).

¹⁵ SANT’AMBROGIO & STASZEWSKI, *supra* note 11, at 17 (“[S]takeholders will be more supportive of agency rulemakings when their voices are heard by the agency, even when they do not get everything they want.”); *id.* (citing CYNTHIA R. FARINA & CERI, IBM CTR. FOR THE BUS. OF GOV’T, RULEMAKING 2.0: UNDERSTANDING WHAT BETTER PUBLIC PARTICIPATION MEANS, AND DOING WHAT IT TAKES TO GET IT 12 (2013) as providing some evidence for this theory); *cf.* Michael Asimow, *Nonlegislative Rulemaking and Regulatory Reform*, 1985 DUKE L.J. 381, 402–03 (stating that public participation promotes democratic values because it allows agency staff to engage with groups or individuals that they may not regularly consult).

¹⁶ Ian E. Cecala & A. Bryan Endres, *Damnesia: An Examination of Public Participation and Evolving Approaches to Hydropower Development in the US and Brazil*, 55 IDAHO L. REV. 115, 122 (2019).

individuals, including those who have not historically participated before the Commission.”¹⁷

Specifically, OPP should adopt the following six practices:

1. Tailor guidelines for participation to the type of regulatory action contemplated;
2. Engage the public early in the regulatory process;
3. Use targeted community outreach efforts;
4. Overcome logistical barriers to ensure the individuals who are representative of the affected community are engaged in public participation;
5. Provide public liaisons; and
6. Provide technical assistance.

A. OPP Should Tailor Guidelines for Participation to the Type of Regulatory Action Contemplated

OPP should tailor any guidelines or general policies to the type of regulatory action contemplated given the potentially unique needs of the variety of actions taken by FERC.¹⁸ A general policy should require consideration of the following questions:

(1) the agency’s goals and purposes in engaging the public; (2) the types of individuals or organizations with whom the agency seeks to engage, including experts and any affected interests that may be absent from or insufficiently represented in the notice-and-comment rulemaking process; (3) how such types of individuals or organizations can be motivated to participate; (4) what types of information the agency seeks from its public engagement; (5) how this information is likely to be obtained; (6) what the agency will do with the information; (7) when public engagement should occur; and (8) the range of methods of public engagement available to the agency.¹⁹

After considering these questions, OPP should develop a specific public engagement plan for each class of regulatory actions and publish these plans in the Federal Register, on the FERC website, and more broadly.²⁰

¹⁷ Notice of Workshop and Request for Panelists, *Office of Public Participation*, Docket No. AD21-9-000 (Feb. 22, 2021).

¹⁸ See SANT’AMBROGIO & STASZEWSKI, *supra* note 11, at 157 (explaining that agencies should develop engagement plans, keeping in mind that the “public’s role may vary from issue to issue, and at different stages of the rulemaking process”).

¹⁹ *Id.*

²⁰ *Id.* at 157-58.

Yet, the answer to these questions and what an engagement plan should encompass depend heavily on the type of action that FERC is contemplating. The Commission has a wide variety of obligations and must approve action by different actors. One well-known example of Commission action is its certification of pipelines. This infrastructure approval process has proven to have broad implications for the public and a wide swath of environmental justice groups. OPP will play an important role in facilitating public participation in the certification process of pipelines and particularly new infrastructure. The Office will need to set out guidance for a range of constituents with interests in protecting their land for private use, for environmental organizations seeking to prevent new long-lasting carbon-intensive infrastructure, and environmental justice groups seeking to reduce disproportionate impacts on their communities. In this setting, OPP's role in facilitating participation will be similar to that any agency might play.

OPP's role is likely to look very different in the majority of actions involving tariff amendment submissions by Regional Transmission Organizations and Independent System Operators (RTO/ISO). In some instances, market design changes, participation rules, and other tariff amendments will have clear implications for environmental justice communities and the public at large. Similarly, transmission planning processes could affect many communities. However, there is no clear avenue for these groups to participate in ISO/RTO decisionmaking processes. Therefore, OPP should consider how

it might represent the concerns of these groups in the RTO/ISO governance process or facilitate participation by the public in RTO/ISO decisionmaking.²¹

Policies for ensuring effective participation in a pipeline certification docket will necessarily differ from policies for participation in an RTO/ISO tariff change docket. By developing a publicly accessible general policy for public participation and tailoring this policy to each proceeding, OPP can facilitate more successful public participation by environmental justice communities.

B. OPP Should Engage the Public Early in the Regulatory Process

OPP should engage the public as early as feasible in Commission proceedings to provide environmental justice communities the opportunity to meaningfully affect regulatory outcomes before irreversible first steps are taken.²² Once an agency like FERC has expended significant time and resources on a proposed action, they may be less likely to take action to address concerns voiced by environmental justice communities.²³ Additionally, when participation is only offered late in the decisionmaking process, communities may feel that their voices are not really being heard, understood, or taken seriously, but rather that their participation is merely a formality.²⁴ Community members may see these late attempts to engage the public as a public relations tactic to validate government or corporate decisions.²⁵ As a result, they may lose

²¹ OPP should seriously consider the remarks made by multiple panelists at the OPP Workshop regarding the need to facilitate greater public participation in the RTO/ISO process, such as the establishment of an RTO/ISO ombudsman. *See also* Shelly Welton, Grasping for Energy Democracy, 116 Mich. L. Rev. 581, 624, 631 (2018) (noting the challenges of incorporating public participation and particularly situational knowledge into RTO processes, which “operate through opaque, technical, deeply bureaucratic, and meeting-dense processes”).

²² Sara Pirk, *Expanding Public Participation in Environmental Justice: Methods, Legislation, Litigation and Beyond*, 17 J. ENV'T L. & LITIG. 207, 209 (2002).

²³ *Id.* at 213; Tang, *supra* note 6, at 248 (finding that in the context of brownfield development, public comment requirements are unlikely to initiate changes in response to environmental justice because the developers, municipalities, and bureaucrats have already invested substantial time and resources into the redevelopment project).

²⁴ Pirk, *supra* note 22, at 209-10.

²⁵ *Id.*

confidence in FERC's decisionmaking process.²⁶ Therefore, it is important for OPP to ensure participation early in the regulatory process.

C. OPP Should Use Targeted Community Outreach Efforts

OPP should use targeted community outreach efforts to help secure the participation of environmental justice groups. The goal of this targeted outreach is to solicit participation from individuals or entities that do not read the Federal Register, are unaware that they can participate in the rulemaking and adjudicatory processes, or are unable to effectively participate in the notice-and-comment or intervention process on their own.²⁷ OPP should consider publishing public notices outside the Federal Register, inviting participation where it would alert communities to potential impacts.²⁸ Specifically, the Office should consider posting notices with local media that might be more widely circulated and read by communities most affected.²⁹ OPP might also use a convening process to identify affected interests and issues that need to be addressed prior to the start of the formal public participation process.³⁰

D. OPP Should Work to Overcome Logistical Barriers to Participation

OPP should proactively reduce barriers such as geographical, language, and resource constraints to ensure that the individuals who are representative of the affected community can

²⁶ Jeff St. John, *New FERC Chair's Focus: Environmental Justice and Climate Change Impacts*, GREENTECH MEDIA (Feb. 15, 2021), <https://perma.cc/EFH5-3JX4> (noting Chairman Glick's goal is to help the public build confidence in FERC's regulatory proceedings).

²⁷ SANT'AMBROGIO & STASZEWSKI, *supra* note 11, at 4.

²⁸ Thomas Beirele & Jerry Cayford, *Democracy in Practice: Public Participation in Environmental Decisions*, 28 ADMIN & REG. L. NEWS 6, 16 (2013). As discussed above, there may be limits to when additional notices and convening processes are worthwhile depending on the nature of the proceeding and the action being taken.

²⁹ This is also a best practice that FERC has suggested applicants employ in their pre-filing activities. *See* FED. ENERGY REG. COMM'N, IDEAS FOR BETTER STAKEHOLDER INVOLVEMENT IN THE INTERSTATE NATURAL GAS PIPELINE PLANNING PRE-FILING PROCESS: INDUSTRY, AGENCIES, CITIZENS, AND FERC STAFF 7 (2001), <https://perma.cc/TRS8-NVAY>.

³⁰ Beirele & Cayford, *supra* note 28, at 16.

engage in public participation.³¹ In order for public participation to be successful, the individuals participating must be racially, socio-economically, and geographically representative of the affected community. However, affected community members might be unable to participate when meetings are lengthy or held at inconvenient times and places. And, the rulemaking process might end up being overly dominated by traditional stakeholders (such as representatives from traditional environmental organizations, industry and other government agencies) and affected communities might therefore not be given a meaningful role in the process.

To ensure that public participation is representative of the affected community, OPP should overcome logistical barriers to public participation. Long public hearings can impose a barrier because many community members do not have the time or financial resources to spend at lengthy public hearings.³² Even if OPP creates a schedule for each topic, these times are apt to change, requiring an individual who wishes to speak to sit through an entire meeting in the event that their issue is brought up early.³³ It can be challenging for individuals to travel long distances at inconvenient times to participate, especially if those meetings are held during the workday.³⁴ Finally, environmental justice communities may experience linguistic barriers that could inhibit meaningful participation.³⁵

In sum, when planning the method of participation that will be used, OPP must take into consideration logistical and financial barriers the community members may face. In deciding

³¹ SANT'AMBROGIO & STASZEWSKI, *supra* note 11, at 8.

³² John C. Duncan, Jr., *Multicultural Participation in the Public Hearing Process: Some Theoretical, Pragmatical, and Analeptical Considerations*, 24 COLUM. J. ENV'T L. 169, 193-94 (1999).

³³ *Id.*

³⁴ *Id.* at 194-95.

³⁵ For example, key documents, like Environmental Impact Assessments, utilize highly technical language that is difficult to understand even for native English speakers. *Id.* at 195-97; SANT'AMBROGIO & STASZEWSKI, *supra* note 11, at 8.

what kind of participation mechanism to use, OPP should remember that intensive processes are more likely to be socio-economically unrepresentative of the public at large as compared to other forms, like public meetings, hearings, and non-consensus advisory committees.³⁶ OPP should work to hold hearings outside the workday and even provide multiple hearings for maximum flexibility for the public. Hearings should also be held, where possible, close to project locations and/or near the communities most affected. Further, OPP should ensure that translators are available to the public in hearings and that translated materials are available where appropriate.

E. OPP Should Provide Public Liaisons

OPP should provide public liaisons that can, at minimum, provide general information about processes and public participation rights. OPP should have liaisons available to provide potential participants with resources describing the various Commission processes and major points for public participation.³⁷ There are many procedural difficulties—statutory or regulatory deadlines, standing requirements, and filing requirements—that the general public may not be familiar with.³⁸ Liaisons should also be authorized to walk the public through these processes and be able to explain the procedures with clarity. OPP should also consider creating templates (or working with outside groups to create templates) that liaisons can provide to potential commenters or intervenors as a reference point for submission.

F. OPP Should Provide Technical Assistance

Finally, OPP should provide technical assistance to help environmental justice communities meaningfully participate. The technical complexity of proceedings “is bound to be

³⁶ Beirele & Cayford, *supra* note 28, at 16.

³⁷ Again, such resources can and should be tailored to the type of action contemplated, as discussed above.

³⁸ SANT'AMBROGIO & STASZEWSKI, *supra* note 11, at 8.

a barrier to the average citizen.”³⁹ Therefore, lack of expert assistance can inhibit successful public participation. An agency’s reliance on formal expertise in an administrative hearing can prevent those that lack expertise from participating fully.⁴⁰ General public comments or input may not be weighted as heavily because they may not be on the same technical level or experience as agency and other stakeholder experts.⁴¹ And, communities may not have access to information relevant to the proceeding. For each of these reasons, environmental justice communities (and the public generally) are disadvantaged in the proceedings compared to other stakeholders with financial and technical expertise and resources. OPP should thus work to reduce technical barriers to the meaningful participation of the broader public.

More specifically, OPP could authorize money for open-source modeling and training for intervenors, and work with the Commission and stakeholders to make more data available to the public. Open-source energy modeling increases transparency and the credibility of the decisionmaking, allowing all intervenors to run their own assumptions and sensitivity tests. Further, it improves the quality of modeling and hence the results. Providing this kind of technical assistance, especially to local organizations, which might lack the resources and the technical expertise traditional stakeholder have, would help the public engage effectively. Such

³⁹ See Duncan, *supra* note 32, at 195.

⁴⁰ *Id.* at 195-97. It is important to note that individual FERC staff who conduct these hearings may pose a barrier to meaningful public participation because “their technical familiarity with the issues may result in less familiarity with the public’s viewpoint.” *Id.* at 197.

⁴¹ *Id.* at 195-97; see also Nicholas A. Fromherz, *From Consultation to Consent: Community Approval as a Prerequisite*, 116 W. VA. L. REV. 109, 142 (2013) (“Although lay citizens may speak their piece without the benefit of technical expertise or legal representation, such input will, by and large, go unheeded. Environmental decisionmaking under NEPA and similar regimes is simply too complicated and nuanced for raw public input to have an effect.”).

technical assistance could be provided by full-time staff at OPP or through a program to provide competitive grants that would help the public.⁴²

IV. The Office Should Look to Other Agency Practices

In adopting the best practices described above, the Office should look at participation practices that other agencies have implemented to provide lessons learned and inform OPP's own policies.

OPP might, for example, look at the Nuclear Regulatory Commission's Atomic Safety and Licensing Board Panel's (Board) practices for targeted outreach.⁴³ As part of its licensing activities, the Board often issues press releases that might be more accessible, in addition to the required Federal Register notice.⁴⁴ The Board also undertakes site visits that can be attended by all formal parties and other interest parties,⁴⁵ and holds public sessions where members of the public can voice concerns and support for the record.⁴⁶ While comments submitted in these sessions cannot have a direct effect on decisions because of the nature of formal adjudication,⁴⁷ the sessions provide an opportunity for the public to be heard.

⁴² Stephanie Tai, *Three Asymmetries of Informed Environmental Decisionmaking*, 78 TEMP. L. REV. 659, 709 (2005).

⁴³ Notably, we do not herein suggest that the Board or any other referenced agency is a perfect model for public engagement or tribal consultation and compensation. Practices referenced might serve to inform what OPP can do to improve public participation in Commission proceedings, but they are not always implemented perfectly and should not be viewed, necessarily, as ideal solutions.

⁴⁴ See, e.g., News Release, Nuclear Reg. Comm'n, Atomic Safety and Licensing Board to Hold Evidentiary Hearing on Proposed Expansion of Crow Butte Uranium Recovery Facility (Aug. 15, 2018), <https://perma.cc/6A8X-NZGS>.

⁴⁵ Memorandum (Memorializing Site Visit), In the Matter of Powertech USA, Inc. (Dewey-Burdock In Situ Uranium Recovery Facility), Docket No. 40-9075-MLA (Sept. 24, 2013), <https://perma.cc/PEX9-U4MQ>. These visits are then formally memorialized and made available to the public. *Id.*

⁴⁶ Kerri Rempp, *Tribal Members Speak Against Mining*, RAPID CITY J. (Oct. 31, 2018), <https://perma.cc/LBA2-CB54>. The procedural right to make a "limited appearance" is provided to any person, whether or not they are a party to the proceeding, and is enshrined in the NRC's regulations. 10 C.F.R. § 2.315(a).

⁴⁷ 10 C.F.R. § 2.315(a).

Additionally, the Board engages in targeted outreach and attempts to minimize logistical barriers to participation. Public sessions are held close to the project location in order to provide easy engagement for those most directly affected. The same is true of many evidentiary hearings and oral argument sessions even though the Board has its own hearing room near D.C. The Board also allows those who cannot attend a public session in person to submit written and audio recorded statements.⁴⁸

The Office might also look at agency practices for compensating federal Indian tribes who lend their time and expertise to fulfilling statutorily mandated processes, including those under the National Historic Preservation Act and the National Environmental Policy Act, as example in considering compensation mechanisms. While the Nuclear Regulatory Commission does not directly provide compensation, licensees and applicants regularly pay an “honorarium” to tribes to compensate them for the integral role they play in helping the government meet their obligations in the application process.⁴⁹ Meanwhile, the Bureau of Land Management and the Federal Communications Commission both have policies for paying tribes directly for their assistance as contractors in meeting obligations.⁵⁰ While these policies are specific to instances where federal tribes are acting as contractors or consultants, they demonstrate that environmental

⁴⁸ *E.g.*, Notice of Hearing (Notice of Evidentiary Hearing and Opportunity to Provide Oral, Written, and Audio-Recorded Limited Appearance Statements), In the Matter of Crow Butte Res., Inc. (Marsland Expansion Area), 83 Fed. Reg. 37,828 (Aug. 2, 2018). The Board allowed members of the public to submit audio recordings at the request of the Oglala Sioux Tribe’s counsel, who noted that “it’s well known that native peoples . . . [t]hey make statements orally, they’re more comfortable, many of them are more comfortable, particularly the traditional and elder people from the Tribe, are more comfortable making statements orally.” Transcript of Teleconference at 175, In the Matter of Crow Butte Res., Inc. (Marsland Expansion Area), Docket No. 40-8943-MLA-2 (May 16, 2018) (ADAMS Accession No. ML18138A469).

⁴⁹ *See, e.g.*, Letter from Cinthya I. Román, Chief, Env’t Rev. Branch, Nuclear Reg. Comm’n, to Trina Lone Hill, Dir., Cultural Affairs & Historic Preservation Off., Oglala Sioux Tribe (Dec. 6, 2017) (proposing applicant provide compensation to federal tribe in form of reimbursements and Honorarium).

⁵⁰ *See* BUREAU OF LAND MGMT., H-1780-1, IMPROVING AND SUSTAINING BLM-TRIBAL RELATIONS, at Appendix 2 (2016); FED. COMM’NS COMM’N, VOLUNTARY BEST PRACTICES FOR EXPEDITING THE PROCESS OF COMMUNICATIONS TOWER AND ANTENNA SITING REVIEW PURSUANT TO SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT 14 (2004).

justice communities have specialized knowledge and expertise that makes their participation particularly useful to agencies in fulfilling their statutory obligations for which they should be compensated.

Respectfully submitted,

/s/ Sarah Ladin

Sarah Ladin
Attorney
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
sarah.ladin@nyu.edu

/s/ Jack Lienke

Emma Farrow
Jack Lienke
Helen Sprainer
Regulatory Policy Clinic
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
jack.lienke@nyu.edu

/s/ Burcin Unel

Burcin Unel, Ph.D.
Energy Policy Director
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
burcin.unel@nyu.edu

/s/ Ana Varela Varela

Ana Varela Varela, Ph.D.
Economic Fellow
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
ana.varela@nyu.edu

Dated: April 23, 2021

CERTIFICATE OF SERVICE

In accordance with Rule 2010 of the Commission’s Rules of Practice and Procedure, I hereby certify that I have this day served by electronic mail a copy of the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 23rd day of April 2021.

Respectfully Submitted,

/s/ Sarah Ladin

Sarah Ladin

Attorney

Institute for Policy Integrity at

NYU School of Law

139 MacDougal Street, 3rd Fl.

New York, NY 10012

sarah.ladin@nyu.edu



The Office of Public Participation

June 24, 2021



FEDERAL ENERGY REGULATORY COMMISSION

Contents

- Executive Summaryi**

- I. FERC Background..... 1**
 - A. About FERC: Authorities and Participation in Proceedings.....1
 - B. FERC’s Organizational Structure.....3

- II. The Office of Public Participation 4**
 - A. Overview of Section 319 of the FPA.....4
 - B. Summary of Public Input on OPP Formation5
 - C. The Proposed Office of Public Participation9
 - 1. Methodology.....9
 - 2. OPP Functions and Organization 10
 - 3. OPP Implementation 11

- Appendix: Public Comment Overview13**
 - A. Overview 13
 - B. OPP Functions..... 15
 - 1. Outreach..... 16
 - 2. Education 20
 - 3. Assistance with Individual Proceedings..... 21
 - 4. Technical Assistance..... 22
 - 5. Improving Existing Commission Processes 23
 - 6. Outreach to Tribal Governments and Tribal Citizens 23
 - 7. Intervenor Funding..... 24
 - C. OPP Office Structure..... 27
 - 1. OPP Office Structure and Makeup 27
 - 2. Advisory Board 29
 - D. Commission-Wide Reforms..... 30

Executive Summary

In 1978, Congress amended the Federal Power Act (FPA) by adding section 319, “Office of Public Participation.”¹ FPA section 319 directs the Commission to establish an Office of Public Participation (OPP) to be led by a Director to coordinate assistance to the public. The Commission is now taking steps to establish the office.

FPA section 319 provides for two types of assistance to persons participating in Commission proceedings. Section 319(b)(1) directs the Commission to establish OPP to “coordinate assistance to the public with respect to authorities exercised by the Commission,” including assistance to those intervening or seeking to intervene in Commission proceedings.² Pursuant to Section 319(b)(2), the Commission may, under rules promulgated by it, provide funding to compensate “any person whose intervention or participation substantially contributed to the approval, in whole or in part, of a position advocated by such person.”³

To help establish OPP, the Commission sought public comment during six listening sessions, a full-day, virtual Commissioner-led workshop, and a written comment period extending from March 5, 2021 through May 7, 2021. Stakeholders—including landowners, consumer advocates, environmental justice leaders, community organizers, Tribal Governments, Tribal citizens, industry representatives, experts on public engagement and participation, academics, and state and municipal government officials—provided recommendations on the establishment of OPP, as well as information on their perspectives and challenges experienced while working with the Commission and other governmental entities.

Commenters indicated that members of the public—especially communities that have been historically underrepresented before the Commission—need OPP to assist with participation in Commission proceedings. Commenters emphasized that this assistance would help place communities on equal footing with well-resourced industry stakeholders, particularly in proceedings involving natural gas pipeline projects and electric matters under the Commission’s jurisdiction. To achieve these goals, commenters suggested that OPP serve the following functions: conduct outreach; provide public education; provide procedural assistance to intervenors and participants in individual proceedings; provide technical assistance; recommend improvements for public participation in all of the Commission’s program areas; and provide intervenor funding.

Based on this feedback and the directive in section 319 of the FPA, the Commission intends to establish OPP. As detailed in this report, the Commission intends for OPP to grow over the course of a four year period before reaching its full operating status by the close of Fiscal Year (FY) 2024. By the end of FY2021, the Commission plans to hire the OPP Director, as well as the Deputy Director and an administrative staff member. The Commission plans to assess OPP’s workload and reevaluate needed resources for additional growth into and beyond FY2024 to ensure meaningful and consistent compliance with Section 319.

¹ 16 U.S.C. § 825q-1.

² *Id.* § 825q-1(b)(1).

³ *Id.* § 825q-1(b)(2).

I. FERC Background

A. About FERC: Authorities and Participation in Proceedings

FERC is an independent agency that regulates the transmission and wholesale sale of electricity and transmission of natural gas in interstate commerce, as well as the transportation of oil by pipelines in interstate commerce. FERC also reviews proposals to build interstate natural gas pipelines, natural gas storage projects, and liquefied natural gas (LNG) terminals; and licenses non-federal hydropower projects. Congress assigned these responsibilities to FERC in various laws enacted over nearly 100 years, such as the FPA, Public Utility Regulatory Policies Act (PURPA), Natural Gas Act (NGA), Natural Gas Policy Act (NGPA), and Interstate Commerce Act. More recently, as part of the Energy Policy Act of 2005, Congress gave FERC additional responsibilities to protect the reliability and cybersecurity of the bulk-power system through the establishment and enforcement of mandatory reliability standards, as well as additional authority to enforce FERC regulatory requirements through the imposition of civil penalties and other means.

More specifically, under Part I of the FPA, the Commission regulates the licensing and administration of non-federal hydroelectric projects. This includes oversight of ongoing project operations, including through dam safety inspections and environmental monitoring.

Under Parts II and III of the FPA, the Commission regulates the rates, terms, and conditions of electric transmission service in interstate commerce and electric wholesale power sales by public utilities engaging in interstate commerce. The Commission has exclusive authority to regulate wholesale electric rates. FPA sections 205 and 206 require that wholesale rates and the transmission of electric energy in interstate commerce by public utilities be just, reasonable, and not unduly discriminatory or preferential or otherwise unlawful. Examples of the Commission's regulatory authority under these statutory provisions include: approving or ordering modification of rules for organized wholesale electric markets run by grid operators; the regulation of the rates, terms, and conditions of service over the interstate transmission grid; the regulation of the rates, terms, and conditions of generator interconnection service (which includes the interconnection to and injection of power onto the transmission grid); and the regulation of transmission planning processes conducted on a local, regional, and interregional basis.

The NGA gives the Commission regulatory authority over companies that engage in either the sale of natural gas for resale or its interstate transportation. Under NGA section 3, the Commission has the exclusive authority to authorize the siting of facilities for the import or export of natural gas, including LNG. Pursuant to NGA section 7, the Commission issues certificates of public convenience and necessity authorizing natural gas companies to construct and operate facilities for the transportation of natural gas in interstate commerce. Under NGA sections 4 and 5, the Commission regulates the rates and other terms of jurisdictional transportation of natural gas, ensuring that rates and charges for such services, as well as all rules, regulations, practices, and contracts affecting those rates and charges, are just and reasonable and not unduly discriminatory or preferential.

The Commission also regulates the rates and practices for interstate transportation service by oil pipelines under the Interstate Commerce Act.⁴ Safety is regulated, monitored, and enforced by the Department of Transportation and states control siting of pipelines transporting crude oil and petroleum liquids.

The Commission's processes for different proceedings can contain multiple deadlines that may prove difficult for participants to fully understand and navigate. For example, the FPA requires that filings made pursuant to section 205 become effective 60 days after the date of filing or on a later date if proposed by the applicant(s), unless the Commission otherwise acts. Interventions, comments, or protests in such a proceeding are due 21 days after the filing date, unless otherwise specified by the Commission based on a request to shorten or lengthen a comment period. For entities alleging that a rate, charge, term, condition, or rule is unjust or unreasonable pursuant to FPA section 206, any answers, interventions, or comments are due within 20 days from the filing date, or 30 days in certain circumstances. Under sections 3 and 7 of the NGA, the Commission provides an initial 21-day intervention period, but, if the Commission issues an associated draft EIS comment period, the Commission will accept motions to intervene during that time, and may also accept late interventions on a case-by-case basis during the proceeding. Hydroelectric licensing under the FPA is generally a multi-year process, and the Commission provides an initial 60-day intervention period and also allows interventions during the draft EIS comment period. Finally, under NGA section 4, participants typically have 12 days to intervene in NGA section 4 filings, and 20 days for complaints under NGA section 5. All requests for rehearing, a prerequisite before petitioning a court for review, must be made within 30 days of the initial order.

To accomplish its mandates, the Commission has adopted a mission and three Strategic Goals, which are outlined below.

Mission:

FERC's mission is to assist consumers in obtaining economically efficient, safe, reliable, and secure energy services at a reasonable cost through appropriate regulatory and market means and collaborative efforts.

Strategic Goals:

Goal 1: Ensure Just and Reasonable Rates, Terms, and Conditions

Ensure that rates, terms, and conditions of jurisdictional energy services are just, reasonable, and not unduly discriminatory or preferential.

Objective 1.1: Establish Commission rules and policies that will result in just, reasonable, and not unduly discriminatory or preferential rates, terms, and conditions of jurisdictional service.

Objective 1.2: Increase compliance with FERC rules; detect and deter market manipulation.

⁴ 49 U.S.C. app. § 1 et seq.

Goal 2: Promote Safe, Reliable, and Secure Infrastructure

Promote the development of safe and reliable infrastructure that is both physically and cyber-secure and consistent with the public interest.

Objective 2.1: Facilitate benefits to the nation through the review of natural gas and hydropower infrastructure proposals.

Objective 2.2: Minimize risks to the public associated with FERC-jurisdictional energy infrastructure.

Goal 3: Mission Support through Organizational Excellence

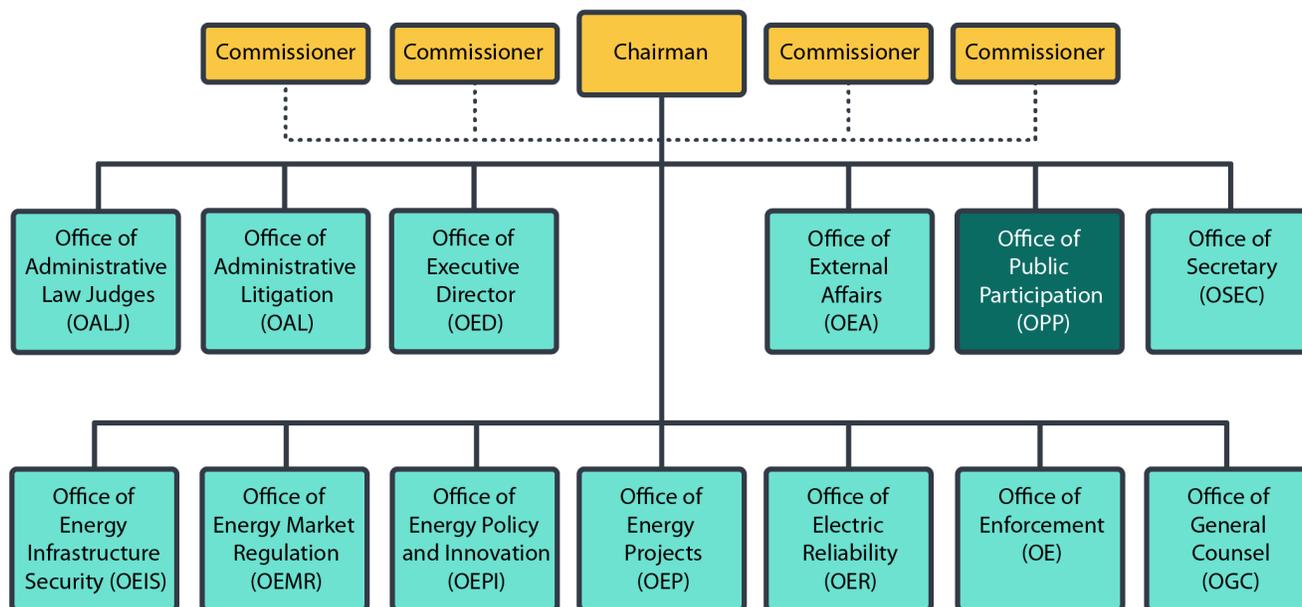
Achieve organizational excellence by using resources effectively, adequately equipping FERC employees for success, and executing responsive and transparent processes that strengthen public trust.

Objective 3.1: Manage resources effectively through an engaged workforce.

Objective 3.2: Facilitate public trust and understanding of Commission activities by promoting transparency, open communication, and a high standard of ethics.

B. FERC's Organizational Structure

FERC is composed of up to five Commissioners who are appointed by the President of the United States with the advice and consent of the Senate. Commissioners serve staggered, five-year terms and have an equal vote on the orders through which FERC acts. The President appoints one of the Commissioners to be the Chairman of FERC, the administrative head of the agency. FERC is a bipartisan body; no more than three Commissioners may be of the same political party. To carry out its authorities, the Commission has approximately 1,465 staff who are organized into 12 offices. Once established, OPP will be the Commission's 13th office. Commission staff are located primarily in the Washington, DC region, with field offices in Portland, San Francisco, Chicago, New York, Houston, and Atlanta, as well as other offices near certain Regional Transmission Organization (RTO)/Independent System Operator (ISO) headquarters.



II. The Office of Public Participation

This report provides further background on FPA section 319 and describes the steps the Commission is taking and plans to take to establish an effective OPP that faithfully carries out Congress’s directives. Thus far, the Commission has carried out stakeholder engagement to inform OPP’s establishment and responded to that feedback by creating an OPP that addresses the requirements of FPA section 319.

The Commission intends to hire the OPP Director and initial support team by October 1, 2021, the beginning of FY2022. In FY2022, the Director and this initial support team will further build out the organization, begin implementing OPP’s mission and functions, and advise on a rulemaking process, in coordination with other Commission offices, to establish an intervenor funding program. As OPP gains experience and receives further feedback, it will continue to adjust its mission, functions, and structure to ensure that it is meeting the public’s needs.

A. Overview of Section 319 of the FPA

In 1978, Congress directed the Commission to establish OPP. PURPA amended Title II of the FPA by adding section 319 to authorize FERC to create OPP to assist the public with intervening and participating in Commission proceedings.

FPA section 319 states that there shall be an office within the Commission, known as the Office of Public Participation, led by a Director appointed with the approval of the Commission for a four-year term.⁵ The

⁵ *Id.* § 825q-1(a)(1).

Director “shall be responsible for the discharge of the functions and duties of the Office.”⁶ To fulfill the Office’s responsibilities, the Director “may appoint, and assign the duties of, employees of such Office.”⁷

FPA section 319 provides for both non-financial and financial assistance to persons participating in Commission proceedings. FPA section 319(b)(1) directs the Commission to establish OPP to “coordinate assistance to the public with respect to authorities exercised by the Commission,” including assistance to those intervening or seeking to intervene in Commission proceedings.

FPA section 319(b)(2) also permits the Commission, under rules promulgated by it, to provide funding to compensate “any person whose intervention or participation substantially contributed to the approval, in whole or in part, of a position advocated by such person.”⁸ This reimbursement may only be paid if the Commission determines both that the proceeding is “significant” and the person’s “intervention or participation in such a proceeding without receipt of compensation constitutes a significant financial hardship” for that person.⁹ The compensation can include “reasonable attorney’s fees, expert witness fees, and other costs of intervening or participating in any proceeding before the Commission...”¹⁰

B. Summary of Public Input on OPP Formation

To develop OPP in a manner that would best serve the public, the Commission heard directly from affected and interested members of the public and others interested in the Commission’s decision-making processes. FERC held six listening sessions, during which participants provided comments on the establishment and operation of OPP, without the requirement to file written comments through the Commission’s electronic filing system. On April 16, 2021, FERC hosted a full day, virtual workshop on the establishment of OPP, that featured direct input to the Commissioners from 29 stakeholders, including landowners, consumer advocates, environmental justice leaders, community organizers, Tribal Governments, Tribal citizens, and representatives from industry, academia, the public participation community, and state and municipal government officials. In total, the Commission received over 115 comments through the listening sessions and over 125 written comments in Docket No. AD21-9-000 during a 63-day comment period, from March 5, 2021 through May 7, 2021.

During the public comment period, Chairman Glick also received correspondence from members of Congress who sponsored the *Public Engagement at FERC Act*,¹¹ urging the Commission to consider measures included in the legislation as a way to further improve public participation and remove technical barriers that may prevent consumers from making their voices heard. Specifically, members of Congress requested that OPP employ directed outreach methods, such as consultation services and technical assistance, to ensure

⁶ *Id.* § 825q-1(a)(2)(B).

⁷ *Id.* § 825q-1(a)(3).

⁸ *Id.*

⁹ *Id.* § 825q-1(b)(2)(A)-(B).

¹⁰ *Id.* § 825q-1(b)(2).

¹¹ Public Engagement at FERC Act, S. 1477, H.R. 3240, 116th Cong. (2019).

the interests of residential and small commercial consumers are adequately represented. Policymakers also recommended that the Commission to create a Public and Consumer Advocacy Advisory Committee for the office, composed of representatives from the national and state-based nongovernmental consumer advocacy community and provide intervenor funding to individuals or small commercial energy consumer groups to encourage their participation in FERC proceedings.

Commenters urged the Commission to create an OPP that is responsive to the public and provides equitable assistance to increase participation in Commission proceedings. Several commenters asserted that the long-term, complex nature of many Commission proceedings and financial barriers make public participation at the Commission difficult and that OPP must better equip people to participate. Many commenters also asserted that more meaningful participation from a diverse range of stakeholders would strengthen Commission decisions.

To achieve these goals, commenters generally suggested that OPP serve the following functions: conduct outreach; provide public education; provide procedural assistance to intervenors and participants in individual proceedings; provide technical assistance; improve coordination of public participation across the Commission; and provide intervenor funding. Commenters also provided recommendations on how to organize and staff OPP. As described later in this report, the Commission has incorporated many of the recommendations received from the public into OPP's planned operations and design; a brief summary of these recommendations is provided below.¹² The Appendix includes a more detailed summary of these comments.

a. Recommended Functions

The vast majority of commenters stated that public outreach is critical to fulfilling the Commission's statutory mandates. Commenters indicated that many members of the public do not have the necessary resources to participate in Commission proceedings or do not know that the Commission's actions will affect them until it is too late to meaningfully participate. Commenters provided a range of recommendations on how OPP could conduct such outreach, but they emphasized that OPP must tailor its outreach based on attributes of the affected community, ensuring that engagement is equitable and sustained. For example, Jacqueline Patterson, Director of the Environmental and Climate Justice Program at the National Association of the Advancement of Colored People (NAACP), and Kerene Tayloe, Director of Federal Legislative Affairs for WE ACT for Environmental Justice, recommended that OPP focus on historically marginalized communities. Other commenters, such as Dr. Shelley Welton, Associate Professor of Law at the University of South Carolina School of Law, suggested that OPP clearly flag for the public those proceedings where the Commission believes that public input would be most beneficial. Many others highlighted the need for appropriate outreach and translation for non-English speakers.

Commenters recommended that OPP provide education to facilitate greater understanding of Commission processes and proceedings. The recommended educational efforts include: an OPP-specific website; open houses, workshops, and webinars; educational videos, including those directed at young audiences with accompanying curricula; blogs and newsletters; how-to guides; and acronym lists and glossaries of commonly-used terms to help the public understand the how, when, and where to engage at FERC.

¹² Comments pertaining to reforms of existing Commission processes are not summarized in this report but OPP will consider and make recommendations to the Chairman] after its establishment, in coordination with existing Commission offices.

Commenters emphasized that these materials should be produced in plain language. Several commenters also recommended that the OPP website include industry-specific pages with citizen-friendly summaries and fact sheets and explain, in plain language, relevant rules, policies, recent proceedings, and developments. For example, the Niskanen Center requested clear instructions for how to intervene in Commission proceedings and what landowner rights are preserved by such intervention. Dr. Susan Tierney of the Analysis Group, and former Assistant Secretary for Policy at the U.S. Department of Energy (DOE), pointed out that the public involvement sections on FERC's current website focus on natural gas and hydropower projects but not on other regulated industries that may be of growing interest to the public.

Commenters broadly suggested that a key function of OPP should be to assist intervenors and participants with navigating individual proceedings. For example, Rebecca Tepper, Chief of the Energy and Environment Bureau of the Massachusetts Office of the Attorney General, noted the importance of real-time help and suggested that, in larger cases, the Commission designate a single point of contact to provide on-going process information on individual proceedings. Many commenters, including the Niskanen Center and landowners such as Pam Ordway, Deb Evans and Ron Schaaf, supported a project liaison function within OPP to provide a neutral, trusted entity to guide landowners through the process to intervene and comment on proceedings. Other frequently heard requests from commenters included obtaining guidance from the Commission on the process for intervention in Commission proceedings, information about engaging in RTO/ISO stakeholder processes, and on how to file complaints and rehearing requests. To facilitate public assistance, commenters recommended that OPP provide a real-time Help Desk and OPP portal available by phone, email, or live-chat.

Commenters asserted that a lack of expert assistance can inhibit successful public participation and recommended that OPP provide or facilitate technical assistance. Shalanda Baker, Deputy Director for Energy Justice at DOE, explained that building capacity for meaningful participation may require providing technical tools and resources for communities. For example, SOUL of Wisconsin recommended that OPP provide technical expertise in the form of engineers, economists, energy planners, and natural asset specialists trained to work with the public and to identify with diverse interests. Many commenters agreed with Tyson Slocum, Director of the Energy and Climate Program at Public Citizen, that OPP can remain neutral in providing technical assistance by, for example, providing briefing materials that includes potential risks and benefits associated with natural gas pipeline projects, and information on how the public can engage to make their voices heard and considered in a Commission proceeding.

Many commenters urged OPP to coordinate with Commission program offices on an ongoing basis to improve existing Commission processes. Several commenters recommended creation of an ombudsperson or similar role to improve existing public processes and serve as an independent, neutral resource for the resolution of concerns or complaints from the public. Olivia Nedd of Vote Solar explained that providing for such a role would help ensure that the public's comments are addressed and that the public receives a direct response from someone they trust. Several commenters suggested ways to improve formal consultations with Tribal governments and how OPP could facilitate better consultations and outreach.¹³ A number of Tribal representatives and other commenters state that Tribal governments are not "public" or "stakeholder" entities but rather sovereign entities that have a unique political and legal relationship with the

¹³ As noted, the Commission received suggested reforms to existing processes, including Tribal consultation, during the OPP stakeholder process. OPP plans to review this information and pursue any potential changes with the Chairman of the Commission in coordination with the Office of External Affairs, Office of Energy Projects, and Office of General Counsel.

federal government and should not be treated the same as other stakeholders in Commission proceedings. Commenters suggested that OPP coordinate with the Commission's Tribal Liaison and that OPP staff have practical experience with Tribal outreach, engagement, and cultural sensitivities. For example, The Hopi Tribe recommended that a project liaison coordinate with the Tribal liaison or designated OPP staff representative to best address Tribal member interests.

Commenters supported intervenor funding for historically underrepresented communities in Commission proceedings. As described in more detail in the Appendix, several commenters provided input on OPP's role with respect to the provision of intervenor funding. Some commenters recommended that OPP develop and implement an intervenor funding program to efficiently benefit other OPP functions, such as the coordination of technical assistance and other expertise. Others, such as Sharon Jacobs, Associate Professor at the University of Colorado Law School, stated that placing the intervenor funding program outside of OPP would shield the office from any allegations of preference in funding, bolstering OPP's status as a trusted partner and advocate for stakeholder engagement. Tyson Slocum, Director of the Energy and Climate Program at Public Citizen, echoed this sentiment and suggested that assistance with participating in intervenor funding be coordinated by OPP but that claims be administratively reviewed by the Commission's Office of Administrative Law Judges.

Finally, commenters suggested a number of reforms on how the Commission could improve its existing public participation procedures in proceedings. Comments pertaining to reforms of existing Commission processes are not summarized in this report but OPP will consider and make recommendations to the Chairman of the Commission after its establishment, in coordination with existing Commission offices.

b. OPP Organization

Commenters provided feedback on OPP's organization and structure. Regarding the role of the Director, many commenters suggested that the Director report to the Chairman but be solely responsible for carrying out OPP's mission, including setting the budget for the office and having the discretion to appoint staff to fulfill OPP's mandate. Some commenters also suggested that the OPP Director be hired from outside of the Commission, have a demonstrated record of serving the public interest, have no personal financial interest in any entity that appears before the Commission, and not have recently served in any role for a private industry entity that is subject to Commission regulation.

Commenters also provided a range of suggestions regarding OPP staffing levels, staff roles, and the location of staff. For example, Public Citizen recommended that funding for staff be established by the OPP Director based on his or her determination of the office's needs. Several commenters proposed securing resources to support at least 50 OPP staff members. Commenters recommended a range of OPP staff roles, including: an OPP Director and Deputy Managing Director; an Environmental Justice Director and Managing Director with staff; a Legal Director with technical assistance staff, civil rights attorneys, and review staff for a Public Interest Attorney Referral Program; a senior advisor representative and field staff at each Commission-regulated RTO/ISO, natural gas, and hydropower field office; energy analysts; an Administrative Law Judge and staff for intervenor funding processing and an intervenor funding manager/liaison; an Ombudsperson; a Tribal Government Advisor with support staff; public information officers and investigators for complaints and fairness; regional liaisons; and general administrative support staff. In particular, commenters overwhelmingly recommended the creation of a process or project liaison assigned to individual proceedings or regions for both infrastructure and electric matters.

Finally, some commenters recommended that the Commission establish an advisory board to advise OPP on methods used for public outreach to different constituent communities and to assess OPP's performance at achieving its mission. Many commenters requested that such an advisory board be diverse and reflective of the public being served by the Commission and recommended that such a board include a range of representatives, including members from environmental justice groups, Tribes and Tribal governments, landowners, national and state-based consumer advocate organizations, large industrial consumers, low income community advocates, rural community advocates, renewable energy advocates, and others.

C. The Proposed Office of Public Participation

The Commission incorporated many aspects of the public input received during the public comment period into the design of OPP. Based on this input, as well as consultation with Commission staff and analysis from outside consultants, the Commission plans to establish OPP in three phases over a four year period. For the first few months of its operation, OPP will be staffed by Commission personnel detailed to the office. OPP will focus on hiring permanent staff and conducting initial outreach and assistance in FY2022, and grow into FY2024. The Commission's process, OPP mission and functions, OPP structure, OPP implementation plan, and FY2022 budget request are discussed below.

1. Methodology

Commission staff conducted an extensive stakeholder engagement process to hear directly from the public on how OPP can best serve the public. The Commission held six listening sessions to receive input from a range of stakeholders interested in Commission proceedings,¹⁴ hosted a full day virtual workshop on OPP on April 16, 2021, during which stakeholders communicated their feedback on OPP directly to the Commissioners, and accepted written comments during a 63-day comment period from March 5, 2021 through May 7, 2021.

Commission staff analyzed all input received, including feedback on OPP's design for this report.¹⁵ Commission leadership developed OPP's mission and functions based on public comments and the parameters established by FPA section 319. As described below, OPP's mission and functions incorporate those functions that fall within the Commission's mandate to "coordinate assistance to the public," as provided under FPA section 319. As recommended, OPP will be equipped to conduct outreach, provide public education, provide procedural assistance to intervenors and participants in individual proceedings, provide technical assistance, improve coordination of public participation across the Commission, and advise on a rulemaking establishing the intervenor funding program pursuant to FPA section 319.

The Commission also worked with outside consultants to further refine the office's structure, employee roles, and budget. The consultants first performed external benchmarking by analyzing resource needs at other governmental agencies to identify comparable functions and associated FTE employee resources.

¹⁴ The following stakeholder listening sessions were held: (1) Landowners and Communities Affected by Infrastructure Development on March 17, 2021; (2) Environmental Justice Communities and Tribal Interests on March 22, 2021; (3) Tribal Governments on March 24, 2021; (4) Energy Consumers and Consumer Advocates March 25, 2021; (5) Evening Listening Session (All Stakeholder Groups) on April 29, 2021; and (6) Spanish-Language (All Stakeholder Groups) on May 4, 2021.

¹⁵ See Appendix: Public Comment Overview.

They also conducted an internal needs assessment by collaborating with Commission staff and reviewing internal documents to identify existing functions that aligned with OPP's mission. The consultants then conducted a bottom-up analysis of FTE requirements to develop OPP's vision, mission, design, and functions. Based on the external benchmarking and the internal needs assessment, the consultants recommended several aspects of the office's design and associated FTEs.

2. OPP Functions and Organization

As reflected in the following mission and functions statement, OPP will conduct outreach, provide public education, provide procedural assistance to intervenors and participants in individual proceedings, provide technical assistance, recommend improvements for public participation in all of the Commission's program areas, and advise on an intervenor funding program.

OFFICE MISSION:

The Office of Public Participation shall coordinate and provide assistance to members of the public to facilitate participation in Commission proceedings.

FUNCTIONS:

Engages with the public through direct outreach and education to facilitate greater understanding of Commission processes and solicit broader participation in matters before the Commission.

Acts as a liaison to members of the public affected by and interested in Commission proceedings, by providing ongoing process information on individual proceedings and responding to requests for technical assistance.

Coordinates with Commission program offices to improve, or, as appropriate, make recommendations to improve existing Commission processes in a manner responsive to public input, with the goal of ensuring processes are inclusive, fair, and easy to navigate.

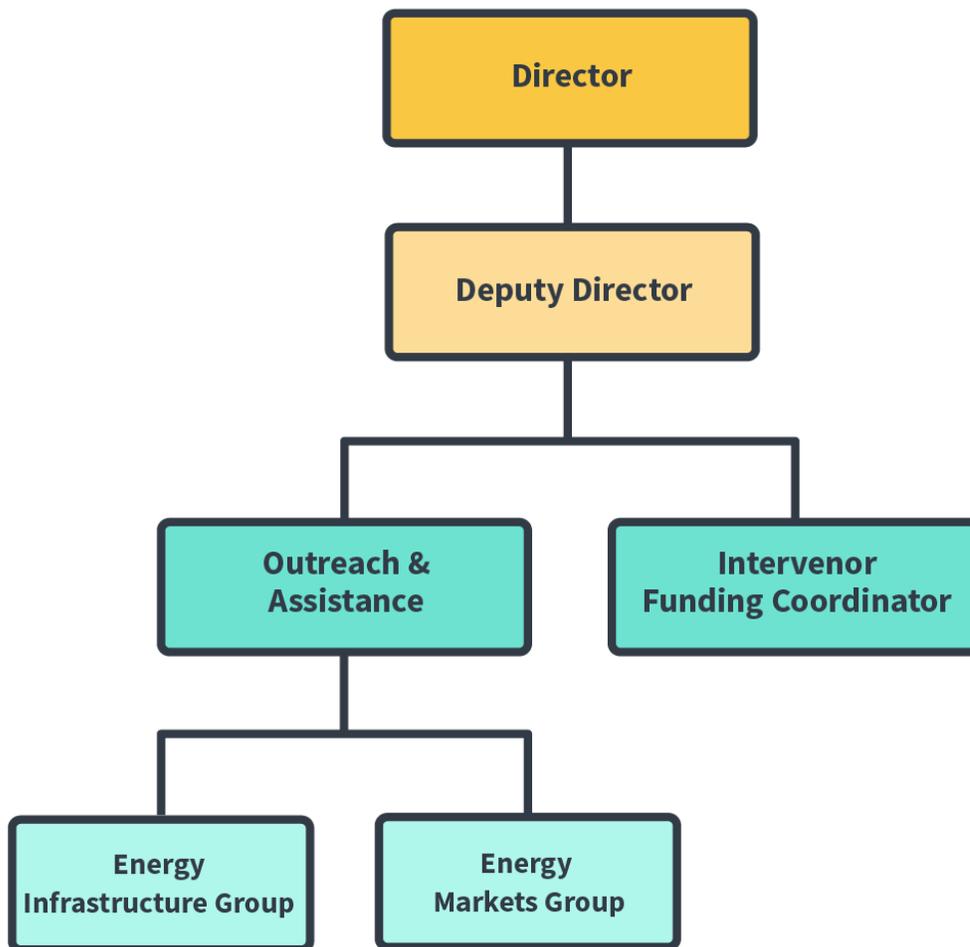
Provides advice and recommendations to the Commission with respect to intervenor funding.

In carrying out these functions, OPP will work closely with the Commission's Office of External Affairs intergovernmental advisor, the Office of General Counsel including the Senior Counsel for Environmental Justice and Equity, and the Office of Energy Projects, amongst others. This collaboration will better ensure that the concerns of Tribal members, environmental justice communities, and other historically marginalized communities are fully and fairly considered in Commission proceedings.

To meet the office's mission and functions, the Director would oversee within OPP an Outreach and Assistance unit that would provide outreach, educational resources, technical assistance, and project liaison services. In addition to an Outreach and Assistance unit, the Director would oversee an Intervenor Funding Coordinator, who would initially focus on advising on the development of a rulemaking on intervenor compensation pursuant to FPA section 319.

Additional details on the office’s composition will be determined by the incoming Director. Pursuant to FPA section 319, Congress required that the Director “shall be responsible for the discharge of the functions and duties of the Office,” and in furtherance of this responsibility, “may appoint, and assign the duties of, employees of such Office.” For example, the Director may decide to create an Ombudsperson role, which a number of commenters recommended.

Office of Public Participation (OPP)



3. OPP Implementation

The Commission plans to staff the office over a four-year period beginning in FY2021. The Commission will provide resources to OPP in three phases: interim operations in FY2021; initial operations in FY2022; and full operating capacity between FY2023 and FY2024.

During FY2021, the Commission plans to form an interim Office of Public Participation to support the office's development. The interim office includes core staff temporarily deployed via detail assignments for specific tasks. The interim office will provide information, commensurate with its limited staffing, regarding Commission processes and procedures. It will also undertake initial analyses to help the Director, once chosen and approved by the Commission, establish OPP. By the end of FY2021, the Commission plans to fill the Director position,¹⁶ as well as a Deputy Director and an administrative staff member.

During FY2022, OPP will enter initial operations and expand its support to the public to more fully provide education, outreach, and assistance. During this period, OPP will continue to expand its assistance to the public and will advise on an intervenor funding rulemaking. As OPP functions are established, the Commission will endeavor to provide continuing opportunities for public input on the office's development. OPP will also begin developing tools to track interactions with the public to measure effectiveness and adaptively manage OPP processes and staff roles; formalize how it will interact with existing Commission program offices; and consider whether OPP staff, and any cooperating Commission staff in other offices, should be non-decisional or non-advisory, and whether and how *ex parte* communications rules will apply. In addition, OPP will evaluate establishing an advisory board, which some commenters recommended.

OPP will reach full operating capacity in FY2024. During FY2023 and into FY2024, OPP will fully support its mission and functional objectives. The OPP Director will assess staffing needs to support its planned workload and reevaluate needed resources based on available funds.

¹⁶ FPA section 319 specifies that “[t]he term of office of the Director [of OPP] shall be 4 years.” 16 U.S.C. § 825q-1(a)(2)(B).

Appendix: Public Comment Overview

A. Overview

To develop OPP in a manner that best serves the public, the Commission heard directly from affected members of the public, community representatives, and others interested in the Commission's decision-making processes. The Commission held six listening sessions during which members of the public were able to provide comments on the establishment and operation of OPP, without a requirement to also file written comments through the Commission's electronic filing system.¹ Individuals and groups without internet access were able to participate in these sessions via teleconference. This departure from the Commission's typical comment procedures was intended to enable greater access and engagement. On April 16, 2021, FERC hosted a virtual workshop on OPP, during which 29 stakeholders, including landowners, consumer advocates, environmental justice leaders, community organizers, Tribal Governments, Tribal citizens, industry, experts on public engagement and participation, academics, and state and municipal government officials, were able to communicate their feedback on OPP directly to the Commissioners. In total, the Commission received over 115 listening session comments and over 125 written comments via Docket No. AD21-9-000 during a 63-day comment period, from March 5, 2021 through May 7, 2021.

During the public comment period, Chairman Glick also received correspondence from members of Congress who sponsored the *Public Engagement at FERC Act*,² urging the Commission to consider measures included in the legislation as a way to further improve public participation and remove technical barriers that may prevent consumers from making their voices heard. Specifically, members of Congress requested that OPP employ directed outreach methods, such as consultation services and technical assistance, to ensure the interests of residential and small commercial consumers are adequately represented and that the Commission create a Public and Consumer Advocacy Advisory Committee for the office, composed of representatives from the national and state-based nongovernmental consumer advocacy community, and provide intervenor funding to individuals or small commercial energy consumer groups to encourage their participation in FERC proceedings.

Commission staff conducted an initial review of public input to shape the formation of OPP. Commenters shared their stories and provided essential insight into what they sought from OPP and how the Commission should reform its existing processes. Public comments on how the Commission should establish OPP and recommendations for OPP best practices are summarized below. We note that some of these recommendations are outside of Congress's mandate in FPA section 319. Comments pertaining to reforms of existing Commission processes are not summarized in this Appendix but will be considered by OPP, after its establishment, in coordination with existing Commission offices.

¹ The following stakeholder listening sessions were held: (1) Landowners and Communities Affected by Infrastructure Development on March 17, 2021, (2) Environmental Justice Communities and Tribal Interests on March 22, 2021, (3) Tribal Governments on March 24, 2021, (4) Energy Consumers and Consumer Advocates on March 25, 2021, (5) Evening Listening Session (All Stakeholder Groups) on April 29, 2021, and (6) Spanish-Language (All Stakeholder Groups) on May 4, 2021 .

² Public Engagement at FERC Act, S. 1477, H.R. 3240, 116th Cong. (2019).

Broadly speaking, commenters emphasized the need for the Commission and OPP to place affected communities on equal footing with well-resourced industry stakeholders, with a large number of commenters expressing concern that the Commission historically has favored industry preferences at the expense of communities and consumers. Commenters urged the Commission to create an OPP that is responsive to the public and provides equitable assistance to increase public participation in Commission proceedings. For example, Chandra Farley of the Partnership for Southern Equity asserted that the long-term, complex nature of many Commission proceedings and financial barriers make the Commission an unwieldy space for public participation and recommended that OPP better equip the public to participate. Several commenters, such as the National Consumer Law Center, also stated that more meaningful participation from a diverse range of stakeholders would strengthen Commission decisions. To achieve those goals, commenters generally suggested that OPP serve the following functions: conduct outreach; provide public education; assist intervenors and participants in individual proceedings; provide technical assistance; improve coordination of public participation across the Commission; and provide intervenor funding.

Multiple commenters urged OPP to generally focus on the public, including marginalized, historically underrepresented, and environmental justice communities, rather than the interests of any particular party or interest. Multiple commenters also suggested ways that OPP might improve communication, outreach, and engagement with Tribal governments and those representing Tribal interests.

Regarding the scope of OPP's activities, the Commission received input on potential OPP activities related to both energy infrastructure projects and electric matters under the Commission's jurisdiction. This included input from landowners affected by the Commission's NGA proceedings. Many commenters recommended that the scope of OPP activities include education, outreach, and coordination of assistance to persons intervening, or those who wish to intervene, in Commission proceedings related to energy projects such as hydropower licensing and pipeline certification. For example, Friends of the Earth submitted comments on behalf of approximately 10,000 members of the public requesting that OPP ensure that all voices are heard on energy project matters. Landowners asserted that increasing landowner engagement will help the Commission gather substantial information necessary to make more informed decisions about pipeline certifications, while upholding rights of landowners. The Interstate Natural Gas Association of America suggested that OPP could assist landowners and other stakeholders who are not familiar with the Commission's pipeline certification process, or have not historically participated in the process, by providing technical expertise to understand and navigate the Commission's processes.

While many commenters provided input on specific assistance that OPP could provide the public in navigating Commission processes related to energy infrastructure projects, some commenters contended that OPP's efforts should not include proceedings related to the Commission's responsibilities under the NGA. For example, while FPA section 319 contains broad language in its instructions to the Director of OPP, Energy Transfer L.P. asserts that the placement of that instruction in Part III of the FPA and consideration of the structure of PURPA indicate that Congress intended to limit OPP's activities to only regulatory proceedings under the FPA, not proceedings under the NGA or the NGPA. Energy Transfer L.P. recommended limiting OPP's activities to regulatory proceedings initiated under the FPA. The Electricity Consumers Resource Council echoed these sentiments, requesting that OPP focus its work on the electric sector.

Many commenters provided input on the scope of OPP activities as related to the Commission's jurisdiction over energy market and rate matters. For example, the National Rural Electric Cooperative Association stated that electric cooperatives and the consumer members they serve will benefit from Commission

policies and procedures that enable effective public participation in Commission proceedings under the FPA. Edison Electric Institute suggested that OPP could serve a critical role in advancing education, facilitation, and coordination among interested stakeholders. The Electric Power Supply Association stated that OPP should prioritize the development of informational and educational materials and forums to explain the mechanics of Commission proceedings and make the Commission's processes, authorities, and outcomes understandable to all interested persons and communities. Kin Gee, President of Consumers Helping Affect Regulation of Gas & Electric, noted that the Commission's rules and regulations on issues such as electric transmission are no less impactful to the public than those related to energy projects. The PJM Cities and Communities Coalition advocated for the involvement of those directly affected by energy market-related decisions, such as cities, in OPP's efforts.

Many commenters also suggested that OPP help stakeholders and the public better understand, and participate in, the processes and proceedings of the Commission-regulated RTOs and ISOs. For example, the Midwest Citizens Utility Boards Network highlighted the impact of RTO/ISO decisions on local communities and the barriers to participation created by the complexity and resource-intensity of participating in such proceedings. David Springe of the National Association of State Utility Consumer Advocates emphasized that decisions made at regional organizations impact consumer bills, yet there is often little support or access for consumers to provide meaningful input. Earthjustice suggested that OPP provide educational materials and guidance regarding participation in RTOs/ISOs and evaluate public participation in these entities. In joint comments, the Acadia Center, Conservation Law Foundation, Fresh Energy, Natural Resources Defense Council, NW Energy Coalition, Sierra Club, Southern Environmental Law Center, Sustainable FERC Project, Union of Concerned Scientists, and Vote Solar noted a widespread recognition of continued barriers to participation in these stakeholder processes and stated that OPP has a responsibility to improve both the oversight and facilitation of public participation in RTO/ISO and non-RTO/ISO planning regions. The Harvard Electricity Law Initiative also recommended including RTO/ISO monitoring in OPP's portfolio as well as the provision of educational materials on RTO/ISO processes and proceedings.

Several commenters noted that the Commission may need to develop OPP through a multi-stage process. For example, the Harvard Electricity Law Initiative suggested that the Commission avoid limiting OPP's potential functions because the Commission's work will continue to evolve and suggested that adopting a flexible understanding of the office's authority under FPA section 319(b)(1) will allow OPP to respond to industry and regulatory changes while respecting OPP's independence. The Electricity Consumers Resource Council recommended that OPP first identify and pursue any reasonable and necessary outreach and procedural reforms to assist public participation and, once it has assessed its results, then consider intervenor funding. David Springe of the National Association of State Utility Consumer Advocates stated that the creation of OPP is a long overdue opportunity to give consumers support to exercise their due process rights.

B. OPP Functions

Commenters provided many recommendations for how OPP should assist the public. Multiple commenters emphasized that OPP's role should be clearly defined so that the public and those who wish to participate in Commission proceedings understand any limits on OPP's ability to provide assistance, as well as the scope of any engagement processes. Several commenters also cautioned that OPP should not create redundant or duplicative processes. For example, the Consumer Energy Alliance recommended that the Commission review existing outreach procedures to assess how OPP could address gaps instead of assuming that wholesale changes are needed.

Commenters generally agreed that OPP should remain policy and project neutral and not take substantive positions, provide preferential treatment to any stakeholders, or intervene directly in Commission proceedings. Such commenters proposed that OPP focus on providing public education and assisting stakeholders in understanding and participating in proceedings. Many commenters recommended that OPP serve as an accessible source of independent information. For example, the Electric Power Supply Association stated that OPP's impartiality should not detract from its ability to provide technical assistance or to indirectly support parties taking substantive positions by providing educational materials and intervenor funding where eligible.

While most commenters recommended that OPP remain policy and project neutral and avoid any advocacy role, others urge OPP to intervene in proceedings on behalf of the public or conduct independent investigations or audits. For example, Kirkman Frost suggested that OPP provide direct legal support for those impacted by Commission-authorized projects, and Crystal Cavalier-Keck, Founder and President of 7Directions of Service, stated that when her community reaches out to the Commission they are asking for the government to intervene and protect the public.

In addition, several commenters noted that the Commission's rules regarding off-the-record or *ex parte* communications prevent staff from providing substantive responses to their questions. Earthjustice recommended that the Commission review its *ex parte* communication regulations or consider appointing some non-decisional staff to OPP to make it easier for OPP to answer questions and assist the public with proceedings. Earthjustice suggested that non-decisional staff would be able to communicate with the public on any matter and at any stage in a proceeding, and communication between non-decisional staff and the Commission would be more limited and subject to more formality or be "walled off." The Electric Power Supply Association argued that OPP's operations should be structured in a way that avoids *ex parte* communication concerns and prevents OPP from serving, or being perceived to serve, as a conduit between parties in contested proceedings and decisional employees. Some commenters such as Earthjustice recommended that the Commission consider establishing a stand-alone public advocate, separate from OPP.

1. Outreach

The vast majority of commenters stated that outreach and public engagement is critical to fulfilling the Commission's statutory mandates under the FPA and NGA. Comments indicated that many members of the public do not have the necessary resources to participate in Commission proceedings or do not know that the Commission's actions will affect them until it is too late to meaningfully participate. Many commenters explained that they have had difficulty accessing information due to technological barriers or the complexity of Commission processes. They suggested that OPP work to improve clarity and visibility of the Commission's actions and better inform the public of significant or noteworthy proceedings that may impact their communities.

Many commenters—including Tribal governments, national nonprofit organizations, grassroots community organizations, individual landowners, and others—indicated that they routinely encounter difficulty navigating Commission processes for participation and, in particular, using the Commission's eFiling system and other online-only resources. Dr. Matthew Tejada, the Director of Environmental Justice at the U.S. Environmental Protection Agency (EPA), emphasized that effective outreach involves helping prepare communities to meaningfully engage and going to affected communities months in advance to ensure that the community understands the statutes, rules, hearings, and processes that may apply to them.

Commenters noted that, even if they are notified of relevant Commission proceedings, those proceedings often involve highly complex technical engineering, economic, and scientific information that is difficult for a lay-person to understand. For example, Michelle Martinez, Acting Executive Director of the Michigan Environmental Justice Coalition, stated that, “Even if someone knows about the meeting, believes it’s important, and because of their work schedule, digital literacy, and internet connection are able to come, they may be unsure how to plug into the technocratic language and formal meeting structure.”³

a. Outreach Strategies and Recommendations

Commenters provided a range of recommendations on how OPP could conduct outreach to ensure that the public is aware of Commission proceedings that may impact them or their communities. A common theme among commenters was that outreach must be targeted and built on existing relationships. For example, Shalanda Baker, Deputy Director for Energy Justice at DOE, highlighted the importance of sustained engagement, explaining that, because comment windows are typically short, the Commission must prepare communities to participate. The National Park Service reiterated the importance of engaging communities early and often.

Several commenters recommended ways that OPP should share notifications of important proceedings, including posting on the Commission’s website; using mailings to residences and places of business; emails, newspaper and radio advertisements, and announcements on social media platforms; and distributing information to municipal governments and local elected officials, community action agencies, faith organizations, educational institutions, and other trust organizations in affected communities. Commenters, such as Port Arthur Community Action Network, requested that OPP consider the most effective media formats and provide information at key community locations, such as parks, libraries, community centers, grocery stores, bus stops, and other important locations. Commenters also urged OPP both to improve the ease of use of the eFiling system and offer multiple routes for the public to provide input.

The Commission also heard from non-English speakers and language justice advocates, particularly in Puerto Rico and areas of the Texas Gulf Coast, who mentioned the need to translate project notices, general background information, key terms, and Commission procedures for non-English speakers. For example, Fenceline Watch recommended that OPP provide videos in Spanish explaining how individuals with limited English proficiency can file public comments. The Port Arthur Community Action Network proposed that OPP use tools such as the EPA’s EJSCREEN Mapping Tool and the Limited English Proficiency map to determine which languages should be made available for proceedings and projects. Commenters also suggested that OPP provide simultaneous language translation and sign language interpretation during Commission-hosted public meetings.

Commenters, including numerous individual landowners, the National Mining Association, Interstate Natural Gas Association of America, Conservation Law Foundation, and the Union of Concerned Scientists, stressed that OPP staff meet members of the public where they live and work. These and other commenters discussed the need for both in-person and virtual options for public meetings and hearings. A number of commenters, including Appalachian Voices, the Niskanen Center, and the Interstate Natural Gas Association of America, recommended scheduling meetings at a variety of times, including daytime, nighttime, and weekend meetings, to increase attendance. Some commenters noted that OPP may need to

³ Michelle Martinez April 17, 2021 Workshop Statement at 2.

offer more meetings of short duration rather than a few lengthy meetings to obtain community input. A few commenters, including Union Hill Freedmen Family Research Group and Dr. Barbara Cuthbert, recommended holding scoping meetings for energy infrastructure projects in all counties and municipalities that will be impacted by an infrastructure project. Landowner Francis Eatherington suggested holding meetings in the most rural and internet-constrained areas with the option for others to attend via online video conference. In joint comments, the Attorneys General of Massachusetts, Connecticut, Delaware, Maryland, Michigan, Minnesota, Oregon, Rhode Island, and Wisconsin; the Maine Office of the Public Advocate; and the Maryland People's Counsel together recommended that the Commission invest in technologies and technical support personnel to enable remote engagement with stakeholders who are unable to attend in-person meetings. Commenters also recommended that virtual meetings be scheduled with an awareness to the time zone of the affected communities. Dr. Martha Rozelle, past president and co-founder of the International Association for Public Participation, stated that there is no "one size fits all" answer to public engagement and recommended that the Commission conduct a combination of online and in-person meetings, depending on the project.

Many commenters—including the Clean Air Council; Rebekah Hinojosa, Gulf Coast Campaign Representative for the Sierra Club; and private landowners—requested that public meetings be held in an "open mic" format and that the Commission cease its practice of requiring private testimony during scoping meetings for natural gas proceedings. Several commenters, including the Ohio Farm Bureau Federation and Francis Eatherington, recommended that the Commission hold listening sessions throughout a project's life cycle.

More than 30 commenters provided recommendations about the communities with whom OPP should engage. Broadly, Olivia Nedd, Policy Director of Access & Equity at Vote Solar, recommended that OPP provide those that have an interest or stake in an issue the opportunity to influence decisions that affect their communities. Union of Concerned Scientists suggested that OPP analyze which communities might be impacted by proposed projects. Others, including Jacqueline Patterson, Director of the Environmental and Climate Justice Program at NAACP, and Kerene Tayloe, Director of Federal Legislative Affairs for WE ACT for Environmental Justice, recommended that OPP engage with affected communities equitably and initially focus on the historically marginalized communities. In determining how to identify and prioritize communities, several commenters recommended taking into consideration changing population dynamics in addition to, or in place of, tools like the EPA's EJSCREEN.

Overall, commenters suggested that OPP tailor its outreach based on whether Commission actions affect the following public groups: residential and small commercial consumers; environmental justice, indigenous, frontline, and fenceline communities that have historically been disproportionately burdened by energy infrastructure; Tribal governments and Alaska Native Corporations; landowners, tenants, and nearby residents affected by natural gas infrastructure projects; young people and members of the youth climate movement; consumers with disabilities; community organizations representing the low-resourced, low-income individuals, the elderly, black communities, indigenous communities, and people of color; environmental and energy justice organizations; civic organizations; small-scale renewable energy and distributed energy resource advocates; municipal and state-level elected officials; and scientific researchers and academic institutions. Earthjustice recommended that OPP reach out not only to communities in the continental U.S. but also to communities in U.S. territories like Puerto Rico that have Commission-jurisdictional infrastructure. Several commenters recommended that OPP partner with federal, state, and municipal governments and organizations to enhance its outreach efforts.

With specific regard to outreach to individual utility ratepayers, the Office of the People’s Counsel for the District of Columbia explained that, with respect to rate cases, merger authorizations, market design changes, and rulemakings, it may not be efficient or economic for individual consumers to engage directly in Commission proceedings. The Office of the People’s Counsel for the District of Columbia recommended instead that OPP focus on engaging advocate offices and other consumer organizations that represent the public and connecting individual consumers with the advocacy organizations that represent them.

Several commenters recommended that OPP develop criteria for determining which proceedings would be of interest to the public and publish information related to those “significant” proceedings on the Commission’s website. For example, the Appalachian Trail Conservancy recommended that this list include all activities conducted during the pre-filing period for gas pipeline certificates or hydropower licenses. Other commenters suggested that the Commission highlight significant electric proceedings at the Commission and in RTO/ISO stakeholder processes. In general, most commenters supported an expansive definition of “significant proceedings.” However, some commenters, such as Dr. Shelley Welton, Associate Professor of Law at the University of South Carolina School of Law suggested instead that OPP clearly flag for the public those proceedings, and perhaps particular issues within those proceedings, where the Commission believes that public input would be most beneficial.

Commenters stated that an important first step for OPP is to develop a strategic plan for improving public awareness of the Commission through direct engagement. Commenters—including the Appalachian Trail Conservancy; the Port Arthur Community Action Network; and, in joint comments, the Attorneys General of Massachusetts, Connecticut, Delaware, Maryland, Michigan, Minnesota, Oregon, Rhode Island, and Wisconsin, the Maine Office of the Public Advocate, and the Maryland People’s Counsel—recommended that OPP develop case-specific outreach plans in consultation with the appropriate program office within the Commission (i.e., Office of Energy Projects, Office of Energy Market Regulation, etc.). The Institute for Policy Integrity at New York University School of Law recommended that these plans be developed for each class of Commission proceeding and that OPP publish the plans in the Federal Register and on the Commission’s website. Rebecca Tepper, Chief of the Energy and Environment Bureau of the Massachusetts Office of the Attorney General, recommended that for cases of significant public interest OPP allow for a period of public comment on draft outreach plans before implementation. The Port Arthur Community Action Network suggested that OPP continuously seek feedback on its outreach plans.

Commenters provided recommendations for specific components of outreach plans. For example, the Port Arthur Community Action Network suggested that outreach plans contain information about where to find relevant documents regarding a Commission proceeding or action, public participation educational materials, and announcements of public meetings and comment periods. Kerene Tayloe, Director of Federal Legislative Affairs for WE ACT for Environmental Justice, recommended that outreach plans factor in the mistrust and unfamiliarity between environmental justice communities and the federal government.

Commenters cautioned that there may be limits to OPP’s ability to proactively engage in extensive outreach. For example, the Electric Power Supply Association acknowledged that there will be cases where the affected individuals and groups can be identified (such as landowners and communities along project rights-of-way), and it asserted that it is reasonable for the Commission or OPP to develop or improve processes for outreach to such individuals and groups. The Electric Power Supply Association contended, however, that providing outreach for other Commission proceedings, such as policy and rulemaking matters or rules for organized wholesale electricity markets, have implications for thousands or even millions of people and groups, and identifying persons or communities impacted by broad policy or rulemaking considerations, or multi-state regional market rules, would pose a nearly insurmountable challenge. The Electric Power Supply

Association also cautioned that such outreach could raise fairness and due process issues, to the extent OPP's outreach is perceived as selective or favoring a particular viewpoint.

Many commenters recommended that OPP track its outreach and assistance efforts, assess effectiveness, provide recommendations for improvement when procedures are not adequately supporting public participation, and make its findings available to the public. Commenters expressed that, through accountability and reporting mechanisms, OPP can demonstrate that it is transparent and responsive to the public. Many commenters requested the continued use of listening sessions to periodically assess community needs and receive feedback. Commenters believed that OPP could serve as a bridge between the public and the Commission. As Dr. Matthew Tejada, Director of Environmental Justice at EPA, explained, the public will let the Commission know when engagement efforts have failed, and "the voice of the impacted community is the best and maybe only needed accountability function."⁴

2. Education

More than two dozen commenters recommended that OPP provide public education about the Commission and its authorities, how to participate in proceedings, and the rights of affected individuals. For example, Michelle Martinez, Acting Executive Director of the Michigan Environmental Justice Coalition, recommended that OPP's educational information be "designed for impacted people, not utilities, to understand the issues at stake and opportunities to influence the decision-making process."⁵

Commenters recommended a range of educational efforts, including that OPP develop specific resources like open houses, workshops, and webinars; educational videos, including those directed at young audiences with accompanying curricula; blogs and newsletters; how-to guides; and acronym lists and glossaries of commonly used terms to help the public understand the how, when, and where to engage at FERC. Overwhelmingly, commenters stated that these materials should be produced in plain language, with some commenters recommending that all materials be produced at a fourth to eighth grade reading level.

Many commenters recommended that the Commission improve its entire website to make it more user-friendly, but at a minimum, make an OPP site accessible to the public. Commenters recommended that the site avoid jargon, provide glossaries, be readable to non-technical audiences and available in multiple languages. Additionally, many commenters believe that the website should provide simple information (i.e., Frequently Asked Questions, handbooks, and videos). Many suggested that the Commission employ a web consultant to help make the website more user-friendly, accommodate the needs of communities with poor internet access, and address other user needs.

Several commenters also recommended that the OPP website develop industry-specific pages that include citizen-friendly summaries and fact sheets and explain, in plain language, relevant rules, policies, recent proceedings, and developments. For example, Dr. Susan Tierney of the Analysis Group, and former Assistant Secretary for Policy at DOE, points out that the public involvement sections of FERC's current website's focus on natural gas and hydropower projects but not other regulated industries that may be of growing interest to the public. Commenters also requested that OPP improve online resources for

⁴ April 17, 2021 Workshop Transcript at 146.

⁵ Michelle Martinez April 17, 2021 Workshop Statement at 2.

landowners impacted by natural gas pipeline projects. Landowners Deb Evans and Ron Schaaf requested that a catalog of pertinent rulemakings and policy statements be available online. The Niskanen Center requested clear instructions for how to intervene and what landowner rights are preserved by such intervention. The Interstate Natural Gas Association of America requested flowcharts for the entire process for natural gas pipeline projects from pre-filing through operation, videos of construction and restoration examples, a plain language definition of eminent domain, and template forms for items like survey permissions. Earthjustice requested that the list of major gas projects be expanded to all pending projects, that similar lists be created for pending tariff filings and LNG filings, and that the website include searchable lists of attorneys, other experts, templates for different types of filings, summaries of relevant permitting agencies involved in a decision, and a clearinghouse of Freedom of Information Act (FOIA) requests that have been released.

Dr. Shelley Welton, Associate Professor of Law at the University of South Carolina School of Law, recommended that, in addition to explaining the Commission's activities to the public, which she terms "translating out," OPP must also "translate in" by highlighting to the Commissioners and Commission staff the importance of the knowledge that communities hold about issues based on their lived realities, even when that knowledge is not expressed in the technical language used by the Commission. Dr. Welton suggested that OPP could offer educational sessions and dialogues with Commission staff about the role of community based "situated knowledge" in the Commission's mission.

3. Assistance with Individual Proceedings

Commenters, such as Rebecca Tepper, Chief of the Energy and Environment Bureau of the Massachusetts Office of the Attorney General, noted the importance of real-time help and suggested that, in larger proceedings, the Commission might consider designating a single point of contact to provide on-going process information. Frequently-recommended navigational assistance by commenters included guidance on the process for intervention in Commission proceedings, technical resources, information about engaging in RTO/ISO stakeholder processes, and landowner rights and responsibilities relating to Commission-jurisdictional energy infrastructure.

For example, commenters recommended that an OPP representative assist participants with the Commission's procedural requirements. The Hopi Tribe recommended that a project liaison coordinate with the Tribal liaison or designated OPP staff representative to best address Tribal community interests. The Niskanen Center recommended that an OPP representative be assigned to each natural gas pipeline project to gather, save, and analyze data and who could provide answers to landowners' inquiries, help identify significant issues, and recommend compliance investigations. Many commenters, including several landowners and others, supported a project liaison function within OPP to provide a neutral, trusted entity to guide landowners through the process to intervene and comment on proceedings. They explained that affected landowners, some of whom are elderly and live in rural areas with limited internet access, are thrust into Commission proceedings with little warning and limited resources, and they recommend that, among other things, OPP—not the project proponent—notify all landowners regarding their rights, potential alternative pipeline routes, and instructions to access all pertinent information to participate in the proceeding.

Commenters suggested that OPP should provide support for individuals filing complaints about Commission regulated entities, including pipeline companies' conduct during and after construction. Environmental Defense Fund suggested that OPP provide guidance on how to properly file complaints to

receive appropriate consideration and action, including generic guidance and individual support, and by reaching out to a complainant after a decision is rendered to ensure that the complainant is informed of the decision and is aware of their options to challenge the decision if they disagree with it, including through rehearing, and the deadlines and procedural requirements associated with those options.

Finally, to help facilitate this public assistance, commenters recommended that OPP provide a real-time Help Desk and OPP portal available by phone, email, or live-chat.

4. Technical Assistance

Commenters asserted that a lack of expert assistance can inhibit successful public participation. Commenters, such as the Institute for Policy Integrity at New York University School of Law, stated that the technical complexity of proceedings is a barrier to the average citizen. Commenters indicated that they often need to hire experts or are disenfranchised from the process given the technical complexity of the issues that are presented to the Commission. Shalanda Baker, Deputy Director for Energy Justice at DOE, explained that building capacity for meaningful participation may require providing technical tools and resources for communities. Olivia Nedd, Policy Director of Access & Equity at Vote Solar, echoed this statement, explaining that for stakeholders to meaningfully engage with FERC, technical assistance must be offered to the public.

Commenters suggested that OPP provide direct technical assistance, although this assistance could encompass a range of suggested activities. For example, SOUL of Wisconsin recommended that OPP provide technical expertise in the form of engineers, economists, energy planners, and natural asset specialists trained to work with the public. The National Park Service suggested that OPP could provide assistance with specific technical filings, such as study requests for hydroelectric proceedings, or provide support on intervention requests or in the development of effective comments. Commenters also suggested a variety of specific activities such as providing resource experts to assist the public in understanding complex resource studies, support for understanding or performing complex modeling, assistance with routing tools, assistance with accessing and understanding Commission databases, and providing experts to explain complex information to the public, among other suggested activities. Several commenters also suggested that OPP require equity impact assessments from energy project proponents and serve as a resource to affected communities to ensure meaningful participation in the process of assessing equity impacts. Many commenters agreed with Tyson Slocum, Director of the Energy and Climate Program at Public Citizen that OPP can remain neutral in providing technical assistance by, for example, providing briefing materials that includes potential risks and benefits associated with natural gas pipeline projects, and information on how the public can engage to make their voices heard and considered in a Commission proceeding.

Several commenters also suggested that OPP offer technical assistance through competitive grants. Both Kerene Tayloe, Director of Federal Legislative Affairs for WE ACT for Environmental Justice, and the Institute for Policy Integrity at New York University School of Law recommended that OPP offer grants to help build technical expertise and capacity in underserved and underrepresented communities as a way of building equity into OPP's outreach and engagement efforts.

Vote Solar also recommended that OPP provide technical assistance to help companies interested in submitting a new energy project, or with existing projects, get better and earlier input from communities, especially when a project could have an impact on that community.

5. Improving Existing Commission Processes

Many commenters urged OPP to coordinate with Commission program offices on an ongoing basis to improve existing Commission processes. For example, the Government Accountability Project suggested that OPP include the public in providing agency oversight based on open governance principles and whistleblower protections.

Commenters also suggested that OPP review the Commission's regulations and identify and address challenges that limit public participation in its processes or negatively affect the public. For example, the Pechanga Band of Luiseño Indians recommended that OPP identify and acknowledge how the Commission's administrative processes currently result in systemic injustice, inequality, and the exclusion of meaningful Tribal consultation. The Pechanga Band of Luiseño Indians noted that Tribes may be disproportionately impacted by energy projects, leading to environmental justice concerns, and they recommended that OPP investigate how low-income communities and communities of color are disproportionately impacted by Commission-jurisdictional projects and evaluate the systemic and implicit bias driving those decisions.

Several commenters recommended creation of an Ombudsperson or similar role to improve existing public processes and serve as an independent, neutral resource for the resolution of concerns or complaints. As an example, the Electric Power Supply Association stated that the Ombudsperson could be a neutral person able to communicate with interested parties on a confidential basis while facilitating mutually acceptable resolutions and offering responses to difficult complaints or concerns. Commenters, including landowners Deb Evans and Ron Schaaf, recommended that the Ombudsperson be available to assist landowners, while RTOGov Researchers supported creating an Ombudsperson role to address public concerns about RTO/ISO stakeholder processes and propose ways to improve the delivery of services. Olivia Nedd of Vote Solar explained that providing for such a role would help ensure that the public's comments are addressed and that the public receives a direct response from someone they trust, whereas the current structure often offers no closure for commenters.

A number of commenters detailed their negative experiences with pipeline companies and land agents and urged OPP to improve the landowner complaint process to provide lasting improvements to Commission processes. For example, Maury Johnson, a representative of Preserve Monroe, Save Monroe, and the Indian Creek Watershed Association, requested that the Commission not ignore the alleged misbehavior of land agents who fail to strictly follow landowner notice and permission requirements regarding surveying, as well as in the early negotiations of easement contracts with the rural elderly, the unsuspecting, or less savvy sellers. The Property Rights and Pipeline Center recommended that OPP staff track calls and complaints from landowners and flag or remove pipeline agents that give landowners false or misleading information. However, the Interstate Natural Gas Association of America cautioned that OPP should take care not to duplicate the Commission's existing dispute resolution and landowner hotline services in the Office of General Counsel, which could be confusing and counter-productive.

6. Outreach to Tribal Governments and Tribal Citizens

The Commission heard from many commenters about the Commission's existing consultation practices and OPP's potential role with Tribal governments and citizens. A number of Tribal representatives and others stated to the Commission that Tribal governments are not "public" entities but rather sovereign entities that have a unique political and legal relationship with the federal government and should not be treated the

same as other stakeholders in Commission proceedings. Ms. Lois Sweet Dorman, member of the Snoqualmie Tribe and Snoqualmie Falls spokesperson, noted that when the then-state recognized Snoqualmie Tribe sought to advocate for its sacred place of creation during a hydroelectric dam relicensing proceeding, the Tribe felt that the Commission “lumped [them] together with kayakers in an interest that we were simply stakeholders.”⁶

Commenters urged the Commission not to include the Tribal liaison role within OPP and offered several suggestions for improving Tribal consultation. For example, Ted Glick with Beyond Extreme Energy suggested that the Commission create a new Office of Indigenous Relations. With specific regard to OPP, commenters urged that OPP coordinate with the Tribal liaison and that OPP staff have practical experience with Tribal outreach, engagement, and cultural sensitivities. Confederated Tribes of the Umatilla Indian Reservation recommended that the Commission establish a separate Office of Tribal Participation, as well as have one Tribal liaison per state, a board comprising Tribal representatives to advise on consultation with Tribes, and procedures to enable two-way communication between Tribes and Commission staff.

In addition, commenters noted that Commission staff and applicants must be aware of how the timing and scope of input sought and the obligations and requirements for consideration of that input, can affect Tribes. Commenters recommended that OPP staff work with the Tribal liaison to identify Commission proceedings and tailor outreach based on barriers to Tribal participation, such as lack of access and limited staff resources, through multiple forms of contact, e.g., mailings, phone calls, and emails. Several entities recommended that the Commission ensure that information about Tribal outreach, Tribal consultation, and the role of the Tribal liaison is publicly available and easily accessible on the Commission’s website.

Commenters noted that the Commission needs to ensure cultural competency of its staff and should ensure that Commission staff have mandatory training on how to coordinate and conduct government-to-government consultation with Tribal nations. Commenters suggested that OPP could assist with training in close coordination with the Tribal liaison. Many commenters also recommended that OPP staff have knowledge of Tribal matters, including consultation processes, the trust doctrine, treaty rights, as well as methods to tailor outreach to both federally recognized and state-recognized tribes. Some commenters recommended that OPP look to the practices of other entities, such as the Federal Communication Commission’s Office of Native Affairs and Policy, for examples on how to model working with Tribal governments.

7. Intervenor Funding

Commenters overwhelmingly supported intervenor funding for those historically underrepresented in Commission proceedings. However, a few commenters, such as Energy Transfer L.P., asserted that compensation will prolong the regulatory process and create perverse incentives to increase the frequency, intensity, and duration of regulatory proceedings. Consumer Energy Alliance urged the Commission to provide compensation only in very rare circumstances and to consider compensation caps. Similarly, a few commenters advised against open-ended funding for litigation and recommended that the Commission establish compensation caps and clear parameters for funding.

⁶ April 17, 2021 Workshop Transcript at 31.

Of the few comments received regarding the funding mechanism for intervenor funding, most suggested that the entities that the Commission regulates be responsible for intervenor funding either directly or indirectly through the Commission's general budget appropriation. For example, Public Citizen, suggested that, in any proceeding filed by a public utility, the utility be financially responsible for paying a claim for intervenor funding. Other commenters suggested that regulated entities pay into an intervenor fund per project, similar to an escrow account. Other commenters, such as the Interstate Natural Gas Association of America, recommended that the funds come from the Commission's general budget. PJM Interconnection, L.L.C. (PJM) suggested that the funds should come through an allocation of the Commission's resources or a direct appropriation. PJM also requested that the Commission recognize that RTOs/ISOs incorporate the components of a public service entity, including independence and a robust stakeholder process, and already fund a significant share of the Commission's electric programs.

Recognizing that section 319 contemplates intervenor funding decisions at the conclusion of a proceeding, some commenters suggested that the Commission should let potential participants know early in the process if they could be eligible for compensation, while others advocated for statutory changes to the reimbursement compensation framework. In addition, several commenters asked for upfront funding or grants to assist participants at the start of, and throughout, a proceeding. Some commenters also requested grants to assist the public generally or for Commission-jurisdictional activities that do not involve a formal Commission proceeding, such as stakeholder events at RTO/ISOs. Protect Our Water Heritage Rights sought creation of an eminent domain landowner defense fund for pre- and post-certificate legal defense. Beyond Extreme Energy recommended coordinating access to federal, state, local, and private funds to ensure environmental justice participation. Several commenters recommended providing Tribes with funds for Tribal, fisheries, cultural resource, and legal experts to review projects and that the Commission should determine funding by assessing, before a project's scoping process is started, how many Tribes will be impacted. The Institute for Policy Integrity at New York University School of Law suggests that OPP might look at other examples of agency practices for compensating Tribal governments who lend their time and expertise to fulfilling statutorily mandated processes, including the National Historic Preservation Act, NEPA, and the policies of the Bureau of Land Management, Federal Communications Commission, and Nuclear Regulatory Commission. The Hopi Tribe pointed to the EPA, DOE, and Department of the Interior for Tribal outreach, assistance, and funding opportunities. Others recommended that OPP have authority to provide grants to assist with public interest participation in RTO/ISO stakeholder processes.

The majority of commenters stated that those who are historically underrepresented, marginalized, or otherwise have not been able to participate meaningfully in Commission proceedings absent intervenor funding should receive funding. Several commenters, such as PJM Cities and Communities Coalition, called for prioritizing environmental justice and frontline communities and Tribal organizations directly impacted by Commission actions, and larger organizations, such as Earthjustice and the Environmental Defense Fund, encouraged maximizing funding for historically marginalized communities. Commenters also advocated for intervenor funding based on financial need and commensurate with the scale of the communities impacted. Some landowners focused on funding for energy project-related and eminent domain proceedings. In addition, multiple commenters suggested that OPP should limit the type of entities eligible for intervenor funding. For example, Union of Concerned Scientists argued that industry and trade groups, as well as nonprofit organizations with a national presence and funding, be ineligible to receive intervenor compensation funds. The Electric Power Supply Association agreed that nonprofits with the means to participate should be ineligible, and the Interstate Natural Gas Association of America advocated that large environmental organizations be ineligible to receive funding.

Numerous commenters encouraged the Commission to provide early notification of eligibility and impose deadlines for key decision points, including: (1) when an applicant must apply for eligibility; (2) when the Commission will make the threshold determination; (3) when an applicant must file for compensation; (4) when the Commission must act on the application; and (5) if compensation is granted, when the funds must be disbursed. Commenters also urged the Commission to provide clear requirements and guidelines to facilitate a streamlined process. The Office of the Ohio Consumers' Counsel recommended that the Commission be diligent in reviewing any entity that seeks its assistance to ensure that such entity is a consumer advocate and not a front group for utility or other non-consumer interests.

Jointly, the Attorneys General of Massachusetts, Connecticut, Delaware, Maryland, Michigan, Minnesota, Oregon, Rhode Island, and Wisconsin; the Maine Office of the Public Advocate; and the Maryland People's Counsel; as well as other commenters, recommended that the Commission use successful state intervenor funding programs as models. In particular, multiple commenters recommended that the Commission model its program after the California Public Utility Commission's intervenor funding program, particularly with respect to defining the following statutory terms from FPA section 319: "significant proceeding;" "significant financial hardship;" "reasonable attorney's fees, expert witness fees, and other costs of intervening or participating;" and "substantially contributed."⁷

Commenters also proposed ways to provide funding to the most-in-need or infrequent participants. For example, Public Citizen recommended that OPP oversee a public interest attorney referral program akin to a state court-appointed attorney program. Public Citizen suggested that OPP develop standards or training and a review process to accept attorneys into the program; Public Citizen states that the attorneys would not charge their clients any fees, agreeing instead to be paid through the intervenor funding program if the client prevails and is otherwise eligible. Others suggested that the Commission allocate funding for specific stakeholder groups, such as Tribal governments or landowners.

Several commenters provided input on OPP's role with respect to the provision of intervenor funding. Some commenters suggest that OPP should directly administer any intervenor funding program. For example, the Center for Biological Diversity stated that OPP should have the authority and responsibility to both develop and implement the intervenor funding program, including the power to both determine how compensation will be awarded and the sources for those funds. Union of Concerned Scientists suggested that OPP play a role in encouraging efficiency; for example, they suggested that OPP be tasked with recognizing common interests among potential intervenors and recommending, but not mandating, joint intervention when appropriate to allow for the sharing of resources and the advocating of similar positions. By contrast, others suggested that an intervenor funding program be placed outside of OPP. For example, Sharon Jacobs, Associate Professor at the University of Colorado Law School, stated that the OPP Director does not need to administer the intervenor funding program and that placing the program outside of OPP would shield OPP from any allegations of preference in funding, which could bolster OPP's status as a trusted partner and advocate for stakeholder participation.

Several commenters also suggested that the Commission's Office of Administrative Law Judges play a role in compensation decisions. Tyson Slocum, Director of the Energy and Climate Program at Public Citizen, suggested that assistance with participating in intervenor funding should be coordinated by OPP but that compensation claims should be administratively reviewed by the Office of Administrative Law Judges

⁷ See 16 U.S.C. § 825q-1(b)(2).

because separating these functions will help preserve the integrity of the funding program. The Electric Power Supply Association stated that it would be reasonable for the Office of Administrative Law Judges to participate in, if not administer, any funding process and determinations, as is done in some state intervenor funding programs. The Edison Electric Institute stated that OPP should remain neutral and uninvolved in discussions related to intervenor funding and that it would be more appropriate for an Administrative Law Judge to determine whether compensation is warranted, with final approval determined by the Commission. The Electricity Consumers Resource Council suggested that, if the Commission establishes a compensation mechanism, Administrative Law Judges could be designated as the initial compensation award decision-makers but that the final step would involve a Commission vote. Several commenters, such as the Edison Electric Institute and the Interstate Natural Gas Association of America, further suggested that, if the Commission decides to implement an intervenor funding program, the Commission should undertake a rulemaking process regarding definitions, rules, structure, and implementation of the program.

C. OPP Office Structure

1. OPP Office Structure and Makeup

Commenters recommended several different structures to meet OPP's functions as articulated in FPA section 319. Commenters also provided input on the roles of various OPP staff, the location of OPP offices, appropriate funding levels, and qualifications of the OPP Director and staff.

Consistent with the description of the OPP Director's role pursuant to section 319, many commenters recommended that the Director report to the Chairman of the Commission but be solely responsible for carrying out OPP's mission, including setting the budget for the office and having the discretion to appoint staff to fulfill OPP's mandate. A few commenters, including Heath Frantzen, a landowner, and Andre Hudson, a member of Beyond Extreme Energy, recommended that OPP be led by a Director hired from outside the Commission. Commenters suggested several qualifications for the Director, such as a demonstrated track record of serving the public interest, a record of serving ratepayers, no personal financial or pecuniary interest in any party that appears before the Commission, and, for at least five years preceding the appointment, should not have personally served in any role for a private industry entity that is subject to Commission regulation. Commenters also recommended that the Director and other OPP staff should be public facing and easy to contact.

Other commenters provided additional suggestions regarding the status of the OPP Director. For example, Fore River Residents Against the Compressor Station suggested that the OPP Director be a voting member of the Commission or a role assigned to a current Commissioner and Earthjustice suggested that the Director be a member of the senior executive service.

Commenters also provided recommendations for organizing the office. For example, Charles Sullivan, an affected landowner in New York, recommended that OPP form a division of information, which would provide public access to information, assume the functions of the Commission's eLibrary system and reference reading room, and provide educational materials about the Commission. Kirkman Frost recommended that OPP form a public awareness, engagement, and communications division that is responsible for outreach and ensuring that all members of the public have the opportunity to voice their input on projects. Mr. Frost also suggests creating a transparency and measurements division to provide information on past projects. Other suggestions included that OPP have an outreach and notification division and a division to provide intervenors and participants with direct process support. Others

requested that, rather than coordinate assistance, OPP create a division to provide legal support and advocacy. For example, according to some commenters, such a division, would intervene in Commission proceedings on behalf of the public.

As is also noted earlier in this report, in the discussion of OPP functions related to assistance with individual proceedings, commenters overwhelmingly recommended the creation of a process or project liaison assigned to individual proceedings or regions. For example, the National Hydropower Association stated that OPP should provide staff for navigating stakeholder processes, including notifying the public of key dates and times; explaining rules, terms, and conditions of notices; and providing periodic updates regarding substantial events in specific Commission proceedings. Berkshire Environmental Action Team recommended similar project liaisons, located regionally, who would guide stakeholders and ratepayers through designated proceedings. William Limpert suggested that OPP appoint a public liaison for each natural gas pipeline project to conduct town hall meetings in the project area and to meet with property owners on their property prior to project approval.

The requests for dedicated liaisons were not limited to infrastructure projects. In joint comments, the Attorneys General of Massachusetts, Connecticut, Delaware, Maryland, Michigan, Minnesota, Oregon, Rhode Island, and Wisconsin, the Maine Office of the Public Advocate, and the Maryland People's Counsel recommended that OPP appoint public liaisons for proceedings that have potential to significantly affect local communities, landowners, and/or consumers. They also stated that OPP should designate a staff liaison for each state consumer advocate to facilitate information exchange and build relationships and should consider opportunities to assist state consumer advocates in participating before RTOs/ISOs and the Commission.

Commenters provided a range of suggestions regarding OPP staffing levels and roles. For example, Tyson Slocum, Director of the Energy and Climate Program at Public Citizen, recommended that funding for staff be established by the OPP Director based on his or her determination of the office's needs. Several commenters proposed resources for at least 50 OPP staff. Commenters recommended a range of OPP staff roles, including the hiring of the following: an OPP Director and Deputy Managing Director; an Environmental Justice Director and Managing Director with staff; a Legal Director with technical assistance, civil rights attorneys, and review staff for a Public Interest Attorney Referral Program; a senior advisor representative and field staff at each Commission-regulated RTO/ISO, natural gas, and hydropower field office; energy analysts; an Administrative Law Judge and staff for intervenor funding processing and an intervenor funding manager/liaison; an Ombudsperson; Tribal Government Advisor with support staff; public information officers and investigators for complaints and fairness; regional liaisons; and general administrative support staff. Earthjustice recommended that some OPP staff may be recruited from their existing roles in certain Commission program offices, including hotline staff across offices; eLibrary and eDocket support staff in the Office of the Secretary; and staff responsible for public outreach in the Office of Energy Projects.

Several commenters recommended that OPP include staff from diverse backgrounds who reflect historically marginalized and impacted communities, such as persons of color and Tribal members. Commenters also proposed that OPP staff include individuals with disadvantaged backgrounds and who are sight and hearing impaired. Several commenters emphasized the importance of OPP staff having community and grassroots organizing and outreach experience, and a few commenters stressed the importance of OPP staff having soft skills, such as empathy, cultural sensitivity, and flexibility. Several commenters suggested that OPP staff have environmental justice, technical, science, law, Tribal, research, communications, sociology, anthropology, data analysis, administrative, policy, National Environmental Policy Act (NEPA),

demography, consumer, or industry backgrounds. Several commenters recommended outsourcing staff positions to citizens, landowners, communities, organizations, ratepayers, Tribal members, and other stakeholders that represent affected communities through partnerships and grants. Several commenters recommended that OPP directly hire multilingual staff or internal translators to assist or directly respond to public inquiries in non-English languages.

More than a dozen commenters recommended OPP establish regional and or local field offices to facilitate community partnerships, effective public participation, familiarity with local issues, and/or staff accessibility. Shalanda Baker, Deputy Director for Energy Justice at DOE, and Dr. Matthew Tejada, Director of Environmental Justice at EPA, reminded the Commission that communities are not monolithic and recommended employing trained staff to facilitate participation by on-the-ground experts. However, others cautioned that such an approach does not require new regional offices. For example, the Electric Power Supply Association asserted that multiple OPP offices are not necessary when OPP can assign certain staff to focus on specific regions from headquarters, as is done with other Commission offices.

Some commenters provided input on appropriate OPP funding levels. For example, Earthjustice recommended that, for FY2021 ending in October 2021, existing funds from other Commission offices should be used to support OPP until the FY2022 budget is appropriated. Earthjustice stated that the Commission's overall budget will need to increase beginning in FY2022 to accommodate OPP functions and staff, and such funding should come from fees collected by the Commission. Earthjustice recommended a budget of \$10 to \$16 million for staff and \$2 million for operations, in addition to money allocated for intervenor compensation. Maranda Compton, Tribal citizen and federal Indian law expert, recommended that OPP's budget include opportunities for non-project based, ongoing technical assistance to Tribal governments and communities.

2. Advisory Board

During the public comment period, the Commission received comments regarding the establishment of an OPP advisory board. Many commenters—including Tribal representatives, environmental and public interest organizations, and private landowners—recommended the formation of an advisory board responsible tasked with providing recommendations about methods of public outreach to different constituent communities, monitoring OPP's activities, and assessing OPP's performance at achieving its mission. The members of Congress who sponsored the *Public Engagement at FERC Act* also requested that Commission create a Public and Consumer Advocacy Advisory Committee for the office composed of representatives from the national and state-based non-governmental consumer advocacy community.⁸ Some commenters also recommended that an advisory board provide recommendations on specific Commission proceedings, and others contend that the advisory board should directly influence decision-making at the Commission, rather than fulfilling a performative role, to ensure the most vulnerable members of the public are considered during Commission action. Commenters recommended that EPA's National Environmental Justice Advisory Council and the White House's Environmental Justice Advisory Council serve as models for an advisory board. Commenters recommended that an advisory board include members representing a range of interests, including environmental justice groups, Tribes and Tribal governments, landowners, national and state-based consumer advocate organizations, large industrial consumers, low income community advocates, rural communities advocates, renewable energy advocates,

⁸ Public Engagement at FERC Act, S. 1477, H.R. 3240, 116th Cong. (2019).

and others. Commenters requested that an advisory board be diverse and reflective of the public being served by OPP. Many commenters requested that an advisory board's appointees not include regulated entities or members that hold or retain any official relation to a regulated entity, while other commenters suggested a board should include representatives of regulated industries. Some commenters recommended that an advisory board have a specific focus on environmental justice matters and be composed of individuals from environmental justice communities or frontline communities directly impacted by FERC-jurisdictional projects.

Several commenters provided words of caution regarding an advisory board. For example, Dr. Martha Rozelle, past president and co-founder of the International Association of Public Participation, recommended that the Commission avoid forming an advisory board and instead consider technical working groups during OPP's first year to collect and gather recommendations from constituent communities on OPP's priorities and outreach strategies. Some commenters also raised concerns that an advisory board would impede OPP from fulfilling its mission effectively. For example, the Electric Power Supply Association stated that such a board would add an unnecessary layer of bureaucracy to OPP, create confusion as to the reporting structure, and interfere with OPP's mission and hamstring its interactions within the Commission.

D. Commission-Wide Reforms

Commenters suggested the Commission can improve its existing public participation efforts by reforming the following processes: the NEPA public participation process for infrastructure projects; how the Commission evaluates and responds to NEPA comments; the Statement of Policy for the Certification of New Interstate Natural Gas Facilities (Docket No. PL18-1-000); Tribal consultation; RTO/ISO governance; timely access to Freedom of Information Act and Critical Energy/Electric Infrastructure Information filed in proceedings; and existing technological resources, including eFiling, eLibrary, eRegister, and the Commission's website. More broadly, the Commission heard that it should consider ways to embed metrics concerning environmental justice into decision-making. As discussed, comments pertaining to reforms of existing Commission processes are not summarized in this report but OPP will consider them and make recommendations for improvements, after its establishment, in coordination with existing Commission offices.

joint comments supplement comments that Policy Integrity filed in response to the 2018 NOI with a similar coalition.⁵

These supplemental comments begin by briefly summarizing Policy Integrity’s 2018 comments. They then address several additional issues related to the Commission’s evaluation of a proposed project’s environmental impacts pursuant to the National Environmental Policy Act (NEPA) and its methodology for determining whether there is need for a proposed project under the Natural Gas Act (NGA).

The Commission should:

- Quantify direct, upstream, and downstream greenhouse gas emissions in all NEPA and NGA analyses.
- Not use a complete substitution assumption in assessing emissions, as affirmed by recent case law.
- Not assume zero indirect emissions for a replacement pipeline project, because by extending the lifespan of an existing pipeline, the replacement project causes both upstream and downstream emissions relative to the no-action baseline.
- Consider requiring applicants to purchase carbon offsets to mitigate *unavoidable* greenhouse gas emissions of natural gas infrastructure as a condition of granting a certificate.
- Consider need on a regional basis—drawing on its decision to identify and consider regional solutions in the electric transmission context—to ensure more efficient and cost-effective natural gas infrastructure is developed, to avoid overbuilding, and to prevent unjust and unreasonable natural gas transportation service rates.
- Consider transition risk, including the combination of a shift to a decarbonized resource mix and building electrification, at the time of certification as part of assessing whether a pipeline is needed under the NGA.
- Refine its analysis to better capture and assess impacts on environmental justice communities by using more granular census block data; using a broad comparison population in determining whether project’s impacts

⁵ See Joint Comments of Env’t Def. Fund, Inst. for Pol’y Integrity at N.Y.U., Nat. Res. Def. Council, Sierra Club, and Union of Concerned Scientists, *Certification of New Interstate Pipeline Facilitates*, Docket No. PL18-1-000 (July 25, 2018).

disproportionately affect identified communities; and considering all pollution impacts even when they do not exceed legal thresholds.

Each of these recommendations is discussed in greater detail below.

Table of Contents

- I. Summary of Policy Integrity’s 2018 Comments.....4
- II. The Commission Should Quantify Direct, Upstream, and Downstream Greenhouse Gas Emissions in All NEPA and NGA Analyses.....6
 - A. Two Recent Cases Emphasize the Need To Assess Indirect Emissions6
 - B. Recent Precedent Offers Further Disapproval of Complete Substitution and Counsels Best Practices for Energy Substitution Analysis9
 - C. A Proper Long-Term Analysis Rebutts the Suggestion That Replacement Projects Have No Indirect Greenhouse Gas Impacts12
- III. The Commission Should Impose Mitigation Requirements on Greenhouse Gas Emissions, Including Offsets for Unavoidable Emissions14
 - A. The Commission Should Consider Imposing Offsets Requirements To Mitigate Any Greenhouse Gas Emissions that Cannot Be Avoided or Otherwise Mitigated15
 - B. The Commission Has Authority To Require Carbon Offsets as a Condition of Certification for Natural Gas Transportation Infrastructure.....21
 - i. Under the NGA, the Commission Has Authority To Mitigate Greenhouse Gas Impacts Through Its Broad Authority To Impose Terms and Conditions of Certification21
 - ii. Carbon Offsets Are Consistent with Compensatory Mitigation Requirements that Other Agencies Frequently Employ.....23
- IV. The Commission Should Take a Regional Approach to Assessing Need27
 - A. The Commission Recognized the Benefits of Regional Assessment and Decisionmaking in the Context of Electric Transmission Infrastructure29
 - B. Regional Assessment Is Beneficial in the Context of Natural Gas Infrastructure.....32
 - C. Regional Assessment Would Serve the Purposes of the NGA and Protect Against Unjust and Unreasonable Rates.....34
 - i. Regional Assessment Serves the Purposes of the NGA35
 - ii. Regional Assessment Protects Against Unjust and Unreasonable Rates.....36
- V. The Commission Should Consider Transition Risk in Assessing Need Under the NGA.....38
 - A. Decarbonization and Electrification Pose Transition Risk to Natural Gas Infrastructure.40
 - B. The Commission Has Similarly Considered Transition Risk in the Electric Transmission Context.....43
 - C. Transition Risk Should Be Considered at the Time of Certification as Part of the Assessment of Need.....44
- VI. The Commission Should Refine Its Analysis To Better Capture and Assess Impacts on Environmental Justice Communities.....45
 - A. The Commission Should Use Census Block Data To Identify Environmental Justice Populations47
 - B. The Commission Should Use a Broad Comparison Population for Its Impacts Analysis 49
 - C. The Commission Should Stop Using Compliance with the NAAQS as Synonymous with a Project Having No Adverse Impacts and Consider All Pollution Impacts, Including those Below NAAQS.....54

I. Summary of Policy Integrity's 2018 Comments

In response to the Commission's 2018 NOI, Policy Integrity submitted comments centered around FERC's obligations under NEPA and the NGA to analyze direct and indirect emissions. Those comments provided recommendations for how to quantify, monetize, and compare those pollution costs through a systematic and transparent cost-benefit analysis. To avoid redundancy, Policy Integrity incorporates its previous comments herein and briefly recounts them below, instead of restating its detailed arguments in full.

To begin, Policy Integrity recommended the Commission more meaningfully incorporate environmental effects assessed as part of the NEPA process—including direct, upstream, and downstream emissions—into its public convenience and necessity test under the NGA.⁶ Policy Integrity likewise recommended that FERC use the alternatives analysis under NEPA to better inform its evaluation under the NGA.⁷ The Commission should use its authority to attach conditions to certificate approval to require mitigation of environmental damage, including foreseeable emissions.⁸

Next, Policy Integrity recommended that the Commission adopt a policy to quantify and monetize upstream and downstream emissions in its NEPA and NGA analyses.⁹ Quantification and monetization of emissions can allow FERC to incorporate climate damages into its Section 7 analysis by using a common metric that fits easily into the Commission's economic test under the NGA.¹⁰ This policy will allow the Commission to distinguish between projects that have

⁶ Policy Integrity 2018 Comments, *supra* note 4, at 9-10.

⁷ *Id.* at 15.

⁸ *Id.* at 16.

⁹ *Id.* at 17-24.

¹⁰ *Id.* at 21-22.

substantial climate consequences but limited public benefits, as compared to those that have substantial public benefits with limited or positive climate consequences.¹¹

Policy Integrity also recommended ways the Commission can best calculate emissions and improve its NEPA and NGA analysis. First, the Commission should ask applicants to provide as much information as possible about foreseeable environmental effects of a proposed project, including information on expected source, end use, and amount of natural gas to be transported.¹² Second, the Commission should use reasonable default estimates and available tools to calculate upstream and downstream emissions.¹³ Reasonably accurate, useful estimates of upstream and downstream emissions can be made even without project-specific information on precise end uses or supply sources.¹⁴ Policy Integrity demonstrated that FERC can use a “full burn” assumption as an upper-bound estimate of emissions (similar to other agencies) and use capacity subscriptions to determine the lower-bound assumption.¹⁵ The Commission also should compare the relative emissions of energy substitutes using models, rather than assuming perfect substitution.¹⁶

Finally, Policy Integrity recommended the Commission adopt a holistic cost-benefit analysis framework for evaluating projects.¹⁷ By systematically and transparently quantifying and comparing the costs and benefits of pipeline infrastructure projects, FERC can evaluate

¹¹ *Id.* at 23.

¹² *Id.* at 24.

¹³ *Id.* at 27.

¹⁴ *Id.*

¹⁵ *Id.* at 30-33.

¹⁶ *Id.* at 38-43 (providing several models used by other agencies). This issue is more fully discussed below, *infra* Section II.B.

¹⁷ *Id.* at 43.

proposed projects and alternatives through an economically rational, politically accountable, and more predictable process.¹⁸

Policy Integrity continues to believe these recommendations should be incorporated into the Commission's pipeline certification policy. The next two section expands upon and further support these recommendations.

II. The Commission Should Quantify Direct, Upstream, and Downstream Greenhouse Gas Emissions in All NEPA and NGA Analyses

NEPA and the NGA require the Commission to reasonably assess the climate impacts of proposed projects. The Commission must evaluate the project's upstream and downstream greenhouse gas emissions (in addition to direct emissions) using available tools and reasonable assumptions. Once FERC has fully inventoried a proposal's emissions, it should then monetize those emissions using the Social Cost of Greenhouse Gases.

This section supplements Policy Integrity's prior comments, described above and incorporated herein, by highlighting recent legal developments in regard to assessing indirect greenhouse gas emissions. As detailed below, recent developments only further counsel that the Commission assess the full scope of climate damages, including upstream and downstream emissions, and provide additional guidance on how the Commission can rationally do so.

A. Two Recent Cases Emphasize the Need To Assess Indirect Emissions

Back in 2018, existing precedent was clear that NEPA requires analysis of reasonably foreseeable upstream and downstream emissions.¹⁹ In the last three years, legal developments have further emphasized that the Commission must reasonably analyze upstream and

¹⁸ *Id.* at 48.

¹⁹ *See id.* at 4-17.

downstream emissions even without perfect information about the expected source, end use, or amount of natural gas to be transported through a proposed pipeline.²⁰

Perhaps most significantly, in *Birckhead v. FERC*, the U.S. Court of Appeals for the District of Columbia Circuit recognized that downstream and upstream emissions are “reasonably foreseeable and sufficiently causally connected to a pipeline project to qualify as an indirect effect” that must be assessed.²¹ The court explained that it was “troubled” by the Commission’s “less-than-dogged” information-gathering efforts on these fronts, and was “dubious of the Commission’s assertion that asking [the applicant] to provide additional information about the origin of the gas would be futile.”²² Additionally, the court recognized that even without perfect information, FERC could inform its analysis through “educated assumptions” about indirect greenhouse gas emissions.²³ Although lack of jurisdiction and argument preservation prevented the court from ruling for the plaintiffs, the court made clear that it found the Commission’s efforts wanting and suggested that it may deem FERC’s failure to consider indirect greenhouse gas emissions unlawful in a future decision.

At a recent oral argument in *Food & Water Watch v. FERC*,²⁴ the D.C. Circuit strongly indicated that this future decision may come soon. Facing similar claims to those presented in *Birckhead*, the court expressed severe skepticism of the Commission’s argument that detailed

²⁰ For discussion of why the Commission should request that certificate applicants provide as much information as possible on the expected source, end use, and amount of natural gas to be transported through a proposed pipeline, see *id.* at 24–27. For discussion of why, even without such precise information from project applicants, the Commission should use reasonable default estimates and available tools to calculate upstream and downstream greenhouse gas emissions, see *id.* at 27–43.

²¹ *Birckhead v. Fed. Energy Reg. Comm’n*, 925 F.3d 510, 517 (D.C. Cir. 2019).

²² *Id.* at 518–20.

²³ *Id.* at 520 (quoting *Delaware Riverkeeper Network v. Fed. Energy Reg. Comm’n*, 753 F.3d 1304, 1310 (D.C. Cir. 2014)).

²⁴ No. 20-1132 (D.C. Cir. argued Feb. 12, 2021).

source and end-use data is required to reasonably forecast upstream and downstream emissions, highlighting various tools available and used by other agencies to quantify these indirect emissions without perfect information.²⁵ For instance, the court emphasized on several occasions that approximately 98 percent of all natural gas is combusted—which the Commission did not dispute—and suggested that FERC simply incorporate this assumption into its assessment of downstream emissions in the absence of more specific information about the particular application. Although a decision in this case is pending, the court once again indicated its strong dissatisfaction with the Commission’s assessment of greenhouse gas impacts.

As these two cases emphasize, the Commission must assess upstream and downstream greenhouse gas impacts and cannot disregard these impacts merely because it does not possess perfect information. For one, the Commission should seek any relevant information that it can from the applicant regarding the source and end use of the transported energy. But even without additional efforts, basic information about the pipeline’s transport and capacity provides ample information for FERC to make reasonable estimates of gross indirect emissions. Policy Integrity’s 2018 comments, and a subsequent Policy Integrity report,²⁶ detailed the tools and methodologies that the Commission could apply to inform such estimates. Reasonable forecasting of upstream and downstream emissions is required under both NEPA and the NGA.

²⁵ See Oral Argument, *Food & Water Watch v. Fed. Energy Reg. Comm’n*, No. 20-1132 (D.C. Cir. argued Feb. 12, 2021), [https://www.cadc.uscourts.gov/recordings/recordings2020.nsf/71A3F39788C9707A8525867A0058106E/\\$file/20-1132.mp3](https://www.cadc.uscourts.gov/recordings/recordings2020.nsf/71A3F39788C9707A8525867A0058106E/$file/20-1132.mp3).

²⁶ JAYNI HEIN ET AL., INST. FOR POL’Y INTEGRITY, PIPELINE APPROVALS AND GREENHOUSE GAS EMISSIONS 12-31 (2019), <https://perma.cc/UD26-5MHE>.

B. Recent Precedent Offers Further Disapproval of Complete Substitution and Counsels Best Practices for Energy Substitution Analysis

As Policy Integrity explained in its 2018 comments, the notion of “perfect substitution”—that increasing energy supply has no aggregate greenhouse gas impacts because it entirely offsets substitute production—violates basic supply-and-demand economics and has been widely rebuked in court.²⁷ Accordingly, Policy Integrity recommended that the Commission compare the relative emissions of energy substitutes, using a sophisticated, transparent model. Policy Integrity further explained that if the Commission assesses greenhouse gas emissions on a net basis, it should do the same for project benefits such as taxes and economic development.²⁸ As a default, upper-bound estimate, moreover, Policy Integrity recommended that FERC assume that a pipeline will continuously transport 100 percent of its capacity, that all transported gas will be combusted, and that all combusted gas is additional and displaces no other fuels (known as a “full burn” assumption).²⁹

Recent case law further refutes the notion of perfect substitution, emphasizing the need for the Commission to analytically assess substitution effects without defaulting to this irrational claim. Most notably, in a decision issued several months ago in *Center for Biological Diversity v. Bernhardt*, the U.S. Court of Appeals for the Ninth Circuit cited approvingly to case law finding that the Commission must reasonably “quantify the indirect greenhouse gas emissions that would

²⁷ Policy Integrity 2018 Comments, *supra* note 4, at 38-43. Cases highlighted therein that refuted the assumption of perfect substitution include *Sierra Club v. Fed. Energy Reg. Comm’n*, 867 F.3d 1357, 1372 (D.C. Cir. 2017) (“Sabal Trail”); *WildEarth Guardians v. Bureau of Land Mgmt.*, 870 F.3d 1222, 1237-38 (10th Cir. 2017); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549-50 (8th Cir. 2003); *Mont. Env’t Info. Ctr. v. U.S. Off. of Surface Mining*, 274 F. Supp. 3d 1074, 1090-91 (D. Mont. 2017); *San Juan Citizens Alliance v. Bureau of Land Mgmt.*, 326 F.Supp.3d 1227, 1242-44 (D.N.M. 2018); *W. Org. of Res. Councils v. Bureau of Land Mgmt.*, 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018).

²⁸ Policy Integrity 2018 Comments, *supra* note 4, at 43 (“[W]hen FERC reports the regional tax revenue from a project or other long-term benefits to the local and regional economy, the agency does not discuss how those taxes or other benefits would come at the expense of other taxes from other development opportunities in the region.” (internal quotation marks and citation omitted)).

²⁹ *See id.* at 30-34.

result” from pipeline construction and explained that “basic economic principles” demonstrate that facilitating fossil-fuel production causes total production and consumption to increase and does not merely displace substitutes.³⁰ Combined with prior decisions from other circuits,³¹ this case clearly demonstrates that increasing fossil-fuel supply necessarily affects the market and has substantial greenhouse gas implications—thus requiring the Commission to assess those impacts through proper energy substitution analysis or make other reasonable default assumptions.

The *Center for Biological Diversity* decision is also instructive on how agencies should perform such a substitution analysis. There, the Bureau of Ocean Energy Management (BOEM) relied on a model known as MarketSim. But because MarketSim irrationally “assumes that foreign oil consumption will remain static” despite increases in domestic production—an assumption that violates basic supply-and-demand principles and the global nature of the energy market—the court concluded that the no-leasing alternative would result in *more* emissions than the selected leasing plan.³² As the court explained, BOEM offered no rational explanation for its failure to model foreign consumption despite plentiful available data,³³ and its “counterintuitive result” belied common sense.³⁴

This case suggests a set of best practices that FERC should follow if it performs energy substitution analysis. First, the Commission should ensure that the assumptions underlying any model are reasonable and based on up-to-date data. Second, in selecting or developing an energy

³⁰ 982 F.3d 723, 736-37 (9th Cir. 2020) (citing *Sabal Trail*, 867 F.3d at 1374).

³¹ See *supra* note 27.

³² *Ctr. for Biological Diversity*, 982 F.3d at 736.

³³ *Id.* at 738 (“The record belies BOEM’s contention that it could not have summarized or estimated foreign emissions with accurate or credible scientific evidence.”).

³⁴ *Id.* at 736, 740 (“BOEM’s conclusion that *not* drilling will result in more carbon emissions than drilling is counterintuitive. An agency acts arbitrarily and capriciously when it reaches a decision that is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” (internal quotation marks omitted)).

substitution model, the Commission should include all “key variable[s]” that impact demand and greenhouse gas emissions, and not omit any important variables that are uncertain. For instance, a model should account for the fact that domestic fossil-fuel demand is likely to decline over the long term due to recent laws calling for large reductions in greenhouse gas emissions³⁵—and should not assume a “worst case scenario outcome” where fossil-fuel demand continues unabated for decades.³⁶ And third, the Commission should conduct sensitivity analyses to test important analytical assumptions, rather than blindly accepting the model’s results.

Our previous comments highlighted various available models that the Commission should consider applying to assess substitution effects.³⁷ As an alternative, if the Commission determines that no model is suitable for its purposes, it could assess a range of default substitution estimates. In a recent Environmental Impact Statement for the Keystone XL pipeline, for instance, the State Department modeled alternative scenarios of 80% and 40% displacement, considering the greenhouse gas impacts of each.³⁸

If the Commission assumes energy displacement, however, it must also apply those same substitution assumptions when assessing the pipeline’s economic benefits. That is, if a project’s

³⁵ See, e.g., Brad Plummer, *Blue States Roll Out Aggressive Climate Strategies. Red States Keep to the Sidelines.*, N.Y. TIMES (June 21, 2019), <https://perma.cc/Y3GW-ML6V> (“Over the past year. . . California, Colorado, Maine, Nevada, New Mexico, New York and Washington have all passed bills aimed at getting 100 percent of their state’s electricity from carbon-free sources like wind, solar or nuclear power by midcentury.”).

³⁶ BUREAU OF LAND MGMT., COASTAL PLAIN OIL AND GAS LEASING PROGRAM: FINAL ENVIRONMENTAL IMPACT STATEMENT S-40 (2019); accord DEP’T OF THE INTERIOR & BUREAU OF LAND MGMT., DRAFT EASTERN COLORADO RESOURCE MANAGEMENT PLAN & ENVIRONMENTAL IMPACT STATEMENT B-65 (2019) (explaining that it is “unlikely” that “emission trajectories follow a historical growth curve . . . over the course of the remainder of the century”).

³⁷ Policy Integrity 2018 Comments, *supra* note 4, at 40-41. Although our 2018 comments highlighted MarketSim as one available option, recent case law discussed above counsels that the Commission should not apply this model in its current form.

³⁸ DEP’T OF STATE, DOS-2019-0033, DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED KEYSSTONE XL PIPELINE 4-83 (Oct. 4, 2019). The State Department also considered a full displacement scenario, but as detailed above, assuming complete substitution flagrantly violates basic supply-and-demand economics.

greenhouse gas emissions are partially displacing emissions that would occur under a no-action alternative, then its revenues are also partially displacing revenues that would occur absent the project.³⁹ The Commission can apply an energy substitution model to make educated projections about the net tax and revenue benefits from a project proposal, which can then inform its determination of public convenience and necessity. The approach that the Commission has relied upon in the past—attributing none of the pipeline’s indirect climate impacts to the project, but all of its indirect economic effects—is inconsistent and irrational.⁴⁰

C. A Proper Long-Term Analysis Rebutts the Suggestion That Replacement Projects Have No Indirect Greenhouse Gas Impacts

Even for replacement projects that do not increase short-term capacity, the additional upstream and downstream emissions can be considerable insofar as the project increases the pipeline’s lifespan and thereby produces long-term emissions compared to the no-action baseline. Rather than assume zero indirect emissions, as the Commission did for a recent replacement project,⁴¹ FERC should assess these indirect emissions using reasonable assumptions about how the replacement project affects the lifespan of existing pipeline.

By definition, replacement projects reinforce decaying pipeline infrastructure and thereby

³⁹ See, e.g., HEIN ET AL., *supra* note 26, at 55 (explaining that FERC can use “the same approach it [should] use[] when quantifying greenhouse gases” to measure such benefits as the “economic value of the additional natural gas that a project brings to market”); Jayni Hein & Natalie Jacewicz, *Implementing NEPA in the Age of Climate Change*, 10 MICH. J. ENV’T & ADMIN. L 1, 41-42 (2021) (explaining that “inconsistent treatment of expected revenue and expected emissions places a thumb on the scale in favor of [fossil-fuel] development”).

⁴⁰ For case law requiring agencies to consistently treat beneficial and adverse impacts, see, e.g., *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1998 (9th Cir. 2008) (finding it arbitrary to arbitrary to “put a thumb on the scale by undervaluing the benefits and overvaluing the costs” of a regulation); *Bus. Roundtable v. Securities & Exchange Comm’n*, 647 F.3d 1144, 1148-49 (D.C. Cir. 2011) (criticizing agency for “inconsistently and opportunistically fram[ing] the costs and benefits” of a rule); *Johnston v. Davis*, 698 F.2d 1088, 1094-95 (10th Cir. 1983) (remanding an environmental impact statement because “unrealistic” assumptions “misleading[ly]” skewed comparison of the project’s positive and negative effects).

⁴¹ Northern Natural Gas Co., 174 FERC ¶ 61,189, P 29 n.43 (2021).

extend the pipeline’s lifespan.⁴² Yet in the recent *Northern Natural* decision approving a pipeline replacement project—the Commission’s first order in which it sought to assess the significance of greenhouse gas impacts under Section 7 of the NGA—FERC stated, without supporting authority or analysis, that “[t]here is no new capacity associated with this pipeline replacement, thus no downstream greenhouse gas [] emissions to consider.”⁴³ But the fact that there are no immediate additional downstream or upstream emissions associated with the replacement project does not mean that the project causes no indirect emissions long term. By extending the lifespan of the existing pipeline, the replacement project in fact causes both upstream and downstream emissions relative to the no-action baseline.

Accordingly, the Commission should apply reasonable assumptions to estimate the downstream and upstream emissions from a pipeline replacement project. First, the Commission should assess the pipeline’s existing lifespan and predict how that lifespan will be extended as a result of the replacement proposal. Then, using the pipeline’s transport capacity and any available information about the pipeline’s actual transport during its time in operation, the Commission should assess the pipeline’s upstream and downstream emissions during the extension period, just as it should to assess the indirect emissions from a proposed new pipeline.

Insofar as FERC relies on energy substitution models to assess displacement effects, the Commission should ensure that it selects a model with a sufficient time horizon to account for these long-term impacts. Most existing energy substitution models capture impacts decades into

⁴² See, e.g., FED. ENERGY REG. COMM’N, ENVIRONMENTAL ASSESSMENT, SOUTH SIOUX CITY TO SIOUX FALLS A-LINE REPLACEMENT PROJECT 12 (2021) (explaining that the replacement project assessed therein would permit developer to “continu[e] to operate these pipeline segments and to safely provide the natural gas transportation capacity to meet residential, commercial, and industrial growth demands”).

⁴³ *Northern Natural Gas Co.*, 174 FERC ¶ 61,189, P 29 n.43 (2021).

the future. The NEMS model, for instance, forecasts energy market impacts through 2050.⁴⁴ Accordingly, if the Commission chooses to use an energy substitution model for new pipelines, it should apply that same model to assess the long-term indirect impacts of replacement projects, rather than assume perfect substitution. If the Commission does not identify or develop an energy substitution model that meets its needs, then it could assess a range of default substitution estimates, as discussed above, or assume no substitution of long-term indirect impacts and attribute the full upstream and downstream emissions during the extension period to the proposed replacement project.

III. The Commission Should Impose Mitigation Requirements on Greenhouse Gas Emissions, Including Offsets for Unavoidable Emissions

After quantifying and monetizing all greenhouse gas emissions and other significant costs and benefits, the Commission should use a comparison of costs and benefits to inform its decision on whether approving a project is preferable to the no-action alternative under NEPA, and is required for public convenience and necessity under the NGA.⁴⁵ If FERC so determines, then it should consider using its authority to set terms and conditions to address any unavoidable greenhouse gas emissions.

The Commission has authority to require, as a condition of certification, that pipeline infrastructure developers offset direct carbon dioxide and other greenhouse gas emissions that cannot be reasonably mitigated or avoided.⁴⁶ This practice is commonly known as “carbon

⁴⁴ U.S. ENERGY INFO. ADMIN., THE NATIONAL ENERGY MODELING SYSTEM: AN OVERVIEW 2018 at 8 (2019), <https://perma.cc/A4HF-7J6A>.

⁴⁵ See Policy Integrity 2018 Comments, *supra* note 4, at 43-48; see also Avi Zevin, *Regulating the Energy Transition: FERC and Cost-Benefit Analysis*, 45 COLUM. J. ENV'T L. 419, 492-504 (2020) (outlining FERC's authority to apply cost-benefit analysis as part of natural gas pipeline certification).

⁴⁶ See *infra* Section III.B.i.

offsets.”⁴⁷ Requiring such offsets for residual direct emissions would fulfill the goals of NEPA and the NGA by minimizing environmental degradation.⁴⁸ The Commission should also examine the possibility and appropriateness of requiring offsets for indirect emissions, including how to properly do so without under- or double-counting those emissions. Whether the Commission applies offsets to both direct and indirect emissions or to only direct emissions, those offsets should only be applied as a last resort after the Commission has imposed other mitigation measures such as minimizing leakage and mandating energy efficiency at natural gas facilities (for direct emissions) and attaching conditions that limit the quantity of gas transported through a pipeline or the time period over which the pipeline operates (for indirect emissions).

This section begins by offering policy recommendations for the Commission regarding carbon offsets, and then highlights law and precedent supporting an offset requirement.

A. The Commission Should Consider Imposing Offsets Requirements To Mitigate Any Greenhouse Gas Emissions that Cannot Be Avoided or Otherwise Mitigated

Carbon offsets enable applicants to compensate for the impact of greenhouse gas emissions associated with a project by reducing emissions elsewhere. Examples of carbon offsets permitted in other governmental programs include mine and landfill methane capture, rice

⁴⁷ “Carbon offsets” is a slight misnomer because it refers to all greenhouse gases, not just carbon dioxide. Consistent with its common usage, this document uses the term to refer to offsets of all greenhouse gas emissions. The Commission can require offsets of all greenhouse gas emissions under a single program by using global warming potentials to calculate emissions in carbon dioxide equivalent units, as the Commission already does to calculate direct emissions.

⁴⁸ The volume of direct emissions from pipeline infrastructure, though often lower than indirect emissions, can itself be quite substantial. For instance, the Rio Grande liquefied natural gas terminal and Rio Bravo natural gas pipeline, which the Commission approved in 2019, is predicted to release more than nine million metric tons per year in direct emissions of carbon dioxide equivalent. Rio Grande LNG, LLC, 169 FERC ¶ 61,131, P 108 (2019). Using the social cost of carbon estimate of \$51 per metric ton for year 2020 emissions, this equates to over \$450 million in annual climate damages from direct emissions alone.

cultivation, destruction of ozone-depleting substances, livestock projects and agricultural methane avoidance, forestation, and end-use efficiency projects.⁴⁹

There are numerous advantages to requiring well-designed carbon offsets of unavoidable project emissions. For one, the purchase of verifiable offsets that satisfy rigorous standards for additionality could substantially curtail the climate harms from approving pipeline infrastructure. Secondary advantages of carbon offsets include facilitating the development of technology and institutional capacity for reducing emissions in a range of sectors.⁵⁰ And by internalizing some costs of greenhouse gas emissions, carbon offsets better align the incentives of fossil-fuel transportation with the public interest.

If the Commission requires offsets of unavoidable carbon emissions, it should develop practices and protocols to ensure that offsets reliably mitigate a project's climate harms. The Commission should set standards ensuring that offsets are additional, verifiable, real, and permanent.⁵¹ To these ends, the Administrative Conference of the United States recommends that agencies “verify[] that credits represent real offsets”;⁵² the associated consultant's report elaborates that verification of “real” offset credits entails designing procedures to avoid double-

⁴⁹ *Compliance Offset Protocols*, CAL. AIR RES. BD., <https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocols> (last visited May 19, 2021); *Offsets*, REGIONAL GREENHOUSE GAS INITIATIVE, <https://www.rggi.org/allowance-tracking/offsets> (last visited May 19, 2021); see also U.S. GOV'T ACCOUNTABILITY OFF., GAO-11-345, CLIMATE CHANGE ISSUES: OPTIONS FOR ADDRESSING CHALLENGES TO CARBON OFFSET QUALITY 1-2 (2011), <https://perma.cc/QHN5-DYJ5> (discussing various types of offset projects including forestation, carbon capture, and installation of energy-efficient equipment).

⁵⁰ ANJA KOLLMUS ET AL., HANDBOOK OF CARBON OFFSET PROGRAMS: TRADING SYSTEMS, FUNDS, PROTOCOLS, AND STANDARDS 1 (2010).

⁵¹ U.S. GOV'T ACCOUNTABILITY OFF., GAO-08-1048, CARBON OFFSETS: THE U.S. VOLUNTARY MARKET IS GROWING, BUT QUALITY ASSURANCE POSES CHALLENGES FOR MARKET PARTICIPANTS 2-3 (2008), <https://perma.cc/936C-KAN9>. Offset programs have been subject to criticism for sometimes failing to create emission reductions that meet these key criteria. See, e.g., Anja Kollmuss et al., *Has Joint Implementation Reduced GHG Emissions?* (Stockholm Env't Inst., Working Paper No. 2015-07, 2015), <https://perma.cc/7M6Y-VVXF> (concluding that roughly three-quarters of offsets permitted under Kyoto Protocol likely did not represent additional emissions reductions).

⁵² Adoption of Recommendations, 82 Fed. Reg. 61,728, 61,733 (Dec. 29, 2017).

counting, selecting clear and realistic baselines, establishing policies on “credit stacking” (i.e., allowing a single project to generate credits for multiple permit markets), and ensuring that credits do not result in leakage.⁵³ The Commission can also look for guidance to other government agencies that administer carbon offset programs, including the California Air Resources Board and the Regional Greenhouse Gas Initiative.⁵⁴

The Commission should also develop policies to ensure that carbon offsets are used as a last resort, not a first resort, and that the availability of carbon offsets as a mitigation measure does not lead the agency to approve a project that is not net beneficial (i.e., a project benefits do not exceed its costs). This is critical because carbon offsets may not perfectly mitigate climate effects due to the concerns flagged above about additionality, permanence, and verifiability, and because they do not mitigate other environmental and public health harms from pipelines that could have particularly significant impacts on environmental justice communities (including indirect greenhouse gas emissions if offsets are applied to direct emissions only). In other words, the Commission should not use offsets as a substitute for traditional avoidance and minimization measures.⁵⁵ Instead, the Commission should apply the three-step sequential hierarchy of “avoidance, minimization, and compensation” that other agencies often use, requiring carbon

⁵³ JASON A. SCHWARTZ, CONSULTANT REPORT TO THE ADMIN. CONF. OF THE U.S., MARKETABLE PERMITS: RECOMMENDATIONS ON APPLICATIONS AND MANAGEMENT vi, 55-58 (2017), <https://perma.cc/E624-MPEH>. This report contains detailed recommendations on ensuring additionality and permanence, minimizing leakage, and avoiding double-counting. *Id.* at 55-61.

⁵⁴ *See supra* note 49.

⁵⁵ Government programs typically use offsets in conjunction with traditional avoidance and mitigation measures, permitting carbon offsets only to partially achieve compliance. For instance, the California Air Resources Board permits covered entities to meet between 4-8% of their compliance obligations (depending on the year) through offsets. *Compliance Offset Program*, CAL. AIR RES. BD., <https://perma.cc/77DW-XVSX>.

offsets (a form of “compensation”) only as a last resort for unavoidable emissions from net-beneficial projects after avoidance and minimization measures have been exhausted.⁵⁶

That process should look as follows. First, in deciding whether to approve a project, the Commission should weigh the project’s costs against its benefits and assess whether the project is net beneficial.⁵⁷ As laid out in Policy Integrity’s previous comment, monetized impacts to consider under this framework include climate costs, construction and operation costs, eminent domain costs, health costs from localized air pollution, and market effects such as the economic value of reduced gas prices and supplied natural gas.⁵⁸ Costs that are difficult to quantify and monetize—including water pollution, distributional and environmental justice effects,⁵⁹ and harms to wildlife including endangered species—also merit careful attention and consideration.⁶⁰ Then, for any natural gas projects that are found to be net beneficial and so are approved, the Commission should require minimization of greenhouse gas emissions such as strengthening requirements to minimize leakage or mandating energy efficiency at natural gas facilities, like compressors. The Commission should then proceed to require offsets of remaining greenhouse gas emissions.

Even if indirect greenhouse gas emissions are not covered under the Commission’s offset policy, Policy Integrity’s 2018 comments emphasized the central role that indirect emissions should play in the public convenience and necessity determination and identified various

⁵⁶ Presidential Memorandum on Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment § 2(f), 80 Fed. Reg. 68,743 (Nov. 3, 2015) [hereinafter Presidential Memorandum]; *see also* 10 C.F.R. § 900.3 (describing “mitigation hierarchy” that involves “first seeking to avoid, then minimize impacts, then, when necessary, compensate for residual impacts”).

⁵⁷ *See* Policy Integrity 2018 Comments, *supra* note 4, at 43-48.

⁵⁸ *Id.* at 46-48; *see also* Zevin, *supra* note 45, at 504-07 (detailing how FERC could monetize these benefits).

⁵⁹ *See infra* Section VI.C.

⁶⁰ Policy Integrity 2018 Comments, *supra* note 4, at 48.

conditions that the Commission could attach to reduce these emissions. As discussed in that letter, the Commission should quantify and monetize all indirect greenhouse gas emissions using available tools, and factor those monetized values into its assessment of whether the project's benefits outweigh its costs and thereby merits certification.⁶¹ For net-beneficial projects, the Commission should consider minimizing indirect emissions by attaching conditions that limit the quantity of gas transported through a pipeline or the time period over which the pipeline operates.⁶² As with minimizing direct greenhouse gas emissions, the Commission should rely on avoidance (not approving the pipeline) and minimization measures (onsite measures to reduce emissions) before considering offsets of remaining indirect emissions.

Notably, the purchase of carbon offsets will likely not address any of the project's other environmental impacts, including local pollution. It is thus essential for the Commission to carefully consider all environmental and public health harms in its certification assessment, and not approve the pipeline unless it makes a reasoned determination that the benefits outweigh the costs when all costs and benefits, including externalities, are taken into account. If other unavoidable environmental impacts (such as local air pollution or water pollution) can be reliably offset through other reasonable means, the Commission should then consider such additional offset requirements as a condition of certification. However, carbon offsets are a particularly attractive option given the global nature of greenhouse gas pollution, which mix into the global atmosphere and have the same effect regardless of origin. Therefore, developers can more easily offset the impacts of a project's greenhouse gas emissions by paying to facilitate an equivalent reduction in greenhouse gases by other means. Carbon offsets are also more readily

⁶¹ *Id.*

⁶² *Id.* at 16.

available than offsets for most other environmental harms, making it more feasible for a developer to comply with a condition to offset emissions.⁶³

If the Commission imposes an offset requirement, it may wish to begin by applying that requirement to direct emissions only, as direct emissions are relatively straightforward to quantify, fall squarely within the Commission’s jurisdiction (whereas regulation of upstream and downstream emissions overlaps with the jurisdiction of other agencies), and are typically of a magnitude⁶⁴ that the Commission could require carbon offsets of these emissions while maintaining a more manageable offset program.⁶⁵

If this carbon offset program is successful, the Commission may wish over time to consider the possibility and appropriateness of extending it to indirect emissions. After all, the Commission has authority to mitigate indirect emissions,⁶⁶ and has the responsibility to quantify and consider those emissions as part of its NEPA review and its public convenience and necessity determinations.⁶⁷ The Commission may wish to coordinate with agencies that exercise authority over upstream and downstream emissions, such as the Department of the Interior and

⁶³ As an example of the availability of reasonably priced, verified carbon offsets, regulated entities hold more than 220 million allowances from carbon credit offsets under the California Air Resources Board’s cap-and-trade program, owing to the widespread use of carbon credits under that program. *See* CAL. AIR RES. BD., Q1 2021 COMPLIANCE INSTRUMENT REPORT (2021), <https://perma.cc/TG9M-PZKC>. Markets for other kinds of offsets, such as water quality trading programs and habitat mitigation banks, may exist for some kinds of environmental effects in some regions, but such credits are not as generally available as carbon offsets.

⁶⁴ *See* JAMES BRADBURY ET AL., DEP’T OF ENERGY, GREENHOUSE GAS EMISSIONS AND FUEL USE WITHIN THE NATURAL GAS SUPPLY CHAIN 4 (2015), <https://perma.cc/WWU5-BWHM> (attributing roughly 80 percent of all greenhouse emissions generated by natural-gas supply chain to combustion).

⁶⁵ The Council on Environmental Quality advises that agencies “not commit to mitigation measures . . . [if] it is not reasonable to foresee the availability of sufficient resources[] to perform or ensure the performance of the mitigation.” Council on Env’t Quality, Memorandum for Heads of Federal Departments and Agencies: Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigate Findings of No Significant Impact 76 Fed. Reg. 3843, 3848 (Jan. 21, 2011).

⁶⁶ *Sierra Club v. Fed. Energy Reg. Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (“Sabal Trail”) (concluding that the Commission should provide a “quantitative estimate of the downstream greenhouse emissions” resulting from a pipeline project, since “greenhouse-gas emissions are an indirect effect of authorizing this project, which FERC could reasonably foresee, and which the agency has legal authority to mitigate”).

⁶⁷ *See* Policy Integrity 2018 Comments, *supra* note 4, at 4-17.

Environmental Protection Agency, to ensure consistency across government policy without either under- or double-counting the indirect greenhouse gas emissions. As discussed above, regardless of whether the Commission extends offsets to indirect emissions, it must quantify those emissions, meaningfully consider them as part of the public convenience and necessity determination, and consider measures to mitigate those emissions.

B. The Commission Has Authority To Require Carbon Offsets as a Condition of Certification for Natural Gas Transportation Infrastructure

The Commission has authority both to mitigate greenhouse gas impacts and to set broad terms and conditions on certification, and offsets are consistent with compensatory mitigation that agencies impose to remediate environmental harm. Thus, as detailed below, FERC has authority to require purchase of carbon offsets as a condition of granting a certificate of public convenience and necessity.

i. Under the NGA, the Commission Has Authority To Mitigate Greenhouse Gas Impacts Through Its Broad Authority To Impose Terms and Conditions of Certification

When FERC grants a certificate of public convenience and necessity, it has “the power to attach to the issuance of the certificate . . . such reasonable terms and conditions as the public convenience and necessity may require.”⁶⁸ The Commission’s power to impose conditions is “extremely broad.”⁶⁹

So long as the Commission exercises its authority “subject to the objectives of the Commission’s regulatory power,”⁷⁰ courts have accorded FERC great deference in fashioning terms and conditions. Because the Commission has broad authority to consider “adverse

⁶⁸ 15 U.S.C. § 717f(e).

⁶⁹ *Transcon. Gas Pipeline Corp. v. Fed. Energy Reg. Comm’n*, 589 F.2d 186, 190 (5th Cir. 1979).

⁷⁰ *Pure Oil Co. v. Fed. Power Comm’n*, 292 F.2d 350, 353 (7th Cir. 1961).

environmental effects” in assessing public convenience and necessity,⁷¹ it also has wide latitude to impose conditions mitigating those environmental impacts. The Commission imposes a series of standard environmental conditions on all projects,⁷² with pipelines often subject to dozens of additional targeted mitigation measures addressing such issues as air quality, noise, and impacts on vegetation.⁷³ Courts have explained that requiring mitigation of “acceptable environmental costs” constitutes “responsible agency decision making,”⁷⁴ and have upheld numerous environmental mitigation measures imposed by the Commission as reasonable.⁷⁵

Greenhouse gas emissions fall squarely within the types of environmental impacts that the Commission may mitigate through conditions to a certificate of public convenience and necessity. The D.C. Circuit has explicitly held as much. In *Sabal Trail*, the court explained that the Commission “has legal authority to mitigate” greenhouse gas emissions, citing FERC’s statutory authority to grant certificates of public convenience and necessity and to attach conditions thereto.⁷⁶ The court recognized that the Commission could “deny a pipeline certificate on the ground that” the resulting greenhouse gas emissions would be “too harmful,” thereby requiring the Commission to consider and potentially mitigate these effects.⁷⁷ This holding echoes similar statements from Chairman Glick, who has repeatedly emphasized the

⁷¹ *Sabal Trail*, 867 F.3d at 1373 (“Because FERC could deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment, the agency is a ‘legally relevant cause’ of the direct and indirect environmental effects of pipelines it approves.”).

⁷² See 18 C.F.R. § 157.206(b).

⁷³ See, e.g., *Atlantic Coast Pipeline, LLC*, 161 FERC ¶ 61,042, app. A (2017) (setting out 73 environmental conditions on pipeline approval).

⁷⁴ *Midcoast Interstate Transmission, Inc. v. Fed. Energy Reg. Comm’n*, 198 F.3d 960, 968 (D.C. Cir. 2000).

⁷⁵ See, e.g., *S. Coast Air Quality Mgmt. Dist. v. Fed. Energy Reg. Comm’n*, 621 F.3d 1085, 1099 (9th Cir. 2010) (“FERC adequately considered the environmental effects of end-use consumption of North Baja gas when it conditioned its certificate on the pipeline only delivering gas that meets the strictest applicable gas quality standards imposed by state regulatory agencies on downstream local distribution companies and pipelines.” (internal quotation marks and alterations omitted)).

⁷⁶ 867 F.3d at 1374.

⁷⁷ *Id.* at 1373.

Commission’s authority to require mitigation of greenhouse gas emissions from natural gas infrastructure projects.⁷⁸

In light of this precedent, it is clear the Commission has broad authority to condition certificates of public convenience and necessity on mitigation measures for greenhouse gas emissions. As detailed above, the Commission should consider a range of measures to mitigate greenhouse gas emissions, including offsets for unavoidable direct emissions (and possibly indirect emissions) from net-beneficial projects.

ii. Carbon Offsets Are Consistent with Compensatory Mitigation Requirements that Other Agencies Frequently Employ

Carbon offsets are a form of compensatory mitigation, which refers to “[c]ompensating” for an adverse environmental impact “by replacing or providing substitute resources or environments.”⁷⁹ Compensatory mitigation is frequently employed by other state and federal agencies as a last-resort mitigation measure after avoidance and minimization. Although this survey of compensatory mitigation requirements from other agencies does not relate specifically to the NGA, it exemplifies the widespread acceptance and use of compensatory mitigation and

⁷⁸ See, e.g., Rio Grande LNG, LLC, 169 FERC ¶ 61,131, P 15 (2019) (Glick, Comm’r, dissenting) (“[I]f the Commission were to determine that the Project’s [greenhouse gas] emissions are significant, that is not the end of the analysis. Instead, . . . the Commission could blunt those impacts through mitigation—as the Commission often does with regard to other environmental impacts.”); Jordan Cove Energy Project L.P., 170 FERC ¶ 61,202, P 20 (2020) (Glick, Comm’r, dissenting) (same), *order on rehearing*, 171 FERC ¶ 61,136, P 28 (2020) (Glick, Comm’r, dissenting) (same); Texas LNG Brownsville LLC, 170 FERC ¶ 61,139, P 25 (2020) (Glick, Comm’r, dissenting) (same). Commissioner Clements recently also joined with Chairman Glick in two dissenting opinions, arguing that where a project has significant impacts due to emissions, but those impacts are outweighed by its benefits, “the Commission could require a pipeline to adopt measures that would mitigate the GHG emission of the project, or the project developer could propose voluntary measures that would be incorporated as certificate conditions to mitigate those adverse impacts, further increasing the likelihood that a project’s benefits outweigh its adverse impacts”). Northern Natural Gas Co., 175 FERC ¶ 61,146, P5 (2021) (Clements and Glick, Comm’rs, dissenting); Tuscarora Gas Transmission Co., 175 FERC ¶ 61,147, P5 (2021), (Clements and Glick, Comm’rs, dissenting).

⁷⁹ 40 C.F.R. § 1508.1(s)(5).

thus provides further support for the Commission’s authority to require carbon offsets under its broad power to impose terms and conditions.

The Council on Environmental Quality’s (CEQ) regulations implementing NEPA evince the widespread acceptance of compensatory mitigation, as those regulations have long supported the use of compensatory mitigation as one of several types of environmental mitigation that agencies should consider and pursue.⁸⁰ Under NEPA, agencies are instructed to assess “[m]eans to mitigate adverse environmental impacts,”⁸¹ including “mitigating measures . . . not [included] in the proposed action” itself.⁸² The regulations specifically require agencies to consider “measures that avoid, minimize, or *compensate* for effects caused by a proposed action” as part of these mitigation efforts.⁸³ As CEQ has explained, “many agencies develop and consider committing to mitigation measures to avoid, minimize, rectify, reduce, or *compensate* for potentially significant adverse environmental impacts.”⁸⁴

The Bureau of Land Management (BLM) has made use of various compensatory mitigation measures in project-level review for more than thirty years.⁸⁵ This includes requiring applicants to purchase carbon offsets to mitigate greenhouse gas emissions from individual projects. In 2008, BLM required a company seeking to expand its gypsum processing facility to

⁸⁰ *Id.* When the federal government revised the CEQ regulations in 2020, it did not amend this provision. Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304 (July 16, 2020).

⁸¹ 40 C.F.R. § 1502.16(a)(9).

⁸² *Id.* § 1501.9(e)(2); *accord id.* § 1502.14(e).

⁸³ *Id.* § 1508.1(s) (emphasis added). This definition was added in the 2020 revisions. Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. at 43,375.

⁸⁴ Appropriate Use of Mitigation and Monitoring and Clarifying Appropriate Use of Mitigated Findings of No Significant Impact, 76 Fed. Reg. 3843, 3848 (Jan. 21, 2011) (emphasis added).

⁸⁵ Jamie Gibbs Pleune et al., *The BLM’s Duty to Incorporate Climate Science into Permitting Practices and a Proposal for Implementing a Net Zero Requirement into Oil and Gas Permitting*, 32 COLO. NAT. RES., ENERGY & ENV’T L. REV. (forthcoming 2021) (manuscript at 73).

“acquire recognized carbon credits to offset the Project’s increased GHG emissions.”⁸⁶ And again in 2009, BLM approved an electric company’s application to construct a transmission project subject to the applicant’s commitment to either create greenhouse gas emission reductions or purchase carbon credits to fully offset emissions from project operation, maintenance, and inspection.⁸⁷ More recently, BLM published a report embracing compensatory mitigation to offset greenhouse gas emissions resulting from the federal coal-leasing program.⁸⁸ The Commission can look to these examples to similarly require natural gas infrastructure applicants to purchase carbon offsets to mitigate residual greenhouse gas emissions from proposed projects.

Other agencies have applied compensatory mitigation and offset requirements in a range of different contexts, furthering supporting the Commission’s authority. In 2015, for instance, a presidential memorandum directed federal agencies to “adopt a clear and consistent approach for avoidance and minimization of, and compensatory mitigation for, the impacts of their activities and the projects they approve,” calling on agencies to “offset foreseeable harmful impacts to natural resources” that could not be otherwise avoided.⁸⁹ In response, several agencies amended their policies to emphasize compensatory mitigation and offsets. For instance, the Fish and Wildlife Service issued a new mitigation policy to minimize adverse impacts of land and water developments on fish, wildlife, plants, and their habitats, which emphasized the important role of

⁸⁶ Amy L. Stein, *Climate Change Under NEPA: Avoiding cursory consideration of Greenhouse Gases*, 81 U. COLO. L. REV. 473, 479, 516-17 (2010) (citing BUREAU OF LAND MGMT., UNITED STATES GYPSUM COMPANY EXPANSION/ MODERNIZATION PROJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT 4.0-78 to -81 (2008)).

⁸⁷ BUREAU OF LAND MGMT. & DEP’T OF THE INTERIOR, RECORD OF DECISION FOR THE SUNRISE POWERLINK TRANSMISSION PROJECT AND ASSOCIATE AMENDMENT TO THE EASTERN SAN DIEGO COUNTY RESOURCE MANAGEMENT PLAN, D.11-52 to -53 (2009), <https://perma.cc/E9RP-EAG3>.

⁸⁸ BUREAU OF LAND MGMT., FEDERAL COAL PROGRAM: PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT SCOPING REPORT 6-16 to -17 (2017), <https://perma.cc/78WH-WQ32>.

⁸⁹ Presidential Memorandum, *supra* note 56, at 68, 743-44.

“compensatory mitigation to offset the adverse impacts of actions to threatened and endangered species.”⁹⁰ And for decades, the Environmental Protection Agency has permitted mitigation banks as a form of offsets for wetlands impacts under Section 404 of the Clean Water Act.⁹¹

State land-use agencies also routinely require compensatory mitigation for project applicants—a practice that the Supreme Court has broadly endorsed. As the Supreme Court explained, compensatory mitigation requires project applicants to “internalize the negative externalities of their conduct” as “a hallmark of responsible land-use policy.”⁹² Accordingly, the Court held that an agency may require a project applicant that “would destroy wetlands on his property” to “compensate for this loss” by “demand[ing] that he enhance wetlands elsewhere,” so long as there is an “essential nexus and rough proportionality” between the damage caused and the mitigation sought.⁹³ Although this case and other Supreme Court precedent on compensatory mitigation requirements from local land-use authorities⁹⁴ concern the standards for an unconstitutional taking and do not address the Commission’s statutory authority, they further evince the widespread acceptance of regulatory offset requirements in land management. Like landowners who destroy wetlands, pipeline developers who release greenhouse gases into the atmosphere cause environmental degradation that harms the public and should be required to offset that impact as a condition of approval.

Accordingly, there is considerable precedent for the Commission to impose a requirement that applicants offset unavoidable emissions from net-beneficial projects. As discussed above,

⁹⁰ U.S. Fish and Wildlife Service Mitigation Policy, 81 Fed. Reg. 83,440, 83,450 (Nov. 21, 2016), *withdrawn* 83 Fed. Reg. 36,472 (July 30, 2018).

⁹¹ See *Mitigation Banks Under CWA Section 404*, ENV’T PROT. AGENCY, <https://www.epa.gov/cwa-404/mitigation-banks-under-cwa-section-404> (Apr. 16, 2019).

⁹² *Koontz v. St. Johns River Water Mgmt. Dist.*, 570 U.S. 595, 607 (2013).

⁹³ *Id.* at 606.

⁹⁴ See *Nollan v. California Coastal Comm’n*, 483 U.S. 825 (1987); *Dolan v. City of Tigard*, 512 U.S. 374 (1994).

the Commission should require offsets for unavoidable direct emissions, while also examining the possibility of requiring offsets (and imposing other mitigation) for indirect emissions.

IV. The Commission Should Take a Regional Approach to Assessing Need

The NGA requires the Commission to determine whether a natural gas infrastructure project is or will be required by the public convenience and necessity, which includes, among other inquiries, an assessment of whether there is need for a project.⁹⁵ Although the 1999 Policy Statement listed a variety of factors FERC could consider in assessing need, including demand projections, consumer savings, and comparisons of projected demand to current capacity,⁹⁶ the Commission has almost exclusively relied on a single, narrow indicator of need: precedent agreements. The Commission contends that these agreements show a market need, which it has then used as a proxy for need as a whole, and in turn for public convenience and necessity. FERC has disclaimed any desire to look more broadly at need, finding that if there are shippers willing to purchase capacity in a pipeline, then there is need for the project.⁹⁷

But, as explained in Policy Integrity previous comments, FERC should take a holistic approach to assessing whether a project is needed. A transparent and systematic cost-benefit analysis would help determine whether a project has net benefits and therefore is needed.⁹⁸ And the NGA provides the Commission discretion to do this type of assessment.⁹⁹

⁹⁵ 1999 Policy Statement, *supra* note 3, at P 7.

⁹⁶ *Id.* at P 8.

⁹⁷ *See, e.g.*, Atlantic Coast Pipeline, LLC, 161 FERC ¶ 61,042, P 56 (2017); Mountain Valley Pipeline, LLC, 161 FERC 61,043, P 42 (2017); Adelpia Gateway, LLC, 169 FERC ¶ 61,220, P 37 (2019); Spire STL Pipeline LLC, 164 FERC ¶ 61,085 (2018) (LaFleur, Comm'r, dissenting) (protesting the Commission's failure to consider the regional market in which pipeline will operate).

⁹⁸ Policy Integrity 2018 Comments, *supra* note 4, at 43-48.

⁹⁹ Zevin, *supra* note 45, at 492-504.

In addition, FERC should take a more regional approach to decisionmaking.¹⁰⁰ Currently FERC uses an ad hoc, project-by-project approach to need—rather than considering the needs of the region—and relies heavily on precedent agreements and other private contracts. But this approach can identify only the private benefits of a project rather than public ones. Furthermore, whenever there are externalities associated with projects, this approach would ignore social costs and benefits. Therefore, instead of looking narrowly at whether a project is needed by a set of private actors, the Commission should look at how the project would benefit the region more generally.

This regional approach could include considering precedent agreements—such contracts can be relevant to determining need.¹⁰¹ But projects do not occur in a vacuum; they are part of broader regional market that should not be ignored. Therefore, when determining need, FERC should also consider current and future shifts in supply and demand; whether existing infrastructure could support demand; whether non-gas solutions may be more cost-effective; whether there are congestion constraints that could be alleviated with new capacity; whether there are regulatory changes that will alter demand; and any other aspect of the regional market that may be relevant.

¹⁰⁰ Intervenors have increasingly raised similar arguments that even where precedent agreements exist, the broader regional market suggests a project is not needed. *E.g.*, Atlantic Coast Pipeline, LLC, 161 FERC ¶ 61,042 (2017) (commenters arguing project was not justified based on future production or demand and that FERC should evaluate need on a region-wide basis); Tennessee Gas Pipeline Co., L.L.C., 163 FERC ¶ 61,190 (2018) (intervenors arguing there is “ample infrastructure in place to accommodate even anticipated increases in shale gas production” and that the project will result in overbuild).

¹⁰¹ However, Commenters and intervenors have also more specifically criticized the Commission’s practice of heavily (or exclusively) relying on *affiliate* agreements, particularly where a utility holding company sells capacity in a new pipeline to its affiliated regulated utility. *See, e.g.*, Initial Opening Brief of Petitioner Environmental Defense Fund, *Env’t Def. Fund v. Fed. Energy Reg. Comm’n*, Nos. 20-1016 & 20-1017 (D.C. Cir. filed June 26, 2020) (challenging FERC’s reliance on a precedent agreement between a utility with captive end-use customers and an affiliate, and the Commission’s refusal to “look behind” the agreement to determine whether it represented legitimate need).

The Commission has already recognized in the electricity transmission context that taking a regional approach to infrastructure decisionmaking can lead the Commission to approve more “efficient and cost-effective” projects.¹⁰² The benefits of regional consideration are likewise applicable in the context of natural gas infrastructure certification and justify FERC broadening how it determines whether a project is needed under the NGA. As discussed below, a regional approach would serve the purposes of the NGA to ensure orderly development and protect consumers, and it would protect against unjust and unreasonable rates for natural gas transportation services.¹⁰³ The Commission should apply its rationale for requiring regional consideration of electricity transmission infrastructure to the analogous natural gas transportation infrastructure. FERC has similar authority over these two systems and a corresponding responsibility to ensure infrastructure projects are efficient, cost-effective, and in the public interest.

A. The Commission Recognized the Benefits of Regional Assessment and Decisionmaking in the Context of Electric Transmission Infrastructure

In Order Nos. 890 and 1000, FERC recognized the broad benefits of regional coordination and planning for electric transmission infrastructure decisionmaking. The Commission promulgated Order No. 890 to “promote efficient utilization of transmission by

¹⁰² *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051, P 6 (2011) [hereinafter Order No. 1000].

¹⁰³ Other commenters have previously argued that FERC should take a regional approach to assessing need rather than continuing its policy of determining need on a project-specific basis. *E.g.*, Comments of the Attorneys General of Massachusetts, Illinois, Maryland, New Jersey, Rhode Island, Washington, and the District of Columbia at 5-6, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1-000 (July 25, 2018); Comments of Public Interest Organizations at 35-40, 41, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1-000 (July 25, 2018); Comments of Susan F. Tierney, Ph.D at 36-39, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1-000 (July 25, 2018); *see also* Brief of Dr. Susan Tierney as Amicus Curiae in Support of Petitioners the Environmental Defense Fund in Support of Reversal of the Challenged Orders at 8-10, *Env’t Def. Fund v. Fed. Energy Reg. Comm’n*, Nos. 20-1016 & 20-1017 (D.C. Cir. filed July 2, 2020) (discussing significant overbuild resulting from Commission’s certification policy).

requiring an open, transparent, and coordinated transmission planning process.”¹⁰⁴ The Commission emphasized that regional transmission planning would “increase efficiency through the coordination of transmission upgrades that have region-wide benefits, as opposed to pursuing transmission expansion on a piecemeal basis.”¹⁰⁵ That is, taking a regional perspective on decisionmaking, rather than building transmission through ad hoc local investments, has efficiency benefits for the development of transmission infrastructure. Additionally, the Commission recognized the need for transmission providers to prepare economic planning studies that analyze and report on both congestion and the alternatives for relieving it, to ensure providers consider not just reliability but also “whether transmission upgrades or other investments can reduce the overall cost of serving native load.”¹⁰⁶ FERC also noted that regional studies could be used as part of the regional transmission planning process required by the final rule.¹⁰⁷

FERC further recognized the benefits of regional decisionmaking when it promulgated Order No. 1000, requiring “transmission providers to participate in a regional transmission planning process that evaluates transmission alternatives at the regional level that may resolve the transmission planning region’s needs more efficiently and cost-effectively than alternatives identified by individual public utility transmission providers in their local transmission planning process.”¹⁰⁸ The Commission went beyond the coordination mandate in Order No. 890 to require transmission providers take “affirmative steps to identify potential solutions at the regional level

¹⁰⁴ *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶ 61,119, P 3 (2007).

¹⁰⁵ *Id.* at P 524.

¹⁰⁶ *Id.* at P 542.

¹⁰⁷ *Id.* at P 551.

¹⁰⁸ Order No. 1000, *supra* note 102, at P 6.

that could better meet the needs of the region.”¹⁰⁹ The Commission recognized that transmission providers were not “adequately assess[ing] the potential benefits of alternative transmission solutions at the regional level” that would be more efficient and cost-effective.¹¹⁰

Notably, while FERC has specific authority over transmission planning under Section 217(b)(4), these Orders and FERC’s authority for a *regional* planning mandate are based in Section 206(a) of the FPA. This section, like Section 5 of the NGA, grants the Commission authority to remedy unjust and unreasonable or unduly discriminatory or preferential rates and practices.¹¹¹ The Orders were promulgated to remedy what the Commission saw as a practice leading to unjust and unreasonable rates and undue discrimination: a lack of regional transmission planning processes.¹¹² In particular, Order No. 1000 explained that the amendments adopted were necessary to ensure that rates for FERC-jurisdictional services were “just and reasonable in light of changing conditions in the industry.”¹¹³ Regional planning would aid transmission providers in producing a plan “that can meet transmission needs more efficiently and cost-effectively.”¹¹⁴ The Commission found that addressing issues like the “narrow focus of current planning requirements” was necessary to ensure just and reasonable rates because the current process “fail[ed] to promote the more efficient and cost-effective development of new transmission facilities.”¹¹⁵ The reforms were “intended to correct deficiencies in the transmission

¹⁰⁹ *Id.* at P 40.

¹¹⁰ *Id.* at P 81.

¹¹¹ 16 U.S.C. § 824e (Federal Power Act); 15 U.S.C. § 717d(a) (Natural Gas Act).

¹¹² Order No. 1000, *supra* note 102, at P 78. FERC’s conclusion that regional planning was necessary as a remedy under section 206 was upheld by the D.C. Circuit in *S.C. Pub. Serv. Auth. v. Fed. Energy Reg. Comm’n*, 762 F.3d 41 (D.C. Cir. 2014).

¹¹³ Order No. 1000, *supra* note 102, at P 1.

¹¹⁴ *Id.* at P 4.

¹¹⁵ *Id.* at P 52.

planning and cost allocation processes so that the transmission grid [could] better support wholesale power markets” and thus ensure just and reasonable rates.¹¹⁶

Together, these Orders demonstrate FERC’s recognition that infrastructure decisionmaking at the regional level can be more economically efficient. Those benefits were clear to the Commission in the context of electricity transmission such that it mandated regional planning to ensure identification and consideration of regional solutions for all transmission providers. FERC saw that regional consideration could ensure efficient development and provide cost benefits to consumers. FERC has thus already recognized and explained why regional assessments of need and infrastructure solutions facilitated its discharge of its statutory obligations under the FPA.

B. Regional Assessment Is Beneficial in the Context of Natural Gas Infrastructure

The regional transmission planning process stands in stark contrast to the ad hoc, project-by-project approach the Commission currently uses for decisionmaking in the natural gas infrastructure context. Whereas, acting under the FPA, the Commission requires a coordinated regional approach to identify and consider “regional solutions to regional needs”¹¹⁷ and implementation of “more efficient or cost-effective regional transmission alternatives,”¹¹⁸ the Commission, acting under the NGA, has been steadfast in its refusal to look beyond private contracts as evidence of need or to assess projects from a regional perspective.¹¹⁹

Yet, the underlying reasoning from Order Nos. 890 and 1000 are also applicable to natural gas infrastructure. Just as regional assessment can provide efficiency benefits in the context of electricity transmission, a regional approach to natural gas infrastructure could

¹¹⁶ *Id.* at P 99.

¹¹⁷ *S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d at 67 (quoting Order No. 1000, *supra* note 102, at P 320).

¹¹⁸ *Id.* (citing Order No. 1000, *supra* note 102).

¹¹⁹ *See supra* note 97.

likewise ensure that more efficient and cost-effective projects are built, and that existing capacity is utilized efficiently.

A regional approach would aid the Commission to approve projects only if they are actually needed in a region and are therefore more efficient and cost-effective than those that may be proposed and approved under FERC's current ad hoc, project-by-project evaluation. Regional assessment would allow the Commission to consider the possibility that natural gas flows will be altered in the future as a result of changes in production and demand.¹²⁰ New state and federal policies will alter natural gas demand and change the economic calculus for investment in new natural gas transportation infrastructure. A regional approach would also allow FERC to consider how regional trends in grid decarbonization will affect demand and gas flow, preventing projects that might be left underutilized or stranded.

FERC should also consider whether the region's needs are best served by new infrastructure, or if there are more efficient and cost-effective alternatives. In some regions, like the Northeast, there might be insufficient capacity to meet demand even in a low-demand scenario and thus a need to eliminate congestion.¹²¹ In such regions with a true need for infrastructure, a proper regional assessment of need would show that new infrastructure is indeed the most cost-effective solution. But, when there is no true need, a regional approach would support the conclusion that existing infrastructure is sufficient to meet demand or that other, more cost-effective alternatives should be explored.¹²² A regional approach could demonstrate

¹²⁰ Felipe Feijoo et al., *The Future of Natural Gas Infrastructure Development in the United States*, 228 APPLIED ENERGY 149 (2018), <https://perma.cc/CS3U-ZJMQ>; see also National Fuel Gas Supply Corp., 158 FERC ¶ 61,145 (2017) (Bay, Comm'r, separate statement) ("Adding to the uncertainty, there is fluidity in where gas is being produced in the United States. . . . Major new production areas are being discovered that may impact gas flows on existing and proposed pipelines.").

¹²¹ Feijoo et al., *supra* note 120.

¹²² See, e.g., Comments of Env't Def. Fund at 14-21, *Certification of New Interstate Pipeline Facilitates*, Docket No. PL18-1-000 (July 25, 2018) (arguing that while the Northeast faces congestion, solving seasonal constraints with a

that existing pipeline capacity is currently underutilized or that utilization rates will drop significantly under a low-demand future scenario, and so it would be more efficient to find ways to better use existing infrastructure.¹²³ Such an approach might also suggest that investment alternatives beside additional pipeline capacity, including non-gas generation or transmission alternatives, might yield similar benefits at lower costs.¹²⁴

Without assessing need from regional perspective, FERC might not be able to fully understand regional supply and demand changes that affect need and whether the project would contribute to regional overbuild or underutilization. Just like in the transmission context, a regional approach could allow FERC to identify and consider whether there are alternative solutions that have regionwide benefits.¹²⁵

C. Regional Assessment Would Serve the Purposes of the NGA and Protect Against Unjust and Unreasonable Rates

Regional assessment can aid in the orderly development of natural gas supplies and thereby protect consumers—two primary purposes of the NGA.¹²⁶ Further, as explained above, encouraging infrastructure decisionmaking to consider regional need and regional solutions will encourage “efficient and cost-effective” development of natural gas infrastructure, thereby protecting against unjust and unreasonable rates.

pipeline solution, as compared to other alternatives, would result in significant ratepayer costs, and that additional point-to-point throughput capacity may not be the best solution to the problems in the New England market).

¹²³ Feijoo et al., *supra* note 120, at 154 (concluding that some regions may see pipeline capacity utilization drop to 7% by 2050).

¹²⁴ Andrew Kleit et al., *Weather or Not? Welfare Impacts of Natural Gas Pipeline Expansion in the Northeastern U.S.*, 10 ENERGY SYS. 593, 613 (2019) (citing BENT ET AL., JOINT EXPANSION PLANNING FOR NATURAL GAS AND ELECTRIC TRANSMISSION WITH ENDOGENOUS MARKET FEEDBACKS (2018), <https://perma.cc/F6G7-RUQ7>).

¹²⁵ *Id.* (“[O]ur work supports a more comprehensive approach for natural gas transmission system planning that considers pipeline expansions with other technology alternatives, similar to what the Federal Energy Regulatory Commission has required for electric power transmission under Order 1000.”).

¹²⁶ *Nat’l Assoc. for the Advancement of Colored People v. Fed. Power Comm’n*, 425 U.S. 662 (1976); *Fed. Power Comm’n v. Hope Nat. Gas Co.*, 320 U.S. 591 (1944).

i. Regional Assessment Serves the Purposes of the NGA

The Commission's duty to further the public interest must be understood in light of the purposes for which the NGA was enacted.¹²⁷ Two primary purposes are consumer protection against excessive prices and (relatedly) the orderly development of natural gas supplies.¹²⁸ These overarching goals are reflected in Section 7's requirement that FERC certify only projects that are in the public interest. Regional consideration of need facilitates Commission protection of the public interest by helping fulfill these purposes. Regional consideration can therefore help ensure projects meet Section 7's public interest standard.

The Commission cannot ensure the *orderly* development of natural gas if it continues to assess project need on a project-by-project basis and does not more broadly consider need with a regional perspective. Taking a regional perspective would protect customers from the costs of overbuild that provide little or no benefit in return.¹²⁹ The Commission should give serious consideration to the concern that, in at least some regions,¹³⁰ its ad hoc certification process and reliance on precedent agreements is encouraging *disorderly* (that is, inefficient) development in the natural gas sector that will unjustly raise consumer costs.

The Commission's consistent refusal to consider data and analysis from regional transmission organizations, independent system operators, federal and state agencies, and expert consultants regarding, for example, future demand projections; comparisons with existing

¹²⁷ *NAACP v. FPC*, 425 U.S. at 669-70.

¹²⁸ *Id.* at 670 n.5 (citing consumer protection language in support of the purpose of orderly development); *Hope Nat. Gas*, 320 U.S. 591.

¹²⁹ *See, e.g.*, Comments of Public Interest Organizations at 35-40, 41, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1-000 (July 25, 2018).

¹³⁰ *See, e.g.*, Allison Good, *Texas Pipeline Overbuild Loom as Companies Rush to Add Permian Infrastructure*, S&P GLOBAL (Mar. 11, 2019), <https://perma.cc/2WXM-3CQK> (discussing overbuild concerns in Texas); *Enterprise Abandons Texas Pipeline Projects as Oil Prices Remain Weak*, REUTERS (Sept. 9, 2020), <https://perma.cc/9NRA-CRCL> (same); Gillian Neimark, *Advocates: Ratepayers will Be on the Hook for Unnecessary Pipelines*, ENERGY NEWS NETWORK (Nov. 14, 2016), <https://perma.cc/JA6E-CH86> (discussing overbuild concerns in the southeast and mid-atlantic).

capacity; or production estimates hinders a holistic analysis of whether new infrastructure is truly needed and in the public interest. Failing to consider these important aspects can lead to duplicative or unnecessary projects in regions where future projections suggest that, due to changes in natural gas flows and demand, assets will (potentially quickly) become stranded. Approving such projects would lead to unnecessary costs and would place the risk on customers for any stranded assets.¹³¹

Regional consideration, on the other hand, would ensure that where existing infrastructure or non-pipelines solutions can be efficient and cost-effective alternatives, new infrastructure is not approved, again protecting consumers from unnecessary costs. In some instances, regional assessment could even support a finding of need and ensure that infrastructure is built where it provides benefits to customers and society overall, not just private interests. Orderly development should be understood to focus development where natural gas capacity is insufficient to meet current or future demand over the life of the pipeline, and to reject projects where there is no true need.

ii. Regional Assessment Protects Against Unjust and Unreasonable Rates

Just like under the FPA, the Commission is obligated under the NGA to ensure that practices affecting rates are not unjust and unreasonable, or unduly discriminatory or preferential and to remedy any such practice.¹³² Natural gas transportation services are FERC-jurisdictional and currently sold through long-term contracts for capacity. While not all capacity is priced using the cost-of-service method, negotiated rates are effectively capped by the recourse rate

¹³¹ See National Fuel Gas Supply Corp., 158 FERC ¶ 61,145 (2017) (Bay, Comm’r, separate statement) (“Pipelines are capital intensive and long-lived assets. It is inefficient to build pipelines that may not be needed over the long term and that become stranded assets. Overbuilding may subject ratepayers to increased costs of shipping gas on legacy systems.”)

¹³² 15 U.S.C. § 717d(a).

(i.e., the cost-of-service based rate).¹³³ The recourse rate is set using the rate base, which is the amount of capital investment in facilities and equipment (including pipes, land, buildings, and compressors) multiplied by the rate of return.¹³⁴ This type of regulation incentivizes pipeline companies to increase their capital investment so that they have a larger source of revenue and potential profits, and therefore already promotes building new infrastructure, rather than utilizing existing pipelines and facilities, to meet demand.¹³⁵

Practices that cause rates to be unjust and unreasonable must be remedied by FERC. A practice that serves to inefficiently increase capital investment, and therefore inefficiently increase rates paid by customers, would be unjust and unreasonable and require Commission action to remedy. In line with the Commission's determinations in its transmission orders, discussed above, such a practice could include failing to take a regional perspective in assessing need.¹³⁶ The Commission explained that, at the time, the process for transmission development was not leading to the most efficient or cost-effective deployment of new facilities; because it was ignoring regional solutions, the process consequently was leading to unjust and unreasonable rates.¹³⁷ The same is true of FERC's ad hoc process for certificating natural gas infrastructure and the failure to consider need on a regional basis.

¹³³ KRISTINA MOHLIN, ENV'T DEF. FUND, *THE U.S. GAS PIPELINE TRANSPORTATION MARKET: AN INTRODUCTION GUIDE WITH RESEARCH QUESTIONS FOR THE ENERGY TRANSITION* 7 (2021).

¹³⁴ *Id.* at 8.

¹³⁵ This is a well-established problem of cost-of-service regulation, known as the "Averch-Johnson effect." See Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 AM. ECON. REV. 1052 (1962). Because a project developer's profits are directly proportional to incurred capital investment, the project developer has a direct incentive to incur excessive capital costs. When deciding among alternative investments, therefore, the developer has a bias towards capital-based solutions.

¹³⁶ Order No. 1000, *supra* note 102, at P 52.

¹³⁷ *Id.* ("We conclude that the narrow focus of current planning requirements and shortcomings of current cost allocation practices create an environment that fails to promote the more efficient and cost-effective development of new transmission facilities, and that addressing these issues is necessary to ensure just and reasonable rates."); see also *S.C. Pub. Serv. Auth. v. Fed. Energy Reg. Comm'n*, 762 F.3d 41, 56 (D.C. Cir. 2014) (explaining that in Order No. 1000, the Commission concluded that failing to participate in a regional process was having a "direct and discernable affect [sic] on rates" and thus was a practice that needed to be remedied).

FERC's current practice of relying on private contracts to demonstrate need removes the incentive for project developers to make infrastructure decisions with an eye toward how a project can meet regional need in the most efficient and cost-effective manner, and fosters overbuild of natural gas infrastructure. In combination with the rate structure described above, this need assessment incentivizes building capital-intensive new infrastructure, even where regional demand projections or other evidence suggest existing capacity would be sufficient and better serve the public interest. Furthermore, because FERC also does not look at concurrent applications in the same region, it might approve projects that are unnecessarily duplicative.

By potentially causing overbuild in a region, the failure to consider regional need inefficiently increases consumer costs because the costs of that overbuild are factored into the recourse rate. The Commission's policy encourages development of new infrastructure regardless of need, rather than potentially more efficient and cost-effective use of existing, underutilized infrastructure. New infrastructure requires a larger capital investment in facilities and equipment, which generates a higher rate base, which in turn allows pipeline companies to charge customers more by increasing the recourse rate.¹³⁸ Inefficient and uneconomic increases in capital investment from the failure to take a regional perspective may render the rate charged unjust and unreasonable.

V. The Commission Should Consider Transition Risk in Assessing Need Under the NGA

As the federal government, states, and localities take action to combat climate change, natural gas infrastructure increasingly faces transition risk that could lead to underutilized or stranded assets.¹³⁹ In the 2021 NOI, the Commission asks whether it should consider two issues

¹³⁸ This is true even where contracts are based on negotiated rates, given that the recourse rate sets the price cap.

¹³⁹ This is more specifically known as climate-related transition risk, which is the risk associated with actions that society takes in response to climate change, such as policies setting greenhouse gas emissions limits, or the

in assessing need that directly relate to transition risk. FERC asks if, in assessing need, it should examine whether (1) “demand in a new project’s market will materialize”; and (2) “reliance on other energy sources to meet future demand for electricity generation would impact gas projects designed to supply gas-fired generators.”¹⁴⁰ These questions ask whether the Commission should consider regulatory and market risk for natural gas infrastructure projects in determining whether a project is in the public interest.

These questions are particularly salient given the Commission’s reliance on precedent agreements, which address only how assets will be paid for during the first twenty years of an asset’s economic useful life. After these initial agreements expire, if demand has not materialized then ratepayers could become responsible for the costs associated with these assets. The economic useful life of pipelines is currently assumed to be 35 years; however, many applications propose a longer life, between 40 and 60 years.¹⁴¹ If demand does not materialize and contracts cannot be renewed for the latter part of a project’s useful life, the developer will be unable to recoup its cost.

Decarbonization (and the related shift to renewables) and electrification are two major aspects of the transition risk that faces natural gas infrastructure developers, particularly given the long-lived nature of assets. The risk that these trends pose, especially in combination, and the cost of potentially stranded assets that could result should be considered before a new natural gas infrastructure project is approved and large-scale capital investment has been made.¹⁴²

development and adoption of new climate-friendly technologies. CONDON ET AL., MANDATING DISCLOSURE OF CLIMATE-RELATED FINANCIAL RISK 6-9 (2021), <https://perma.cc/DM9L-2M2F>.

¹⁴⁰ 2021 NOI, *supra* note 1, at P 9 (question A10).

¹⁴¹ See Comments of Env’t Def. Fund at 26, *Certification of New Interstate Pipeline Facilitates*, Docket No. PL18-1-000 (July 25, 2018) (cataloguing applicant depreciable life assumptions).

¹⁴² See Emily Hammond & Jim Rossi, *Stranded Costs and Grid Decarbonization*, 82 BROOK. L. REV. 645 (2017).

This issue is already beginning to take shape. Recently, Corning Gas filed tariff revisions seeking to accelerate the depreciation life of its infrastructure “because the [Climate Leadership and Community Protection

Considering transition risk furthers FERC’s mandates under the NGA to ensure orderly supplies of natural gas and to protect consumers.¹⁴³

A. Decarbonization and Electrification Pose Transition Risk to Natural Gas Infrastructure

Climate change poses material risk to natural gas companies and infrastructure developers, particularly as the federal government, states, and localities continue to enact more ambitious climate policies and market forces shift. Two aspects of the transition to a low-carbon economy pose particularly significant risk: decarbonization and electrification. Decarbonization policies that dictate a low-carbon resource mix and technological and market changes will reduce natural gas demand from natural gas-fired power plants, the largest consumers of natural gas. Electrification will reduce demand for heating from residential, commercial, and industrial buildings. Reduced demand for natural gas in turn will reduce demand for natural gas transportation services. RMI estimates that \$32 billion of proposed gas pipelines are at risk of becoming stranded assets based on 2030 natural gas demand.¹⁴⁴

Climate change mitigation will require reduction or elimination of the use of natural gas-fired plants for electricity. Renewables and advanced technologies, which are becoming more efficient and cost-effective, will replace large portions of natural gas plants as the resource mix shifts in response to climate policy and technological improvements. RMI also projects that

Act] will shorten the effective life of the Company’s existing and future investment in infrastructure.” N.Y. Pub. Serv. Comm’n, Order Establishing Rates and Rate Plan, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Corning Natural Gas Corporation for Gas Service*, Case 20-G-0101, at 27 (May 19, 2021). While the New York Public Service Commission rejected the request, Corning sought more than a \$3 million increase in revenue requirement, seeking to have consumers pay more now to ensure that it could recoup the full cost of its investments before they were stranded. *Id.*

¹⁴³ Such action would also be in line with President Biden’s mandate in Executive Order No 14,008, directing all federal agencies to “drive assessment, disclosure and mitigation of . . . climate-related risks.” Exec. Order No. 14,008, § 201 (Jan. 27, 2021).

¹⁴⁴ MARK DYSON ET AL., RMI, THE ECONOMICS OF CLEAN ENERGY PORTFOLIOS: HOW RENEWABLE AND DISTRIBUTED ENERGY RESOURCES ARE OUTCOMPETING AND CAN STAND INVESTMENT IN NATURAL GAS-FIRED GENERATION (2018), <https://perma.cc/VR9Y-KK4S>.

nearly 85% of natural gas will be replaceable by clean energy projects by 2035.¹⁴⁵ States have a variety of requirements for their resource mix, like Renewable Portfolio Standards and Zero Emission Credits, which seek to increase investment in renewables and advanced technologies and phase out natural gas-fired power plants.¹⁴⁶ As decarbonization pushes the mix away from natural gas and toward other resources, demand for natural gas transportation infrastructure will decline and flows will be altered, leaving assets underutilized or stranded. While natural gas infrastructure may continue to be needed to supply power plants in the near term, the energy transition may render new (and existing) assets unusable before the end of their assumed economic life, as natural gas-fired power plants are replaced in large part by cleaner alternatives.

Electrification has also become an integral aspect of climate policies.¹⁴⁷ Building electrification will pose a risk for natural gas supply used for heating.¹⁴⁸ In 2019, residential and commercial heating constituted 27% of natural gas consumption.¹⁴⁹ Electrification of these

¹⁴⁵ MARK DYSON ET AL., RMI, PROSPECTS FOR GAS PIPELINES IN THE ERA OF CLEAN ENERGY: HOW CLEAN ENERGY PORTFOLIOS ARE REDUCING US POWER SECTOR DEMAND FOR NATURAL GAS AND CREATING STRANDED ASSET RISKS FOR GAS PIPELINES (2019). Energy Innovation argues that the natural gas should make up no more than 20% of generation by 2030 to avoid new stranded-asset cost while keeping costs down. MIKE O’BOYLE ET AL., ENERGY INNOVATION, A NATIONAL CLEAN ELECTRICITY STANDARD TO BENEFIT ALL AMERICANS 16 (2021), <https://perma.cc/UG6W-3HFA>.

¹⁴⁶ See, e.g., Climate Leadership and Community Protection Act, N.Y. Statutes, Chapter 106 of the laws of 2019 (July 18, 2019) (New York law requiring electricity demand be served by 100% zero-emission resources); see also Condon et al., *supra* note 139, at 6-7 (“At the state level, twenty-nine states and the District of Columbia have established target dates by which electric utilities must provide a set proportion of electricity from renewable or clean energy sources. The prevalence and aggressiveness of these targets has increased in recent years, and 15 states now aim to achieve 100% clean or renewable energy by 2050 or earlier.” (internal footnotes omitted)). Researchers at the University of California Berkeley found that a 90% clean grid is possible, dependable and affordable, with natural gas representing only 10% of annual generation, “70% lower than their generation in 2019.” AMOL PHADKE ET AL., U. CAL. BERKELEY, 2035: THE REPORT 4 (2020).

¹⁴⁷ See Talor Gruenwald & Mina Lee, 2020: *Watt a Year for Building Electrification!*, RMI (Dec. 16, 2020), <https://perma.cc/2FDD-2W5N> (cataloguing cities and states with building electrification codes and other action taken at the subnational level on building electrification).

¹⁴⁸ See SHERRI BILLIMORIA ET AL., RMI, THE ECONOMICS OF ELECTRIFYING BUILDINGS (2018) (finding that building electrification will result in a net decline in natural gas, even where all electricity for heat pumps is generated by gas-fired power plants).

¹⁴⁹ *Natural Gas Explained: Use of Natural Gas*, ENERGY INFO. ADMIN., <https://perma.cc/HNX4-GPO6> (Nov. 30, 2020). The industrial sector represents 33% of natural gas usage, but while some is used for heating, natural gas is also used as a raw material in some processes. *Id.*

sectors would therefore significantly reduce demand for natural gas as a primary energy source. In combination with decarbonization efforts of the power system, electrification will reduce total demand for natural gas.¹⁵⁰ As laws requiring electrification become more common, regulators should consider the risk that demand for new infrastructure will not materialize due to increasing electrification, again rendering transportation assets underutilized or stranded. As noted by a panelist at the Electrification Technical Conference, continuing the natural gas infrastructure build-out without consideration of electrification, and the associated transition risk, will lead to increased consumer costs.¹⁵¹

Together decarbonization and electrification will diminish demand for natural gas significantly by reducing or eliminating the two major end-uses of natural gas.¹⁵² These policy and market-driven trends could also change the locations in which demand is heaviest.¹⁵³ Reduction and/or redistribution of gas demand could, in turn, leave gas transportation infrastructure stranded. Accordingly, in assessing whether a long-lived gas infrastructure project is required by the public convenience and necessity, the Commission must consider the risk that gas demand will decline or never materialize and that stranded asset costs will be borne by consumers and taxpayers as a result.

¹⁵⁰ Additionally, research has demonstrated that while electrification might shift consumption and emissions from demand sectors to the power sector, there will still be “energy system-wide reductions in both” because electrified end-use technologies are more energy efficient. CAITLIN MURPHY ET AL., NAT’L RENEWABLE ENERGY LAB’Y, ELECTRIFICATION FUTURES STUDY: SCENARIOS OF POWER SYSTEM EVOLUTION AND INFRASTRUCTURE DEVELOPMENT FOR THE UNITED STATES xii (2021), <https://perma.cc/D9R7-LUF9>.

¹⁵¹ Technical Conference to Discuss Electrification and the Grid of the Future, Docket No. AD21-12 (Apr. 29, 2021) (comments of Sara Baldwin, sitting on panel discussing local, state, and federal coordination); *see also* Sam Kalen & Shi-Ling Hsu, *Natural Gas Infrastructure: Locking in Emissions*, 34 NAT RES. & ENV’T 3 (2020).

¹⁵² These uses represent around three quarters of natural gas consumption, making it unlikely that increases in demand in other sectors, like non-heating consumption in the industrial sector or the transportation sector (which is also electrifying) could make up for reductions.

¹⁵³ *See, e.g.*, Feijoo et al., *supra* note 120; Clodomiro Unsihuay et al., *Integrated Power Generation and Natural Gas Expansion Planning* 1 (2007) (noting that “the dispatch and expansion of the natural gas power plants affect the natural gas flows in pipelines”).

B. The Commission Has Similarly Considered Transition Risk in the Electric Transmission Context

The Commission has previously recognized the benefits of considering how regulatory priorities can affect infrastructure need in the transmission context. In Order No. 1000, FERC not only recognized the benefits of taking a regional approach to transmission decisionmaking, but also determined that identifying public policy-driven need and potential solutions to meeting that need is necessary to ensure that rates for FERC-jurisdictional services are just and reasonable.¹⁵⁴ FERC explained that “a prudent transmission provider will not only plan to maintain reliability and consider whether transmission upgrades or other investments can reduce overall costs . . . , but also consider how to plan for transmission needs driven by Public Policy Requirements.”¹⁵⁵ The Commission found that public policies could “directly affect the need for interstate transmission facilities” and by mandating consideration of public policy requirements, it was “simply requiring the consideration of facts that are relevant to the transmission planning process.”¹⁵⁶ The Commission also acknowledged that “the effects of Public Policy Requirements on transmission needs are highly variable, based on geography, existing resources, and transmission constraints.”¹⁵⁷

FERC should similarly require natural gas transportation providers to consider how public policies will directly affect transportation infrastructure needs. For transmission, the Commission recognized that the existing process did not require consideration of transmission needs driven by public policy, and concluded that it needed to remedy that problem to protect against unjust and unreasonable rates and practices.¹⁵⁸

¹⁵⁴ Order 1000, *supra* note 102, at P 83.

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* at P 111.

¹⁵⁷ *Id.* at P 208.

¹⁵⁸ *Id.* at P 82, 112.

The Commission should do the same for natural gas infrastructure decisionmaking. Under current practice, FERC does not consider how public policies that require decarbonization of the resource mix and electrification of buildings will affect natural gas transportation needs. FERC should reform the 1999 Policy Statement to require consideration of public policy requirements, which may lead to identification and evaluation of projects that could “facilitate more efficient and cost-effective achievement of these requirements.”¹⁵⁹ Taking public policies into account may also help developers and the Commission understand how climate policies will drive natural gas infrastructure need, either by reducing demand or altering flows, and ensure that the risk to long-term gas infrastructure that those policies pose is identified and evaluated.

C. Transition Risk Should Be Considered at the Time of Certification as Part of the Assessment of Need

The risk that these federal and state regulatory changes and market trends pose to natural gas infrastructure developers and investors should be considered by FERC at the time of approval to assure that new infrastructure, which is capital-intensive and long-lived, is in the public interest. As part of its holistic need assessment, the Commission should consider the risk that purported need will not materialize in light of decarbonization of the resource mix and building electrification. Developers should be asked to disclose and price this risk during the approval process. The Commission should not wait to consider how assets will be paid for until after they become stranded.

Traditionally, the energy sector and regulators have considered stranded costs due to economic, technological, or regulatory changes ex post, waiting until after projects have been

¹⁵⁹ *Id.* at P 83.

approved and large-scale investments have already been made.¹⁶⁰ This history of ex post consideration and compensation for stranded costs has slowed transitions, has prevented retirements of assets, and has led to “systematic overcompensation for regulatory risk because of loss aversion.”¹⁶¹ In the past, where assets were rendered stranded by policy or market changes, regulators have eventually allowed investors to recoup those costs through their ratepayers.¹⁶²

The Commission, through its Policy Statement, should encourage investors to price transition risk up front and require ex ante consideration of potential stranded costs and how the transition will increase the risk associated with new natural gas transportation infrastructure. Failing to consider significant risk to a project before approval, particularly where the associated costs will likely fall to ratepayers, is inefficient, will not ensure orderly development of natural gas supplies, and fails to protect customers.

VI. The Commission Should Refine Its Analysis To Better Capture and Assess Impacts on Environmental Justice Communities

The Commission requested input regarding its consideration of environmental justice impacts in assessing whether to approve natural gas pipelines and other infrastructure. The identification of disproportionate environmental justice impacts should guide pipeline siting, and may provide a basis for denying a project application altogether if alternatives cannot address those impacts. Like any other analysis, the methodological choices can greatly affect the outcomes of FERC’s assessment.¹⁶³ The Commission can improve its environmental justice

¹⁶⁰ Hammond & Rossi, *supra* note 142 (discussing consideration and compensation of stranded costs by state commissions in the context of nuclear facilities, and by FERC in the context of natural gas take-or-pay contracts and electricity restructuring).

¹⁶¹ *Id.* at 661.

¹⁶² *See id.* at 652 (“Regulators have shown a considerable appetite for compensating investors post hoc, routinely approving customer charges designed to guarantee an incumbent energy utility one hundred percent compensation for stranded costs during regulatory, economic, and technological transitions in the energy sector.”).

¹⁶³ *See, e.g.*, Ronald J. Shadbegian & Ann Wovlerton, *Evaluating Environmental Justice: Analytic Lessons from the Academic Literature and in Practice*, in *FAILED PROMISES: EVALUATING THE FEDERAL GOVERNMENT’S RESPONSE TO ENVIRONMENTAL JUSTICE* 117, 122 (David M. Konisky ed., 2015) (noting that several analytic issues are

analysis to ensure that it appropriately identifies environmental justice populations and properly considers and assess disproportionate impacts. FERC should begin by setting out a systematic and transparent process for conducting its environmental justice analysis. While the Commission may not be bound by Executive Order 12,898, it has regularly assessed at least some environmental justice impacts, and it should provide the public with a clear understanding of how it will conduct its assessments in the future, including, but not limited to, the identification methodology and census data level it will use, and process for evaluating disproportionate impacts.

The Commission can also make several specific changes to its environmental justice analysis to improve the assessment. The Commission should use census block-level data (rather than census tract-level as it often uses¹⁶⁴) to mitigate the potential that the choice of geographic unit of analysis artificially dilutes or masks the presence of minority and low-income populations. FERC should select a comparison population that is broad and sufficiently representative to reveal disproportionate impacts on environmental justice communities. FERC should also consider all pollutant impacts, rather than treating compliance with the National Ambient Air Quality Standards (NAAQS) as synonymous with a project having no adverse impacts. Criteria pollutants, despite the numerical limits contained in the NAAQS, are non-threshold pollutants with health impacts even where levels are below the permissible legal limit.¹⁶⁵ Minority and low-income communities may be especially vulnerable to these impacts

particularly important to environmental justice analyses, including “the geographic scope and scale of the analysis, the identification of potentially affected populations, the selection of a comparison group, how to spatially identify effects on population groups, and how exposure or risk is measured in an analysis.”).

¹⁶⁴ See, e.g., *Atlantic Coast Pipeline, LLC*, 164 FERC ¶ 61,100, P 306 (2018); *Florida Southeast Connection, LLC*, 156 FERC ¶ 61,160, P 75 (2016); see also Final Brief of Respondent Federal Energy Regulatory Commission at 67, *Atlantic Coast Pipeline, LLC v. Fed. Energy Reg. Comm’n*, No. 18-1224 (D.C. Cir. filed July 24, 2019) (noting Commission’s use of Census tract-level data in other orders).

¹⁶⁵ Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 MINN. L. REV. 1349 (2018).

due to existing health disparities. Each of these analytical choices can help the Commission more effectively consider environmental justice implications in deciding whether, and on what terms and conditions, to grant a certificate of public convenience and necessity.

A. The Commission Should Use Census Block Data To Identify Environmental Justice Populations

FERC's identification of affected environmental justice populations sets the stage for its impact analysis. The Commission's choice of methodological approach for identification will affect whether it accurately identifies minority and low-income populations. FERC must therefore be cautious because selecting an unsuitable approach and components, like the geographic unit of analysis, can artificially dilute the presence of minority and low-income populations. That is, analytical choices may alter results such that the Commission fails to identify populations that should be considered in its impact analysis. To improve its identification of environmental justice populations, the Commission should use census block level-data instead of continuing to rely on census tract-level data.

Identification of environmental justice communities may be affected by the components used, particularly the geographic unit of analysis chosen and its accompanying data.¹⁶⁶ The Commission, in selecting the geographic unit, must consider the appropriately sized unit and ensure there is sufficient justification for the choice such that it will not inaccurately portray the size of the affected environmental justice population by "diluting their representation," or miss an environmental justice population entirely.¹⁶⁷ As agencies will often use census data in their analysis, the unit may mirror those used in the census; however, census data can be

¹⁶⁶ FED. INTERAGENCY WORKING GRP. FOR ENV'T JUSTICE AND NEPA COMM., PROMISING PRACTICES FOR EJ METHODOLOGIES IN NEPA REVIEWS 21 (2016), <https://perma.cc/JPM7-RKGG> [hereinafter PROMISING PRACTICES].

¹⁶⁷ *Id.*

disaggregated to varying levels.¹⁶⁸ Two levels used as the geographic unit in population identification are census tracts and census blocks. Each county in the census database is divided into census tracts, which are subdivided into smaller census blocks.¹⁶⁹ Census blocks are the smallest geographic areas that the census uses.¹⁷⁰ It therefore provides the most granular information about environmental justice communities. The Commission has often used tract-level data even in the face of arguments that this choice has failed to identify minority and low-income communities.¹⁷¹

The Commission should use census blocks, rather than using larger census tracts, in whatever approach it chooses for identifying environmental populations, as recommended by the EJ Working Group.¹⁷² Choosing a larger geographic unit of analysis could result in a minority community being outnumbered by a surrounding non-minority population, masking its presence in the analysis. Concern with the potential dilution of environmental justice populations due to the Commission's geographic unit choice has been an ongoing issue raised by environmental and community organizations. For example, in challenging the Commission's certification of the Southeast Market Pipelines Project, intervenors pointed out that FERC's use of census tract data obscured the presence of a 100% Black census block due to its location in a majority-white census tract.¹⁷³ In the Atlantic Coast Pipeline proceedings, environmental and neighborhood

¹⁶⁸ ENV'T PROT. AGENCY, FINAL GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA'S NEPA COMPLIANCE ANALYSES at unnumbered p. 16 (1998), <https://perma.cc/9DW5-XHH6>.

¹⁶⁹ *Id.* at unnumbered p. 60

¹⁷⁰ PROMISING PRACTICES, *supra* note 166, at 23 n.11.

¹⁷¹ *E.g.*, Final Brief of Respondent Federal Energy Regulatory Commission at 63-66, *Atlantic Coast Pipeline, LLC v. Fed. Energy Reg. Comm'n*, No. 18-1224 (D.C. Cir. filed July 24, 2019); Brief of Respondent Federal Energy Regulatory Commission at 51-52, *Sierra Club v. Fed. Energy Reg. Comm'n*, 867 F.3d 1357 (D.C. Cir. 2017) ("Sabal Trail").

¹⁷² *See* PROMISING PRACTICES, *supra* note 166, at 21. The EJ Working Group also recommends using local demographic data to supplement census data when minority populations are particularly small to ensure that these populations are captured in its analysis. *Id.*

¹⁷³ *See Sabal Trail*, 867 F.3d at 1370.

groups raised similar concerns about a census tract analysis that masked the 85% Black and biracial community living downwind from a proposed facility and therefore at highest risk of exposure.¹⁷⁴ An EPA workgroup has also long cautioned against this potential outcome, pointing out that “pockets of minority or low-income communities, including those that may be experiencing disproportionately high and adverse effects, may be missed in a traditional census tract-based analysis.”¹⁷⁵

The Commission should heed these concerns and use census blocks to identify environmental justice communities and capture disproportionate impacts. Using more local, granular data can help the Commission improve its decisionmaking.¹⁷⁶ Additionally, the Commission should provide written justification for its choice of methods and data to ensure transparency.¹⁷⁷

B. The Commission Should Use a Broad Comparison Population for Its Impacts Analysis

Determining whether there are disproportionate impacts entails comparing a project’s effects on environmental justice populations with its effects on a “comparison population,” in order to determine whether the impacts on environmental justice communities are disproportionate.¹⁷⁸ The comparison group selected will thus inevitably affect the determination of disproportionate impact.¹⁷⁹ Choosing an improper comparison population can lead to artificial

¹⁷⁴ See Request for Rehearing of Shenandoah Valley Network et al. at 131, *Atlantic Coast Pipeline, LLC*, Docket Nos. CP15-554-000 et al. (Nov. 13, 2017).

¹⁷⁵ ENV’T PROT. AGENCY, *supra* note 168, at unnumbered p. 16.

¹⁷⁶ See PROMISING PRACTICES, *supra* note 166, at 21.

¹⁷⁷ See *id.* at 24.

¹⁷⁸ *Id.* at 41-42.

¹⁷⁹ ENV’T PROT. AGENCY, TECHNICAL GUIDANCE FOR ASSESSING ENVIRONMENTAL JUSTICE ON REGULATORY ANALYSIS 55 (2016), <https://perma.cc/HG6E-EFD6>. For example, as the EPA explained, “a comparison group of all minorities in the United States, while informative about the burden of risk among minorities, will not directly provide information about whether this burden is *higher* among minorities relative to non-minorities.” *Id.* at 55 n.55.

distortion of environmental justice impacts, including where the comparison group is too narrow geographically or too similar demographically to the affected population. Agencies are less likely to find a disproportionate impact where the comparison group has an unrepresentatively high proportion of minority or low-income individuals.¹⁸⁰ Restricting the comparison population in a way that ensures the comparison population has a high percentage of minority or low-income individuals will therefore mask disproportionate impacts.

However, the Commission has often found that a project will affect *only* minority and low-income communities, creating problems for comparison and evaluation of disproportionate impacts. In recent cases, the Commission has concluded that the affected community as a whole was made up of environmental justice communities and thus determined that the only question to ask was whether the project would disproportionately affect these communities due to factors unique to the population (for example, due to disproportionate health conditions).¹⁸¹ In other cases, the Commission has compared the affected populations of different alternatives, found that each would have nearly the same impact on environmental justice populations, and thus concluded that the preferred alternatives could not be said to cause disproportionate impacts.¹⁸²

¹⁸⁰ Bradford Mank, *Proving an Environmental Justice Case: Determining an Appropriate Comparison Population*, 20 VA. ENV'T L.J. 365, 387 (2001). The EJ Working Group has also explained that it may be appropriate for an agency to use multiple comparison groups in certain instances. PROMISING PRACTICES, *supra* note 166, at 41. The EPA has likewise recommended the use of sensitivity analyses with alternative comparison groups where appropriate. ENV'T PROT. AGENCY, *supra* note 179, at 55.

¹⁸¹ *E.g.*, Brief of Respondent Federal Energy Regulatory Commission at 51, *Vecinos para el Bienestar de la Comunidad Costera v. Fed. Energy Reg. Comm'n*, No. 20-1045 (D.C. Cir. filed Sept. 23, 2020) (“[T]he Commission first examined the racial and ethnic makeup of the affected communities (*i.e.*, those within a 2-mile radius of the Terminal or Pipeline) and found that virtually all were minority or low-income populations, as defined by the relevant EPA Guidance.”); Brief of Respondent Federal Energy Regulatory Commission at 43, *Vecinos para el Bienestar de la Comunidad Costera v. Fed. Energy Reg. Comm'n*, Nos. 20-1093 & 20-1094 (D.C. Cir. filed Nov. 10, 2020) (“The Commission identified the immediate area surrounding the projects as environmental justice communities. . . . But the Commission also found that the entire Cameron County qualified as an environmental justice community.”).

¹⁸² *Sierra Club v. Fed. Energy Reg. Comm'n*, 867 F.3d 1357, 1390-70 (D.C. Cir. 2017).

While guidance does offer that, where appropriate, an agency might compare the impacts of environmental justice communities in the affected environment to a comparison group also within the affected area to assess whether there are disproportionate impacts,¹⁸³ that recommendation is inappropriate where a project would affect predominantly (or only) environmental justice populations, such that a comparison population group that is sufficiently distinct cannot be found. If an environmental justice analysis is to mean anything, it should not allow regulators to ignore the fact that a project was sited in an environmental justice community and does not (or primarily does not) affect other groups. Siting a project in this way should demand more, not less, scrutiny.

This problem is illustrated by a recent decision currently being litigated before the D.C. Circuit.¹⁸⁴ In 2019, Sierra Club challenged FERC’s certification of a new liquefied natural gas terminal in Cameron County, Texas, in part on the grounds that the Commission used only the county for its comparison population rather than a broader geographic region such as the state of Texas.¹⁸⁵ As a result, the comparison group was dominated by minority and low-income populations, leading the Commission to improperly conclude that environmental justice population were not overburdened by the project’s impacts because “all project-affected populations are minority or low-income populations, or both.”¹⁸⁶ That is, the Commission concluded that because the county as a whole was predominantly minority and low-income individuals, the question was not whether impacts would be “disproportionately concentrated on”

¹⁸³ See, e.g., PROMISING PRACTICES, *supra* note 166, at 41.

¹⁸⁴ *Vecinos para el Bienestar de la Comunidad Costera v. Fed. Energy Reg. Comm’n*, No. 20-1045 (D.C. Cir. argued Mar 23, 2021).

¹⁸⁵ See *Rio Grande LNG, LLC*, 170 FERC ¶ 61,046, PP 66, 69 (2020).

¹⁸⁶ *Id.* at PP 66-67.

minority and low-income communities in the affected environment.¹⁸⁷ The Commission instead chose to assess whether the impacts would disproportionately affect environmental justice communities because of unique factors to those populations, such as health effects.¹⁸⁸

While FERC should consider factors unique to populations,¹⁸⁹ it should not ignore the question of whether a project's effects are disproportionately concentrated on environmental justice communities when the effects are concentrated *only* on environmental justice populations. Policy Integrity agrees that such a methodology “signals to project developers that they can avoid a hard look at EJ impacts by simply locating their facilities where the effects will *only* fall on minority or low-income communities.”¹⁹⁰ This undermines the purpose of an environmental justice analysis and ignores the demonstrated history of siting projects in minority and low-income communities that has overburdened these populations at a local, state and national level.¹⁹¹ In such instances the Commission should use a broad comparison group such that it compares the impacts of a project on environmental justice populations in the affected area to a more general population, that is neither too geographically narrow nor too demographically similar, to avoid masking disproportionate impacts.

¹⁸⁷ Brief of Respondent Federal Energy Regulatory Commission at 53, *Vecinos para el Bienestar de la Comunidad Costera v. Fed. Energy Reg. Comm'n*, No. 20-1045 (D.C. Cir. filed Sept. 23, 2020).

¹⁸⁸ *Id.* at 53-54. Notably, while the Commission did make such an assessment, it found no disproportionate impacts because the project would not increase criteria pollutants above the NAAQS, a policy refuted in the next section.

¹⁸⁹ See *infra* Section VI.C

¹⁹⁰ Petitioners' Final Joint Opening Brief at 46, *Vecinos Para el Bienestar de la Comunidad Costera v. Fed. Energy Reg. Comm'n*, No. 20-1045 (D.C. Cir. filed Sept. 23, 2020).

¹⁹¹ See generally CLEAN AIR TASK FORCE, FUMES ACROSS THE FENCE-LINE: THE HEALTH IMPACTS OF AIR POLLUTION FROM OIL & GAS FACILITIES ON AFRICAN AMERICAN COMMUNITIES (2017), <https://perma.cc/5Y2W-VKXU> (describing the greater likelihood that African Americans will live in fence-line communities and explaining that the disparity “is not a coincidence” because “[h]istorically, polluting facilities have often been sited in or near African American communities”); see also Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice within the Energy System*, 54 HARV. C.R.-C.L. L. REV. 1, 9-15 (2019) (describing “the current energy system and how the system has historically burdened communities of color and low-income communities”).

The Commission faces a similar problem where it “compare[s] the demographics along the various proposed routes to each other instead of the general population.”¹⁹² In the Southeast Market Pipeline Project, the Commission chose to compare the impact on environmental justice communities of project alternatives. FERC concluded that because each of the alternatives (aside from the no-action alternative) would affect a similar percentage of environmental justice populations, the preferred option could not be said to cause a disproportionate impact.¹⁹³ While the D.C. Circuit found the methodology was reasonable because NEPA is intended to help any agency choose between alternatives,¹⁹⁴ this methodology significantly diverges from accepted methodologies and guidance that look at the project’s impacts on environmental justice communities as compared to other populations, not other options.¹⁹⁵ As the Sierra Club argued, “[t]he Commission’s comparison of the approved route and ‘land-based’ alternatives routes to one another begs the question of whether the *Project* has a disparate impact” on environmental justice communities.¹⁹⁶ FERC also has the option to choose the no-action alternative and reject an application where the other alternatives would disproportionately impact environmental justice communities. The Commission should consider whether those affected by the project as it would be approved are disproportionately minority or low-income, and do so by using a broad comparison population that is neither too geographically narrow nor demographically similar.

¹⁹² See *Sierra Club v. Fed. Energy Reg. Comm’n*, 867 F.3d 1357, 1390-70 (D.C. Cir. 2017) (“Sabal Trail”) (internal quotation marks omitted).

¹⁹³ *Id.*

¹⁹⁴ *Id.* at 1370.

¹⁹⁵ See PROMISING PRACTICES, *supra* note 166, at 38-46.

¹⁹⁶ Petitioners’ Opening Brief at 18, *Sabal Trail*, 867 F.3d 1357 (D.C. Cir. 2017).

C. The Commission Should Stop Using Compliance with the NAAQS as Synonymous with a Project Having No Adverse Impacts and Consider All Pollution Impacts, Including those Below NAAQS

The impacts analysis requires that FERC consider whether a project’s environmental and health impacts are disproportionately high and adverse. In analyzing a project’s air quality impacts, FERC has used compliance with the NAAQS as synonymous with a project having no adverse impacts.¹⁹⁷ The Commission thus assumes that where a project would not cause criteria pollutant levels to violate the NAAQS, there is no significant impact on human health or the environment.¹⁹⁸ However, the Commission’s reliance on the NAAQS is unsupported by the guidance documents and inconsistent with the scientific and regulatory treatment of NAAQS.¹⁹⁹ FERC should consider impacts of exposure to criteria pollutants below the NAAQS to environmental justice communities in its assessment.

Carbon monoxide, lead, particulate matter, ozone, nitrogen dioxide, and sulfur dioxide (the six criteria pollutants regulated under the NAAQS) are all non-threshold pollutants, meaning that they have acknowledged health impacts even when found in levels below the legally permissible limits.²⁰⁰ EPA has identified health benefits from reducing pollutant levels below the legal standard for almost all of its regulated criteria pollutants.²⁰¹ That is, EPA has said in multiple rulemakings that there are health risks associated with exposure to criteria pollutants at

¹⁹⁷ See, e.g., Atlantic Coast Pipeline, LLC, 164 FERC ¶ 61,100, P 314 (2018) (“The Final EIS states that Virginia and North Carolina adopted the federal NAAQS; therefore, these standards are appropriate for consideration of air quality impacts from the projects. The Final EIS concluded that the project would not cause or contribute to a violation of the NAAQS and concluded that a health impact assessment was not required.”).

¹⁹⁸ See, e.g., *id.*; Rio Grande LNG, LLC, 170 FERC ¶ 61,046, PP 59-60 (2020) (finding that the EIS “appropriately relied on NAAQS thresholds to assess health impacts” and that given the projects will meet air quality requirements for NO₂, “the projects would not have a significant adverse impact on human health”); Annova LNG Common Infrastructure, LLC, 170 FERC ¶ 61,140, P 43 (2020) (affirming Commission staff’s “reasonable reliance on the NAAQS as a proxy for potential health impacts on area populations”).

¹⁹⁹ See generally Castle & Revesz, *supra* note 165.

²⁰⁰ See *id.* at 1357.

²⁰¹ *Id.* at 1392-97 (discussing EPA’s calculations of benefits below NAAQS levels and explicit findings on the lack of evidence of thresholds for ozone, carbon monoxide, and nitrogen dioxide).

levels below the NAAQS.²⁰² Therefore, as a general matter, it is inappropriate to assume that where a project does not violate the NAAQS, there are no health impacts.

Furthermore, FERC's reliance on the NAAQS is particularly inappropriate for assessing impacts to populations that are sensitive to lower levels of pollution, including those with respiratory and other health issues.²⁰³ For such sensitive populations, exposure to criteria pollutants below the NAAQS may be particularly harmful. Minority individuals are more likely to belong to such sensitive populations because of the health disparities they face. For example, asthma exists in higher rates among minority populations and increases health risks from exposure to ozone, particular matter, and sulfur dioxide.²⁰⁴ And health risks from such exposure may be more severe as asthma hospitalizations and mortality have also been observed at higher rates in minority communities.²⁰⁵

Given these health disparities, minority communities are more likely to experience harm from criteria pollutants exposure below the NAAQS. Ignoring the health effects of a project that does not cause the NAAQS to be violated is disproportionately problematic for minority and other sensitive communities that are more likely to be harmed by exposure at lower levels. By failing to consider impacts of pollutant exposure below the NAAQS, FERC will underestimate the harms a project poses to already sensitive environmental justice communities.

²⁰² *Id.* at 1390-91.

²⁰³ *See id.* at 1354, 1374.

²⁰⁴ *See* Review of the Primary National Ambient Air Quality Standards for Sulfur Oxides, 84 Fed. Reg. 9,866, 9,878-79 (Mar. 18, 2019); ENV'T PROT. AGENCY, EPA 240-R-13-001, AMERICA'S CHILDREN AND THE ENVIRONMENT 21 (3d ed. 2013), <https://perma.cc/K2EV-EKS2>.

²⁰⁵ *See* Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520, 35,527 (June 22, 2010); *Health Effects of Ozone in Patients with Asthma and Other Chronic Respiratory Disease*, ENV'T PROT. AGENCY, <https://perma.cc/FQ3P-Y7XD> (June 23, 2020).

Those impacts are compounded by the fact that environmental justice communities are already overburdened by pollution.²⁰⁶ An environmental justice analysis that declines to consider impacts below the NAAQS will result in sensitive populations already overburdened with pollution being exposed to additional pollution from natural gas pipelines. While the impacts of exposure below the NAAQS might not always be significant, the Commission must determine whether such exposure from the project will have a disproportionate impact on environmental justice communities.

Respectfully submitted,

/s/ Nardos Girma

Nardos Girma
Regulatory Policy Clinic
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
nardos.girma@law.nyu.edu

/s/ Sarah Ladin

Sarah Ladin
Attorney
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
sarah.ladin@nyu.edu

/s/ Max Sarinsky

Max Sarinsky
Senior Attorney
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
max.sarinsky@nyu.edu

/s/ Jason Schwartz

Jason Schwartz
Legal Director
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
jason.schwartz@nyu.edu

/s/ Helen Sprainer

Helen Sprainer
Regulatory Policy Clinic
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
helen.sprainer@law.nyu.edu

/s/ Burcin Unel

Burcin Unel, Ph.D.
Energy Policy Director
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd Fl.
New York, NY 10012
burcin.unel@nyu.edu

²⁰⁶ EPA has identified higher median blood lead levels among black children and those living in poverty, compared to economically well-off and white children. *See* 2008 Lead Standards, 73 Fed. Reg. at 29,195. Higher concentrations of particulate matter, according to EPA, also exist in communities with lower income, lower rates of education, and higher percentages of minority populations, *see* National Ambient Air Quality Standards for Particulate Matter, 78 Fed. Reg. 3,086, 3,125 (Jan. 15, 2013), and have been linked to “disproportionately high and adverse effects on minority and/or low-income populations.” *Id.* at 3,266.

Dated: May 26, 2021

CERTIFICATE OF SERVICE

In accordance with Rule 2010 of the Commission’s Rules of Practice and Procedure, I hereby certify that I have this day served by electronic mail a copy of the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 26th day of May 2021.

Respectfully Submitted,

/s/ Sarah Ladin

Sarah Ladin

Attorney

Institute for Policy Integrity at

NYU School of Law

139 MacDougal Street, 3rd Fl.

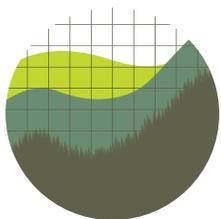
New York, NY 10012

sarah.ladin@nyu.edu



Making Regulations Fair

*How Cost-Benefit Analysis Can Promote Equity
and Advance Environmental Justice*



Institute for
Policy Integrity

NEW YORK UNIVERSITY SCHOOL OF LAW

August 2021

Jack Lienke

Iliana Paul

Max Sarinsky

Burçin Ünel, Ph.D.

Ana Varela Varela, Ph.D.

Copyright © 2021 by the Institute for Policy Integrity.
All rights reserved.

Institute for Policy Integrity
New York University School of Law
Wilf Hall, 139 MacDougal Street
New York, New York 10012

Jack Lienke is the Regulatory Policy Director at the Institute for Policy Integrity at New York University School of Law, where Iliana Paul is a Senior Policy Analyst, Max Sarinsky is a Senior Attorney, Burçin Ünel is the Energy Policy Director, and Ana Varela Varela is an Affiliated Scholar. The authors would like to thank Richard Revesz, Inimai Chettiar, Adam Finkel, Rubén Kraiem, Albert Monroe, Ignacia Moreno, Amelia Salzman, and Katrina Wyman for their valuable feedback.

This report does not necessarily reflect the views of NYU School of Law, if any.

Executive Summary

Since taking office earlier this year, the Biden administration has made “[a]ffirmatively advancing equity” a centerpiece of its policy agenda.¹ As President Biden has recognized, however, the agencies that administer federal regulatory programs currently lack the toolkit necessary to consistently and robustly assess the distributional impacts of their actions.² Without understanding how the costs and benefits of different regulatory options are distributed among subpopulations of particular interest, agencies cannot reliably ensure that their programs do not “perpetuate systemic barriers to opportunities and benefits for people of color and other underserved groups.”³

Accordingly, in his Presidential Memorandum titled *Modernizing Regulatory Review*, President Biden called on the Office of Management and Budget (“OMB”) to “propose procedures that take into account the distributional consequences of regulations, including as part of any quantitative or qualitative analysis of the costs and benefits of regulations, to ensure that regulatory initiatives appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities.”⁴

Offering agencies “concrete suggestions” on how to assess distributional impacts and how to use those assessments in decisionmaking will be key to ensuring that the Biden administration’s equity initiatives yield meaningful and long-lasting reform.⁵ Prior presidential administrations instructed agencies to incorporate distributional concerns into regulatory cost-benefit analyses. But agencies received practically no guidance on *how* to do this, even though they have long had detailed instructions for approaching other aspects of cost-benefit analysis. Absent standardized, cross-agency benchmarks for assessing the quality of agencies’ distributional analyses, questions of equity have received little formal attention from the White House Office of Information and Regulatory Affairs (“OIRA”), the office within OMB that is responsible for reviewing all significant agency regulations prior to proposal and finalization. As a result, cost-benefit assessments for major rulemakings typically focus on aggregate cost and benefit estimates, with little analysis—quantitative or otherwise—of how those costs and benefits are distributed.

This report makes four recommendations to OMB regarding the establishment of standardized procedures for conducting and acting on distributional analyses.

First, OMB should advise agencies to assess regulatory impacts on a more granular scale when practicable. With regard to environmental impacts, for example, OMB should promote the use of detailed spatial modeling to assess how different zip codes and census blocks are affected by changes in pollution, accounting for baseline exposure levels along with existing vulnerabilities and risk factors. This more granular approach will both facilitate more accurate assessments of a rule’s total mortality and morbidity impacts *and* provide an informational foundation for distributional analysis.

Second, OMB should provide comprehensive guidance to agencies on how to disaggregate their total cost and benefit estimates to illuminate whether any economic or demographic group can be expected to disproportionately bear the regulatory burdens or receive the regulatory benefits. Such guidance should, among other things, standardize the groups upon which agencies’ analyses should focus, as this will enable comparison and aggregation of distributional impacts across rulemakings and agencies. We note that the Biden administration has not yet defined “disadvantaged,

vulnerable, or marginalized communities,”⁶ and this report does not purport to identify which groups should be the focus of distributional analysis. However, we recommend that the administration undertake a robust stakeholder process to identify which groups merit particular consideration and what level of analytic granularity is needed to fully assess the impacts of federal action on those groups.

Third, OMB should provide more prescriptive guidance to agencies on incorporating the findings of their distributional analyses into decisionmaking. Currently, agencies are provided minimal guidance on how to weigh distributional effects against other regulatory impacts. Accordingly, agencies exhibit little consistency in their consideration of distributional impacts and frequently default to affording them little or no decisional weight. While precise recommendations on how agencies should balance distributional impacts are beyond the scope of this report, we survey the academic literature and identify approaches that OMB could consider.

Finally, we note that not all regulatory imbalances can or should be addressed on a rule-by-rule basis. The significance of some disparities may become clear only when viewed cumulatively across multiple rulemakings. And even where the distributional analysis of an individual rule reveals a significant disparity, changing the design of the rule may not always be possible or the most effective way to address that disparity; instead, compensatory action elsewhere in the executive branch may be warranted. Thus, our fourth recommendation is for OMB to develop coordinated, interagency strategies for identifying groups that are disproportionately burdened across the regulatory system and compensating those communities using agencies’ regulatory and spending authorities. Regular reports from OMB on disparate impacts could help facilitate this process.

Table of Contents

Executive Summary	i
Background: The Limits of Existing Guidance and Precedent	1
A. Legal Framework for Equity Considerations in Regulatory Cost-Benefit Analysis	1
B. Lack of Routine or Consistent Practice Across Agencies	3
C. Signals of a New Approach	4
Recommendation 1: OMB Should Instruct Agencies to Assess Regulatory Impacts at a Granular Scale, Taking into Account Community Demographics and Existing Risk Factors	6
A. Geographically Granular Analyses Are Key to Unveiling Environmental Injustices	6
B. Granular Analyses Should Incorporate Varying Levels of Vulnerability	8
C. Regulatory Costs Should Also Be Measured Granularly	8
Recommendation 2: OMB Should Provide Agencies with Detailed Guidance on Assessing the Distribution of a Proposed Regulation’s Costs and Benefits Among Demographic Subgroups	10
A. Disaggregated Totals Enable Agencies to More Rigorously Assess Disproportionate Impacts	10
B. OMB Can Facilitate Consistent Disaggregated Analysis by Providing Guidance on Methodology and Approach	11
Recommendation 3: In Addition to Providing Guidance on How to Conduct Distributional Analysis, OMB Should Offer Suggestions for Incorporating the Results of Such Analysis into Regulatory Decisionmaking	13
A. OMB Could Recommend that Agencies Qualitatively Assess the Results of a Disaggregated Cost-Benefit Analysis	14
B. OMB Could Recommend that Agencies Use Quantitative Tools to Evaluate Distributional Outcomes	15
1. Inequality metrics	16
2. Weights based on social welfare functions	19
C. OMB Could Recommend that Agencies Calculate Net Welfare Using Weighted Cost-Benefit Analysis	21
Recommendation 4: OMB Should Lead a Whole-of-Government Approach to Implement Measures to Mitigate Adverse Distributional Impacts Through Interagency Coordination	23
A. OMB and the Domestic Policy Council Should Coordinate Between the Lead Agency and Other Agencies to Address Inequitable Effects	23
B. OMB and the DPC Should Provide Systemwide Oversight	25
Conclusion	27

Background: The Limits of Existing Guidance and Precedent

While executive orders and guidance documents have, for decades, advised agencies to consider equity and fairness when promulgating regulations and setting policy, agencies have not consistently incorporated distributional analysis into their regulatory cost-benefit analyses. This section explores that contrast at a high level, largely faulting the lack of detailed guidance focused on the assessment of distributional impacts or the consideration of those impacts when weighing regulatory alternatives.

This section first provides an overview of executive precedents on distributional analysis, and then discusses the sporadic implementation by agencies.

The Importance of Equity Considerations in Regulation

A common argument against considering distributional consequences in regulatory decisionmaking is that regulations should focus on efficiency (i.e., maximizing aggregate welfare), whereas distributional equity should be left to the tax-and-transfer system.⁷ While a full assessment of this argument is outside the scope of this report, the argument elicits several common rejoinders. Most notably, scholars point out that the tax-and-transfer system, while theoretically better suited to address distributional concerns, is not, as a practical matter, designed to compensate regulatory “losers,” particularly for non-monetary harms such as health risks.⁸ Richard Revesz explores the limitations of the tax-and-transfer system in his 2018 article *Regulation and Distribution*, arguing that “perhaps the most important benefit of environmental, health, and safety regulation is the prevention of premature mortality, and the income tax system is poorly suited to deal with such distributional consequences that are not income-based.”⁹

Additionally, because our society values distributional equity—and because distributional baselines and impacts can inform an assessment of aggregate welfare gains and losses—regulatory analyses that omit distributional impacts do not fully capture welfare effects and thus may not accurately measure efficiency.¹⁰ In an early 2021 article, Zachary Liscow argues that the United States tax code achieves only one-ninth of “the redistribution needed to maximize welfare.”¹¹

A. Legal Framework for Equity Considerations in Regulatory Cost-Benefit Analysis

Distributional concerns have traditionally played a backseat role in regulatory cost-benefit analysis. While relevant executive orders expressly instruct agencies to consider distributional equity, OMB guidance on cost-benefit analysis offers few insights regarding the appropriate form of such an analysis. Additionally, a separate executive order from President Clinton calls on agencies to assess environmental justice impacts, but agencies have rarely integrated that assessment into their broader cost-benefit analysis.

Executive Order 12,866, issued by President Clinton in 1994, requires agencies to conduct cost-benefit analysis for major rulemakings.¹² While a prior executive order issued by President Reagan did call for some assessment of distributional impacts in regulatory analysis,¹³ President Clinton's order more explicitly recognized that equity considerations are relevant in regulatory decisionmaking. Specifically, Clinton's order explains that agencies should select regulatory "approaches that maximize net benefits"¹⁴ and explicitly recognizes that "distributive impacts[] and equity" are relevant to assessing net benefits.¹⁵ The order thus unambiguously recognizes that agencies should incorporate equity considerations into their cost-benefit analyses and regulatory decisions. It does not, however, provide agencies with any instructions on how to do so.

In 1996, OMB convened an interagency working group on cost-benefit analysis that resulted in the publication of a best practices guidance document.¹⁶ This document contained just a brief and mostly non-prescriptive section on distributional effects and equity.¹⁷ For instance, the guidance advised agencies to assess important distributional effects "quantitatively to the extent possible, including their magnitude, likelihood, and incidence of effects on particular groups," but offered no further advice to agencies on how to conduct that assessment.¹⁸ On the question of how to incorporate distributional considerations into decisionmaking, the guidance simply advised regulators that "[t]here are no generally accepted principles for determining when one distribution of net benefits is more equitable than another" and thus warned them to "be careful to describe distributional effects without judging their fairness."¹⁹

Under the George W. Bush administration in 2003, OMB refined and replaced the Clinton-era guidance through the publication of *Circular A-4*, which remains OMB's principal guidance document on cost-benefit analysis. *Circular A-4* recognizes that "removing distributional unfairness" can be a basis for regulation.²⁰ Like the 1996 guidance, however it offers limited technical instruction on assessing distributional effects. While *Circular A-4* advises agencies to "provide a separate description of distributional effects (i.e., how both benefits and costs are distributed among sub-populations of particular concern) so that decision makers can properly consider them along with the effects on economic efficiency," it does not explain how to conduct such an analysis or what demographic subpopulations to consider.²¹ And, while *Circular A-4* echoes the Clinton-era guidance by advising agencies to describe distributional effects "quantitatively to the extent possible," it too lacks further direction on this front.²²

In 2011, President Obama published Executive Order 13,563, which reaffirms the centrality of cost-benefit analysis in regulatory decisionmaking.²³ While noting the continued applicability of Executive Order 12,866,²⁴ President Obama's Order puts additional emphasis on agencies' ability to cite distributional concerns as grounds for regulatory action. Specifically, the Order directs that "[w]here appropriate and permitted by law, each agency may consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts."²⁵ But the Order does not elaborate on how agencies should consider these impacts, nor did the Obama administration publish any related guidance documents to supplement *Circular A-4's* instructions on this topic.

In addition to these executive orders and guidance documents on cost-benefit analysis, there is a parallel and largely distinct line of authority on environmental justice considerations in agency decisionmaking. Executive Order 12,898, issued by President Clinton in 1994, requires agencies to identify and seek to address adverse environmental and human-health impacts of all federal administrative programs (including regulations) on minority and low-income populations.²⁶ Guidance documents—issued by the White House Council on Environmental Quality under the Clinton administration²⁷ and the Interagency Working Group on Environmental Justice under the Obama administration²⁸—provide detailed instruction on identifying and assessing a broad range of potential disparate impacts in environmental justice analyses conducted under Executive Order 12,898. But these documents offer sparse direction on how environmental-justice analysis for rulemakings should interact, if at all, with regulatory cost-benefit analysis.

The Environmental Protection Agency (“EPA”) has released its own guidance documents on considering equity and environmental justice in cost-benefit analysis. The agency’s *Guidelines for Preparing Economic Analysis* contains a chapter focused on assessing distributional considerations and incorporating them into a cost-benefit analysis.²⁹ In 2016, EPA issued a document building off of this chapter that provides the most detailed guidance to date on “methods for analysts to use when assessing potential environmental-justice concerns in national rules.”³⁰ This EPA guidance recommends that analysts “estimate[] health and environmental risks, exposures, outcomes, benefits and other relevant effects disaggregated by income and race/ethnicity” whenever possible.³¹ Among other issues, the document addresses key analytical considerations and provides technical guidance on assessing the distribution of both regulatory costs and benefits.³² Published in the final months of President Obama’s second term, however, this guidance was largely ignored during the Trump administration, and its recommendations have not been extended to other agencies.

B. Lack of Routine or Consistent Practice Across Agencies

In the absence of detailed guidance from the White House on distributional analysis, individual agencies have mostly failed to develop a consistent set of best practices for assessing the distributional outcomes of their regulations. Studies show that agencies rarely provide quantitative analysis of distributional considerations and hardly ever cite fairness and environmental justice as a basis for rulemaking.

Lisa Robinson, James Hammitt, and Richard Zeckhauser conducted what is perhaps the most comprehensive evaluation to date of the role of distribution in regulatory impact analysis, analyzing dozens of major regulations promulgated during President Obama’s first term.³³ In their study, Robinson et al. find few consistent practices across agencies and across analyses, a lack of quantification of distributional impacts, and a general inattention to equity. For instance, the authors note that agencies “rarely quantify the distribution of health-risk reductions across [demographic] groupings” and “[i]n most cases . . . they simply certify that the regulation . . . does not adversely affect the health of minorities, low-income groups, or children” without detailed analysis.³⁴ The authors find even less attention to the distribution of compliance costs, with agencies regularly failing to estimate how profits, price changes, or payroll and employment impacts fall on different demographic groups.³⁵ In sum, the authors conclude, “[n]et tallies of costs and benefits for different groups are simply not available” and thus “it is not possible to estimate the distribution of net benefits” using existing agency analyses.³⁶ This conclusion largely mirrors the findings of an analysis by Carl F. Cranor and Adam M. Finkel, which concludes that agencies often “anecdotally mention[] the subpopulations and individuals who may bear disproportionate costs or reap disproportionate benefits” without providing quantitative analysis. These scholars note that particularly little attention is paid to assessing whether “the costs of regulations might be distributed either regressively or progressively.”³⁷

Analyses of Executive Order 12,898’s impact similarly find that the Order has neither resulted in robust analyses nor substantially affected policy outcomes. For instance, one study finds that agencies typically either ignore Executive Order 12,898 or satisfy its demands through “boilerplate rhetoric” that is “devoid of detailed thought or analysis.”³⁸ Another survey concludes that interest in environmental justice has waxed and waned across presidential administrations and that agencies have sometimes passed off environmental-protection measures that they would have taken anyway as “environmental justice.”³⁹ Given the lack of guidance on how to integrate the findings of an environmental-justice analysis with those of a broader cost-benefit analysis, moreover, agency findings under Executive Order 12,898 are typically not integrated into agencies’ broader assessments of rules’ economic impacts.⁴⁰

There are a handful of cases in which agencies explicitly relied upon distributional equity as a basis for rulemaking. For instance, in 2014 the National Highway Traffic Safety Administration (“NHTSA”) relied on equity and justice concerns in promulgating a regulation mandating backup cameras on all new vehicles.⁴¹ Despite acknowledging that the rule’s costs exceed its monetized benefits,⁴² the agency nonetheless concluded that justice considerations (along with nonmonetized benefits) justified the regulation, highlighting the rule’s beneficial outcomes for children, people with disabilities, and the elderly, who collectively are disproportionately the victims of back-over crashes.⁴³ But NHTSA’s analysis, though laudable in many respects, was incomplete in others. In particular, the agency ignored the distribution of regulatory costs and offered a somewhat opaque explanation of how it balanced quantified costs and benefits with equity effects.

There are many other examples of agencies disregarding key distributional impacts. Under the Trump administration, in particular, agencies routinely ignored (or minimally considered) regressive regulatory impacts with limited discussion or quantitative analysis. In one egregious example, the Department of Agriculture finalized a regulation tightening eligibility for the Supplemental Nutrition Assistance Program that, by the agency’s estimates, would cause 688,000 individuals to lose their food-assistance benefits.⁴⁴ Although the rule would substantially and almost exclusively burden low-income individuals, the Department of Agriculture provided just a short section on distributional impacts that briefly estimated the racial breakdown of disenrollees without acknowledging the rule’s regressive economic effect.⁴⁵ Moreover, these important distributional concerns did not appear to factor into the agency’s determination.⁴⁶

Various scholars have argued that disregarding distributional impacts in cost-benefit analyses has led agencies to fail to remediate—and sometimes even exacerbate—existing inequalities. In their article *Pricing the Priceless*, for instance, Frank Ackerman and Lisa Heinzerling claim that agency cost-benefit analysis “has the effect of reinforcing[] patterns of economic and social inequality.”⁴⁷ Building upon this critique, Melissa J. Luttrell and Jorge Roman-Romero argue that agency use of cost-benefit analysis frequently “maintains and worsens . . . racially inequitable disparities . . . by ignoring—or dramatically undervaluing—equity concerns, even when the statute at issue is meant to reduce disparities.”⁴⁸ And other scholars and advocates have observed that the use of cost-benefit analysis in federal spending and grant programs can lead to money being inequitably directed to wealthier communities.⁴⁹

In short, agency cost-benefit analyses rarely integrate distributional impacts in a meaningful fashion, and agencies have not developed consistent practices for considering equity as part of regulatory decisionmaking.

C. Signals of a New Approach

After vowing as a candidate to focus on environmental justice and racial equity,⁵⁰ President Biden began a process hours after his inauguration to reform regulatory review with the hopes of better incorporating distributional impacts.

In a Presidential Memorandum signed the afternoon of his inauguration titled *Modernizing Regulatory Review*, President Biden tapped OMB to lead an interagency process to identify “concrete suggestions on how the regulatory review process can promote public health and safety, economic growth, social welfare, racial justice, environmental stewardship, human dignity, equity, and the interests of future generations.”⁵¹ Among other directives, the Memorandum instructs OMB to develop practices to better “account [for] the distributional consequences of regulations” and “ensure that regulatory initiatives appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities.”⁵²

Also on the first day of his term, President Biden signed Executive Order 13,985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*.⁵³ The Order identifies how “[e]ntrenched disparities [have] denied . . . equal opportunity to individuals and communities,” including those disparities created by public policy.⁵⁴ Accordingly, the Order calls on the federal government to “pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.”⁵⁵ Among other things, the Order tasks OMB with “assessing whether agency policies and actions create or exacerbate barriers to full and equal participation by all eligible individuals,” assisting agencies in “assess[ing] whether underserved communities and their members face systemic barriers in accessing benefits and opportunities available pursuant to [federal] policies and programs,” and “identify[ing] opportunities to promote equity in the budget that the President submits to the Congress.”⁵⁶

This Order also instructs the White House Domestic Policy Council to “coordinate efforts to embed equity principles, policies, and approaches across the Federal Government,” including by “identify[ing] communities the Federal Government has underserved, and develop[ing] policies designed to advance equity for those communities.”⁵⁷ In addition, the Order establishes an Equitable Data Working Group, which includes an OMB designee among its membership and which is tasked with reviewing existing data collection practices and providing recommendations for “expand[ing] and refin[ing] the data available to the Federal Government to measure equity.”⁵⁸

A week after signing Executive Order 13,985, President Biden issued a separate, sweeping executive order calling for widespread action to combat climate change.⁵⁹ Most relevant for this report, Executive Order 14,008 reaffirms “that environmental and economic justice are key considerations” for agencies and creates a White House Environmental Justice Advisory Council to identify avenues to “increase the Federal Government’s efforts to address current and historic environmental injustice, including recommendations for updating Executive Order 12898.”⁶⁰ It also calls on the Council on Environmental Quality to “create a geospatial Climate and Economic Justice Screening Tool and . . . annually publish interactive maps highlighting disadvantaged communities,”⁶¹ which will facilitate agencies’ abilities to use appropriately granular data. In May 2021, three working groups of the White House Environmental Justice Advisory Council,⁶² released initial recommendations for the new tool, including that it should “be integrated and/or supplemented with local community knowledge,” “be continually updated and improved as new data becomes available,” and “be leveraged to track progress on [environmental justice] goals.”⁶³

Other relevant agencies and councils have also begun their work to implement President Biden’s executive orders. In late March, the Environmental Justice Advisory Council held its first public meeting, at which members signaled a broad openness to numerous reforms to emphasize environmental justice in federal policymaking. And in early May, OMB put out a request for information seeking to identify “effective methods for assessing whether agency policies and actions . . . equitably serve all eligible individuals and communities, particularly those that are currently and historically underserved.”⁶⁴ Among other queries, the request seeks guidance on “new approaches” that agencies could take to “conduct effective equity assessments” of proposed policies or regulations.⁶⁵

RECOMMENDATION 1:

OMB Should Instruct Agencies to Assess Regulatory Impacts at a Granular Scale, Taking into Account Community Demographics and Existing Risk Factors

A critical first step to identify and address distributional regulatory concerns is to identify who is being affected by a regulation (i.e., affected groups or communities) and to what degree. Measuring impacts at aggregate scales can hinder this objective, as group averages often mask disparate effects across communities and fail to accurately capture total regulatory impacts. Thus, in order to improve quantification of total regulatory impacts and enable better identification and analysis of disproportionate effects, regulators should measure effects as granularly as possible, considering different levels of exposure and risk factors of affected communities. These granular measurements could lay the foundation for regulatory analyses that better account for distributional impacts, as discussed in the next section of this report. As noted earlier, this report does not attempt to identify which subpopulations should be examined in a distributional analysis. That list should be the product of a robust stakeholder engagement process. Relevant subpopulations would likely include, however, at least some of those demographic groups identified in Executive Order 13,985.⁶⁶

This section explains how granular measurements could unmask disparities in the intensity of regulatory impacts, account for different risk factors of affected groups, and generate more accurate analyses of both regulatory benefits and costs. The examples in this section are drawn from air-quality regulations, where impacts are heavily determined by geographical space, and hence geographically granular measurements are required to best assess regulatory effects. However, the advantages of granular analyses in the measurement of distributional outcomes extend beyond air or even environmental regulation. Indeed, they apply to any policy whose disproportionate effects on vulnerable individuals or communities are masked by population averages. The Equitable Data Working Group—established under Executive Order 13,985 to disaggregate federal data sets by “race, ethnicity, gender, disability, income, veteran status, or other key demographic variables”—is already collecting much of the data that could be useful for such analyses,⁶⁷ and OMB should recommend that agencies make use of this data (and other available disaggregated data) whenever possible.

A. Geographically Granular Analyses Are Key to Unveiling Environmental Injustices

Recent research in public health and economics that applies novel modeling techniques and disaggregated demographic data highlights how a granular analysis of impacts might better reveal environmental injustices in ways that a coarser analysis cannot. For instance, a team of researchers led by Andrew L. Goodkind measure PM_{2.5}-related health damages at a fine geographical scale (down to one kilometer).⁶⁸ They find that a large share of damages⁶⁹ is borne by populations living very close to emission sources (i.e., affected communities): a third of total damages happen within five miles of the source of pollution. As a result, health damages associated with one more unit of emissions can vary by an order of

magnitude within a single county. Likewise, Janet Currie, Lucas Davis, Michael Greenstone, and Reed Walker find that toxic emissions from industrial plants cause low infant birthweight only in narrow areas surrounding a plant.⁷⁰ In those cases, a county aggregate—let alone a state or national estimate—would obscure the disproportionate effects of those populations more directly affected by pollution. And, depending on the number and demographics of the individuals living within the proximate range of the relevant plants, larger aggregates could significantly under- or over-estimate the total regulatory effect.

More granular analysis could also be used to better assess the scope and distribution of more distant pollution harms. This is particularly important in the case of diffuse pollutants, such as fine particulate matter or arsenic contamination of drinking water, whose adverse effects can propagate through narrow paths across large spatial areas.⁷¹ Hence, Goodkind et al., in their fine-scale analysis of PM_{2.5} pollution damages, find that a sizable share of pollution harm is borne by populations living more than 150 miles from a pollution source.⁷² Recent research also shows that 99% of coal plant emissions leave the counties from which they are emitted after only six hours.⁷³ These findings reveal that limiting the exploration of environmental injustices to nearby, “frontline” communities—even in cases of pollutants that are often considered “local,” such as primary particulate matter—might be overly simplistic in certain cases. In actuality, pollution can affect distant narrow areas (as determined by wind patterns and atmospheric conditions, or water bodies). Granular analysis of pollution impacts, unlike aggregate county- or state-level analyses, allows for identification of geographic communities near and far from pollution sources that stand to suffer disproportionate harms.

To best assess impacts at a granular scale, agencies should exhibit a preference for census block data as opposed to larger geographic units such as census tracts. Choosing a larger geographic unit of analysis could result in a disadvantaged community being outnumbered by a surrounding population, masking its presence in the analysis. EPA has long cautioned against this potential outcome, pointing out that “pockets of minority or low-income communities, including those that may be experiencing disproportionately high and adverse effects, may be missed in a traditional census tract-based analysis.”⁷⁴



B. Granular Analyses Should Incorporate Varying Levels of Vulnerability

Besides identifying different levels of exposure, granular measurements would also enable better integration of the risk factors associated with affected communities (and subpopulations within those communities), allowing analysts to better translate pollution levels into public-health impacts. Populations with different socioeconomic characteristics can differ in their vulnerability to changes induced by regulation, as an additional unit of pollution more severely affects a more vulnerable population than a less vulnerable one.⁷⁵ As a result, granular analysis is critical not only to identifying the affected communities, but ultimately to accurately estimating the public-health impacts of the regulation that are influenced by the profile of the communities affected. Due to differing levels of vulnerability, a regulation could result in disproportionate effects even if all communities are equally exposed to the same levels of pollution (although such uniform exposure rarely occurs).⁷⁶

Granular-level analysis that considers socioeconomic risk factors could reveal regulatory impacts that a county- or region-wide analysis would likely miss. To provide just one example, a study by Tatyana Deryugina and a team of researchers finds that more vulnerable elderly populations (e.g., those more frequently suffering chronic health conditions) are more susceptible to pollution increases than other elderly communities, yet they tend to live in areas with *lower* average pollution levels.⁷⁷ Hence, reducing pollution in highly polluted areas may not always maximize public-health gains, as community demographic risk factors are equally important to the assessment. Because vulnerable populations tend to be concentrated in particular, sub-county geographic areas, regulatory impacts estimated at the county level would fail to capture the disparate vulnerability levels of different communities and thus would not fully capture public-health impacts.

Considering local-level demographic risk factors would improve our understanding of both the aggregate and distributional impacts of many regulations. For instance, the average dose-response function between particulate matter concentration and mortality identified in a 2009 study of the American Cancer Society is widely used in the quantification of costs related to pollution exposure,⁷⁸ including by EPA's Co-Benefits Risk Assessment Health Impacts Screening and Mapping Tool.⁷⁹ However, that same study also shows that mortality risk from pollution exposure is negatively correlated with educational attainment: for instance, lung-cancer mortality risk associated with a change of $10 \mu\text{g}/\text{m}^3 \text{PM}_{2.5}$ concentration is approximately 20% higher for those without post-secondary education. The use of disaggregated risk estimates would thus enable a more accurate estimate of pollution mortality and morbidity.⁸⁰ By doing so, it could reveal both efficiency and distributional impacts that might be overlooked when using average population risks.

C. Regulatory Costs Should Also Be Measured Granularly

To more fully assess distributional impacts, regulators should seek to granularly estimate costs as well as benefits.⁸¹ Even environmental regulations that bring health-related benefits to some affected communities could impose disproportionate costs on these same communities if, for instance, they are dependent on the pollution sources for jobs or would face higher prices for common consumer goods. These costs might offset health-related benefits in some cases.⁸² Hence, regulatory analysis should seek to assess both benefits and costs on a granular scale.

Assessing who bears regulatory costs due to changing energy prices or wages at a granular scale could be more challenging than granularly evaluating health-related impacts. As described above, health impacts could be estimated using readily available air-transport models⁸³ and census demographic data. However, the distribution of regulatory costs would

usually depend on responses by firms and customers that are more complex to model (e.g., Would a firm pass costs incurred from a pollution-reducing policy to customers? Or would it rather decrease wages? How would customers/employees react to those changes?). For instance, regulations that cause a price increase in inferior goods (i.e., those for which demand decreases as consumer income rises) will tend to disproportionately burden low-income individuals and groups, whereas regulations that cause a price increase in normal goods (i.e., those for which demand increases as consumer income rises) will more heavily burden high-income individuals and groups.

Recent research has made advances in modeling these interactions. For instance, Dallas Burtraw, Maya Domeshek, and Amelia Keyes analyze how energy expenditures and income sources might change for populations with different income levels as a result of setting a federal carbon tax, showing that the details of implementation determine whether the policy is progressive or regressive.⁸⁴ When similar analytical models are not readily available, Lisa Robinson and her co-authors suggest performing a “bounding analysis” that assumes that costs are passed on “as changes in prices, wages, and/or returns to capital in both the short and long runs.”⁸⁵ Comparing these different scenarios using disaggregated data on product purchases, wages by occupation, etc. would shed light on the potential distributional consequences of a policy, and consequently, allow a granular estimation of net benefits even when analysts are more data- or resource-constrained.

Case Study: Geographically granular analyses and environmental justice at EPA

EPA has long recognized the need to evaluate impacts at granular and disaggregated levels in order to address environmental justice, even if this recognition has not always been translated into policymaking. As early as 1995, and in response to Executive Order 12,898, EPA announced its goal that “no segment of the population, regardless of race, color, national origin, or income, as a result of EPA’s policies, programs, and activities, suffers disproportionately from adverse human health or environmental effects.”⁸⁶ However, in the decades following this statement, EPA’s regulatory analyses were not typically carried out with a level of granularity to identify disproportionate impacts on different segments of the population. Indeed, most EPA analyses have incorporated environmental justice concerns only with “perfunctory, pro forma assertions,” mostly stating that “a plan of environmental justice compliance was not needed because there would be no adverse impact.”⁸⁷

More recently, EPA has highlighted the importance of granular regulatory analysis in its detailed technical guidance issued during the last months of the Obama administration.⁸⁸ This guidance has the stated objective of assisting EPA’s analysts in ensuring that “potential [environmental justice] concerns are appropriately considered and addressed in the development of regulatory actions.”⁸⁹ Though it stresses that any analysis will be limited by the data available, the guidance highlights that a best practice is to “disaggregate data to reveal important spatial differences (e.g., demographic information for each facility/place) when feasible and appropriate.”⁹⁰ In the case of air regulations, the guidance emphasizes that “finer-scale air quality, health, and socioeconomic data allow one to assess the distribution of air pollution impacts across key population groups of concern and to have greater confidence in the conclusions drawn from these data.”⁹¹ As noted in this section, such a granular analysis of pollution impacts should be feasible in most contexts using readily-available air transport models and census demographic data.

RECOMMENDATION 2:

OMB Should Provide Agencies with Detailed Guidance on Assessing the Distribution of a Proposed Regulation’s Costs and Benefits Among Demographic Subgroups

Equipped with granular measurements of regulatory costs and benefits that consider different impact intensities and risk factors across subpopulations, a regulator could tally how those costs and benefits are distributed among discrete demographic groups. OMB should encourage agencies to provide such demographically disaggregated totals—in addition to aggregate calculations of costs and benefits—whenever possible. OMB should also publish guidance on conducting such an assessment, including a list of subpopulations to consider.

A. Disaggregated Totals Enable Agencies to More Rigorously Assess Disproportionate Impacts

As detailed in the Background section, executive orders and guidance on cost-benefit analysis have long called for agencies to quantify the distributional impacts of regulations, but these documents offer little direction on the form or contents of such an analysis.⁹² To promote better and more consistent distributional analysis, OMB could provide more prescriptive and detailed guidance on this front. In particular, OMB could instruct agencies to provide disaggregated cost and benefit estimates, in addition to the population-wide estimates that agencies normally provide, that evaluate how both positive and adverse regulatory impacts are distributed across specified subpopulations.

Such analysis would enable regulators to assess not only how costs and benefits are dispersed among different subpopulations, but also whether the rule is more or less net-beneficial for those groups than it is for the remainder of the population. This would help regulators understand the magnitude of distributional consequences (including the distribution of benefits, costs, and net benefits) and potentially dispel false assumptions about their magnitude.⁹³ And by consistently disaggregating monetized cost-benefit totals along the same demographic lines, where possible, agencies (and OMB) could also assess whether subpopulations of particular concern are benefitted across the regulatory system, and consider whether disparate impacts of particular rules are offset or compounded by the effects of other rules. Such findings could be reported on a regular basis (e.g., yearly) as part of a suite of information that informs future actions.

Like good cost-benefit analysis itself, moreover, disaggregated estimates could also improve agency decisionmaking by “better inform[ing]” the public and decisionmakers on the regulation’s distributional impacts and thereby “reduc[ing] interest group power over” the rulemaking process.⁹⁴ According to former OIRA administrator John Graham, advocates for low-income groups are underrepresented among lobbyists,⁹⁵ and so adding a “distributional test” to cost-benefit analysis would help ensure that “regulators . . . seriously consider the impact” of regulations on marginalized groups.⁹⁶ Clear, disaggregated data would also help engage stakeholders in the regulatory review process on distributional issues and facilitate dialogue between the public and the regulating agency on distributional impacts.

B. OMB Can Facilitate Consistent Disaggregated Analysis by Providing Guidance on Methodology and Approach

Despite not being widely implemented in regulatory analysis, the notion of disaggregating regulatory impacts along demographic lines is well-established in the academic literature.⁹⁷ But disaggregation can be very challenging. Without further guidance and standardization, agencies may continue struggling to assess distributional considerations in a rigorous and consistent fashion.

OMB should thus prepare guidance on methodologies for assessing distributional impacts. Such guidance should recommend methodologies for disaggregating and monetizing benefits, as well as methodologies for disaggregating and monetizing costs, and provide guidelines on the demographic subpopulations that agency analyses should consider. This section discusses those different elements, in that order.

For disaggregating benefits, EPA's 2016 technical guidance on incorporating environmental justice into cost-benefit analysis offers a useful starting point. In particular, that document provides detailed advice for analysts on disaggregating health impacts along geographic, and ultimately demographic, lines using mapping and data on exposure and baseline vulnerability.⁹⁸ As detailed in Recommendation 1, *supra*, regular usage of these state-of-the-art tools would enable agencies to better estimate both the scale and distribution of environmental benefits. As noted above, the Council on Environmental Quality is launching a new interactive mapping tool that would support the collection and consolidation of disaggregated data. Although OMB should broaden its guidance beyond environmental regulations, the core approach in EPA's guidance—incorporating scientific and demographic data to measure benefits at a granular scale—can be generalized and supplemented to facilitate disaggregated estimates of all benefits, both environmental and non-environmental.

As an example of using granular data to calculate benefits and costs on demographic subpopulations, Ronald J. Shadbegian, Wayne Gray, and Cynthia Morgan performed such an analysis in a paper looking at the impacts of EPA's sulfur dioxide trading program on various demographic subpopulations.⁹⁹ In their analysis, the authors began by looking at the distribution of sulfur-dioxide emission reductions by geographic area. They then looked at the demographic makeup of each geographic area to transpose geographic impacts into demographic effects. Specifically, the analysts assessed the rule's benefits and costs on five different demographic subpopulations based on race (Black and Hispanic), income (those below the poverty level), and age (children under 6 and the adults over 65).¹⁰⁰ While this analysis is from 2005 and does not make full use of high-resolution granularity now available, a more granular analysis would enable even more reliable translation of localized impacts into demographic assessments. In a 2014 assessment, for instance, a group of researchers from Resources for the Future performed a disaggregated cost-benefit analysis of several "smart growth" policies, analyzing their costs and benefits for numerous demographic subpopulations.¹⁰¹

As part of its guidance on disaggregating benefit estimates, OMB should provide particular guidance on how agencies should monetize health and welfare impacts that have been disaggregated along demographic lines. While some scholars have suggested using different willingness-to-pay values particular to each subpopulation,¹⁰² one's willingness to pay is bounded by wealth and income and therefore does not fully reflect the value that one ascribes to a particular benefit. Especially if regulators assess benefits disaggregated by income groups, the use of particularized in-group willingness-to-pay values will thus undervalue benefits received by low-income groups and produce a skewed picture of regulatory impacts. Accordingly, the most defensible approach is to use the same monetized values for health and welfare benefits across all demographic groups.¹⁰³

In addition to its normative advantages, using a constant value is also consistent with existing regulatory precedent, which could bolster its legal justification. For instance, EPA applies a constant value of a statistical life for all individuals, despite some empirical evidence suggesting that younger and healthier individuals may place a higher value on the avoidance of small mortality risks¹⁰⁴ (and the fact that ability to pay is higher among wealthier individuals¹⁰⁵). And in the United Kingdom, cost-benefit analyses from the Department of Health apply demographic disaggregation while also using constant monetary valuations of health benefits across demographic groups.¹⁰⁶ OMB should provide clear guidance on the use of constant monetized values across demographic subpopulations to ensure consistent practices between agencies.

In addition to benefits, OMB should provide guidance on disaggregating regulatory *costs* along demographic lines, as “the distribution of health or environment effects alone,” without disaggregated cost estimates, “might convey an incomplete—and potentially biased—picture of the overall burden faced by population groups of concern.”¹⁰⁷ As detailed in Recommendation 1, frequently “data or methods may not exist for [a] full examination of the distributional implications of costs across population groups of concern.”¹⁰⁸ Nonetheless, as noted therein, the distribution of costs could be assessed based on data such as the pass-through of compliance costs to consumers and the demographic makeup of the relevant consumer base and labor force.¹⁰⁹ Such cost data, to the extent available, could be disaggregated to estimate the breakdown of regulatory costs along different population subgroups. OMB could facilitate such analysis across the regulatory state by expanding on EPA’s guidance to encompass cost considerations outside the environmental sphere.

OMB should also identify a manageable list of subpopulations for agencies’ analyses to consider. Executive Order 12,898 targets the dimensions of income and race, with its focus on “minority populations and low-income populations.”¹¹⁰ Executive Order 13,985 lists a number of specific groups that have been historically underserved.¹¹¹ Other demographic characteristics such as age or health status may also be relevant, as illustrated by NHTSA’s 2014 regulation involving backup cameras.¹¹² While all of these dimensions are important and merit consideration, disaggregating costs and benefits along demographic lines is challenging and time-consuming, and there is a risk that agencies may delay important regulations—or simply eschew recommended procedures for distributional analysis—if asked to perform quantitative analysis along numerous dimensions.

In providing guidance on the groups on which agency analyses should focus, OMB may wish to consider such factors as the prominence of different demographic indicators in concerns about distribution and equity, the availability of data, and the compatibility of different metrics with quantitative decisionmaking tools. Distributional breakdowns by income group fare especially well on the last criteria, as there is voluminous research translating income gains or losses into utility effects.¹¹³ While disaggregated data based on race could also be highly informative regarding a regulation’s racial or environmental justice impacts, agencies should exercise caution about factoring that data into regulatory decisionmaking since it could also implicate thorny constitutional issues.¹¹⁴ As noted above, the federal government should engage stakeholders in identifying which groups to consider. Recommendations on which groups to choose are outside the scope of this report.

Whatever OMB recommends, it may wish to preserve flexibility for agencies to additionally consider a wide range of potential distributional considerations, either quantitatively or qualitatively, on a case-by-case basis (on top of the default analysis that OMB recommends). Important effects on particular communities—based on age or health status, for example¹¹⁵—could be considered in individual rulemakings even if it may not be feasible for agencies to quantitatively assess costs and benefits for that subpopulation in every rule.

RECOMMENDATION 3:

In Addition to Providing Guidance on How to Conduct Distributional Analysis, OMB Should Offer Suggestions for Incorporating the Results of Such Analysis into Regulatory Decisionmaking

Even if agencies gather detailed data on how costs and benefits are distributed among discrete demographic groups as described above, current authorities offer little guidance on what they should do with that data. For instance, *Circular A-4* instructs agencies to perform a distributional analysis but then says nothing about how to incorporate that analysis into the ultimate decision of which regulatory alternative to select. In other words, agencies have no guidance on how to weigh the desirability of a potential rule's distributional effects against other attributes of that rule, such as its total net benefits.

This section discusses three possible approaches to factoring distributional consequences into regulatory decisionmaking:

1. Qualitatively assessing the desirability of distributional outcomes from a disaggregated cost-benefit analysis.
2. Using quantitative tools that enable regulators to assess the desirability of distributional outcomes.
3. Using weighted cost-benefit analysis that directly incorporates distributional outcomes into aggregated cost and benefit totals.

The first option is premised on the status quo, where OMB grants agencies broad discretion to determine whether and how distributional desirability should affect their decisions.

The second is to recommend standardized metrics for scoring policies' distributional outcomes, which agencies could use to supplement a traditional cost-benefit analysis.¹¹⁶ These approaches include inequality metrics and social welfare functions that enable agencies to “score,” or assess the desirability of, different distributional outcomes. While this approach leaves agencies discretion as to how to use those scores when selecting among regulatory options, OMB could recommend that agencies treat these scores similarly to other nonmonetized effects.

The third option is to fully integrate distributional effects into the bottom line of a cost-benefit analysis by using distributional weights that reflect the diminishing marginal utility of income (recognizing that a dollar is worth more to a poor person than a rich one) or the diminishing marginal utility of well-being more broadly understood,¹¹⁷ based on a utilitarian social welfare function. Alternately, OMB could recommend that agencies use weights that reflect an ethical choice to prioritize net benefits for worst-off individuals or groups, based on a prioritarian social welfare function. Rather than supplementing a traditional cost-benefit analysis, these metrics would effectively replace that traditional analysis.



OMB should use a consultative process to determine which of these approaches, if any, best meets the goals of stakeholders. Public input should also inform how the results of distributional analyses—and the data underlying those analyses—are presented, as not only agencies, but also community groups and other organizations may benefit from access. Whichever approach it chooses, we urge OMB to provide agencies with step-by-step guidance on how to implement that approach and assess—whether quantitatively or not—the magnitude or significance of distributional consequences relative to a proposed action’s other effects (including aggregate monetized costs and benefits). We note that any approach to distributional analysis, including the status quo approach, requires a regulator to make explicit value judgments.¹¹⁸ Transparency regarding such judgments is key to ensuring consistent and robust distributional analysis.

A. OMB Could Recommend that Agencies Qualitatively Assess the Results of a Disaggregated Cost-Benefit Analysis

Regulators could treat the findings of a disaggregated cost-benefit analysis the way they would treat a nonmonetized cost or benefit. Under this approach, an agency could use its discretion when evaluating the significance of a proposal’s distributional effects and incorporating that evaluation into its regulatory decision. While this qualitative assessment resembles how agencies currently treat distributional impacts, agencies would now have quantitative support for their decisions from their disaggregated cost-benefit totals.

This would not be such a departure from current practice, as agencies are already making judgments like this when faced with important but nonmonetized risk reduction or health effects. Indeed, rules have been justified on the significance of their unquantified benefits in the past. For example, EPA promulgated a rule in 2015 on phosphoric acid manufacturing and phosphate fertilizer production despite finding that rule to be net-costly based on monetized impacts alone.¹¹⁹ Though the agency relied on the nonmonetized benefits of mercury emissions reductions, EPA concluded that the rule was net-beneficial on the whole and therefore justified. Specifically, EPA explained that the rule “will mitigate future

[mercury] emissions ... by requiring compliance with numeric emission limits,”¹²⁰ thereby “result[ing] in improvements in air quality and reduced negative health effects associated with exposure to air pollution of these emissions.”¹²¹ However, EPA did not monetize the benefits of reducing mercury emissions because it lacked adequate data to do so.¹²² Similarly, the Bureau of Land Management justified its 2015 hydraulic fracturing rule despite an absence of monetized benefits by concluding that not being able to put a number on the risk reduction associated with the rule “does not mean that the rule is without benefits.”¹²³

Circular A-4 also broadly endorses the consideration of nonmonetized benefits (and costs), explaining that “[w]hen there are important non-monetary values at stake,” a regulator should “also identify them in [the] analysis so policymakers can compare them with the monetary benefits and costs.”¹²⁴ Accordingly, regulators should “exercise professional judgment in determining how important the non-quantified benefits or costs may be in the context of the overall analysis.”¹²⁵

Agencies could treat the findings of their distributional analysis in the same manner. For instance, if a proposal has desirable enough distributional effects, those effects could allow a regulator to justify choosing this option even if it has lower net benefits than the other alternatives examined. Similarly, an agency could choose not to pursue the most net-beneficial option (according to aggregated, traditional cost-benefit estimates) if its distributional outcomes are undesirable. This ranking could be done by looking at the results of a disaggregated cost-benefit analysis and making normative judgments about the desirability of distributional outcomes—much like how regulators often consider other nonmonetized effects.

B. OMB Could Recommend that Agencies Use Quantitative Tools to Evaluate Distributional Outcomes

If a regulator is treating the results of a disaggregated cost-benefit analysis like a nonmonetized effect, it is important that those effects “be categorized or ranked in terms of their importance within the decision-making context.”¹²⁶ Like with nonmonetized effects, the more underlying data to guide such an analysis, the better.¹²⁷ While distributional impacts could be ranked without further quantitative analysis, as discussed above, various quantitative methodologies to assess the results of a disaggregated cost-benefit analysis would greatly aid in the process of assessing and contextualizing different distributional outcomes.

If it pursues this approach, OMB should recommend standardized metrics for assessing distributional outcomes that regulators could then weigh against monetized costs and benefits. These metrics could be inequality metrics that are commonly used in the literature or they could be based on social welfare functions. The decisionmaker could also use this information to determine if some other quantitative analytical tool, like a breakeven analysis, would be useful. In breakeven analysis, if faced with a net-costly rule with nonmonetized benefits, the regulator tries to determine “[h]ow small ... the value of the non-quantified benefits [would] be ... before the rule would yield zero net benefits.”¹²⁸

The following subsections describe several analytical tools that could be used to more easily rank and compare policy proposals based on distributional outcomes or distributional desirability. As noted above, policymakers could treat their findings from these methodologies as they would a nonmonetized effect: the findings could factor into their decision, even to justify choosing a less net-beneficial alternative, but to what extent this information plays a role would be at the policymaker’s discretion. In other words, these quantitative metrics could be presented alongside traditional cost-benefit analysis, with the regulator choosing how much weight to give each analysis in the decisionmaking process.

Quantitative Tools for Incorporating Distributional Considerations into Decisionmaking

Tool	Numerical Output	Possible Information ¹²⁹
Gini Coefficient	A number between 0 and 1. A higher value denotes greater inequality.	A ratio representing the projected distribution of an impact (e.g., cost or benefit) in a given policy scenario compared to an equal distribution of said impact.
Atkinson Index	A number between 0 and 1. A higher value denotes greater inequality.	A ratio representing the projected distribution of an impact in a given policy scenario compared to an equal distribution of said impact, reflecting societal preferences about inequality. The greater the societal aversion to inequality, the more sensitive the ratio is to unequal distribution of outcomes.
Theil Index	A number between 0 and infinity. A higher number denotes greater inequality.	A number representing how far the projected distribution of an impacts from a scenario where said impact is distributed equally.
Utilitarian Weighted Cost-Benefit Analysis	A dollar value for net benefits.	Aggregate costs and benefits of a rule if willingness to pay for a specific impact of the rule is weighted to reflect the diminishing marginal utility of income.
Prioritarian Weighted Cost-Benefit Analysis	A dollar value for net benefits.	Aggregate costs and benefits of a rule if willingness to pay for a specific impact of the rule is weighted so that improvements to the worst off are prioritized above other welfare impacts.

1. *Inequality metrics*

One option is for regulators to assess policy outcomes using inequality metrics. Inequality metrics take a range of inputs, like individual-, household-, or group-level characteristics (e.g., income, health status, or exposure to a particular pollutant), apply a formula that reflects certain assumptions about the regulator’s priorities, and produce values that represent the level of inequality in a given scenario. Inequality metrics can be used to compare the status quo with the distributional outcomes of a specific policy scenario or to compare distributional outcomes across alternatives. The values produced by these metrics could allow regulators to rank different policy options based on distributional effects, enabling them to evaluate distributional outcomes alongside cost-benefit analysis to aid in decisionmaking process. Using these metrics requires a regulator to have already assessed the impacts of a rule on certain groups, so gathering and sorting the data by subpopulations of interest per Recommendation 1 and Recommendation 2 of this report are prerequisites for implementing inequality metrics.

Below are some examples of inequality metrics that OMB could suggest that agencies use. The Gini coefficient and Atkinson index have been used by researchers to measure health inequality and also “to evaluate changes in inequality resulting from environmental policy measures.”¹³⁰ The Theil index is also widely used by researchers in the health context¹³¹ and has been used to measure racial segregation.¹³² The United States Census Bureau uses all three to assess income inequality.¹³³

a. **Gini Coefficient**

The Gini coefficient was originally designed to measure inequality in distribution of income.¹³⁴ In the income context, the Gini coefficient takes the area between a given Lorenz curve, which shows income distribution, and an ideal Lorenz curve where income distribution is equal, and expresses that area as a proportion of the total area under the given Lorenz

curve.¹³⁵ Gini himself proposed that the metric measured “the variability of any statistic distribution or probability distribution.”¹³⁶ The result is a number between zero and one, “with higher values denoting greater inequality.”¹³⁷

The Gini coefficient can be deployed in other contexts by substituting other characteristics, like exposure to pollutants, for income. Thus, the Gini coefficient could be used to compare the effects of a proposed regulation with the status quo or the effects of a preferred regulatory alternative with other policy options.¹³⁸ If the Gini coefficient is near one for a proposed action but near 0.5 for a possible alternative, for instance, the regulator would know that the proposal would result in a more unequal outcome than the alternative.

b. Atkinson Index

The Atkinson index was also originally designed to measure inequality in the distribution of income. In the income context, the Atkinson index “is derived by calculating the equity-sensitive average income,” which is “the level of per capita income which, if uniformly possessed, would make total welfare exactly equal to the total welfare generated by the actual income distribution.”¹³⁹ The Atkinson index takes the status of an individual and the number of individuals in the population, and applies an inequality-aversion parameter.¹⁴⁰ The Atkinson index “explicitly incorporate[s] normative judgments about social welfare” by applying an aversion-to-inequality factor that is chosen by the analyst or regulator.¹⁴¹ The inequality-aversion parameter reflects “societal preferences for equality.”¹⁴² Like the Gini coefficient, the Atkinson index could be used to compare the distributional effects of a regulatory proposal with those of the status quo or other regulatory alternatives.

c. Theil Index

The Theil index effectively measures how far away the population in a given scenario is from a state of equality.¹⁴³ The output is a number between zero and infinity, with higher numbers representing greater levels of inequality.¹⁴⁴ For example, a regulatory option with a Theil index of 5 would have a more equal distribution of impacts than one with a Theil index of 50. Some experts recommend that the Theil index only be used with other inequality metrics because certain aspects of its calculation lack intuitive appeal.¹⁴⁵

Two research teams—one led by Jonathan Levy,¹⁴⁶ the other by Sam Harper¹⁴⁷—provide useful overviews of these and other inequality metrics, which OMB may wish to consider. Levy et al. include a stylized example of how these three inequality metrics can be used in the context of an air pollution control policy.¹⁴⁸

Inequality Metrics in the Literature

There are various notable papers that explore how to use inequality metrics for health and environmental justice considerations. Although this report does not endorse any particular metric (or the use of inequality metrics in general), this discussion highlights the rigor of these approaches and their prevalence in the literature.

In one paper, a team of researchers led by Sam Harper considers explicitly applying inequality metrics to regulatory decisionmaking.¹⁴⁹ The authors discuss twenty indicators of health inequality, including “quantification of the distribution of inequalities in health outcomes across social groups of concern, considering both within-group and between-group comparisons.”¹⁵⁰ The authors note that regulators conducting distributional analyses using measures of well-being must make certain choices, including with respect to: reference groups or points for comparisons; whether they will look at relative or absolute dimensions of inequality; whether to consider ordinal groups (e.g., income quartiles or educational attainment) or nominal groups (e.g., ethnic or geographic groups) or both; and finally, any value judgments that belie possible weighting choices.¹⁵¹ Finally, the authors caution that these measures “will...be interpretable only when they take account of baseline inequality and are evaluated in conjunction with [other] benefits.”¹⁵²

In another example of the application of inequality metrics, a team of researchers led by James Boyce uses different indicators of inequality—such as the Gini Coefficient, Theil Index/Generalized Entropy Measure, ratios of medians, and ratios of 90th percentiles—and census tract-level data to generate inter-state rankings according to inequality in exposure to air pollution. The authors look at both vertical inequality, which is inequality of exposure to air pollutants, and horizontal inequality, which is based on other characteristics like minority status and income.¹⁵³

In the context of measuring inequality of health benefits derived from regulation, Levy et al.¹⁵⁴ compare different metrics, such as the Gini index, Atkinson index, and the Theil’s entropy index. They analyze how these metrics behave with respect to what they consider an ideal set of criteria (“axioms”).¹⁵⁵ They conclude that the Atkinson Index, an indicator originally developed to characterize income inequality, is the metric that best satisfies these axioms. In another paper, Neal Fann and his co-authors, for instance, use the Atkinson Index to assess distributional impacts of different air quality management approaches in the city of Detroit.¹⁵⁶

In recent work, Erin T. Mansur and Glenn Sheriff¹⁵⁷ propose an alternative metric to the measures of inequality used by many other authors, wherein they draw from the Rawlsian veil of ignorance theory to rank emissions distributions resulting from different policy scenarios.¹⁵⁸ The authors use the premise that one policy is preferable for a specific subpopulation if that policy would be “chosen by an impartial agent who had an equal probability of receiving the exposure of any individual in that group.” The authors caution that their approach allows the selection of a globally optimal policy only if there were consensus within groups about preferences. Specifically, they claim that their approach “informs a policy maker about how different policy options affect each group but leaves to her the decision of how to balance competing interests.”¹⁵⁹

* * *

Pending stakeholder input, OMB should consider inequality metrics as one set of available tools for agencies to incorporate distributional analysis into regulatory decisionmaking. Using inequality metrics alongside costs and benefits that have been disaggregated by demographic groups may give regulators important information about how evenly costs and benefits are distributed, which could help them contextualize a rule’s distributional effects alongside other regulatory impacts.

2. *Weights based on social welfare functions*

Agencies could also assess the desirability of distributional outcomes by applying weights to costs and benefits that are based on a Social Welfare Function (“SWF”) framework. SWFs are used to understand how social welfare changes as a function of the distribution of “utilities,” or units of well-being,¹⁶⁰ in a given population.¹⁶¹ Weights based on SWFs could be applied to disaggregated costs and benefits to rank policy options based on distributional desirability. Although SWFs typically are based on income or consumption, we note that it is also possible to define well-being using characteristics like health status or leisure.¹⁶² **OMB should consult with stakeholders when evaluating whether an income-focused approach is appropriate and, if not, whether and how other attributes of well-being could be used to generate weights.**

Here we describe two types of distributional weights that could be applied to costs and benefits to proxy different SWFs: utilitarian and prioritarian. Utilitarian weights are typically constructed to reflect the fact that one dollar is more valuable for a low-income individual than a high-income one. They could also be constructed to reflect the diminishing marginal utility of well-being more broadly understood (e.g., an increase in environmental quality is more valuable to individuals with a lower baseline of environmental quality).¹⁶³ But using dimensions other than income requires additional analytical steps (e.g., determining how to measure environmental quality, including how a unit of environmental quality improvement or degradation can be compared). Under the prioritarian approach, weights go beyond incorporating the diminishing marginal utility of income (or other characteristics) and are constructed instead to integrate particular ethical and moral considerations of equity and fairness. Prioritarian weights assign “higher value to well-being increments that accrue to the worse-off than to identical well-being impacts that accrue to the better-off.”¹⁶⁴ Under either approach, regulators could look at weighted cost-benefit assessments as another data point to inform their consideration of distributional concerns.

The economics literature underpinning social welfare functions is well-established. Proponents like Duke University law and economics professor Matthew Adler advocate for the use of social welfare functions in regulatory decisionmaking¹⁶⁵ by using analysis that applies weights in assessing costs and benefits.¹⁶⁶

a. **Utilitarian Weights**

As currently conducted, traditional regulatory cost-benefit analysis monetizes regulatory impacts based on individuals’ willingness-to-pay (which is largely based on ability to pay), and thus, does not account for the distribution of willingness-to-pay among individuals. Because those with higher income are able and willing to pay more for goods and services than those with lower incomes, a willingness-to-pay approach inherently favors those who are richer.

Diminishing marginal utility of income, however, considers that as income increases, the marginal benefit of each additional dollar to an individual’s well-being decreases. Therefore, adjusting for diminishing marginal utility using income-based utilitarian weights could alleviate the inherent bias in the analysis. Such utilitarian weights translate income changes into well-being, or utility, changes. As a result, a certain monetized benefit for a low-income group is given greater value than the same monetized benefit for a high-income group, even when the monetization is based on a willingness-to-pay estimate. A regulatory analysis using this methodology would, in theory, show decisionmakers what regulatory option generates the greatest utility for society overall, offering policymakers a rigorous methodology to prioritize different distributional alternatives.

Utilitarian weights can be extended to reflect more complex definitions of well-being, rather than just equating well-being with income. For instance, well-being might be defined to include attributes like health status. In that case, utilitarian weights would reflect that the same health benefit increases the well-being of a sick person more than that of a healthier one.¹⁶⁷ However, constructing this type of utilitarian function would require that decisionmakers determine which attributes contribute to well-being. Relying on income rather than more complex definitions of well-being would be simpler, particularly given that the concept of diminishing marginal utility of income already underpins standard practices of cost-benefit analysis such as discounting.¹⁶⁸ Moreover, some attributes of affected communities that might be of interest to the regulator (such as race, gender, or labor occupation) cannot be incorporated into a utilitarian SWF. Hence, using utilitarian weights will not help in the analysis of distributional impacts along these dimensions.

Using income-based utilitarian weights is recommended by the British government for regulatory impact assessment.¹⁶⁹ The UK Green Book, which sets specific guidance on how to carry out cost-benefit analysis in the United Kingdom, even establishes precise values. Specifically, it states that a dollar to a person in the lowest income quartile is worth roughly twice as much as a dollar to a person in the highest income quartile in the British context.¹⁷⁰ Again, if a utilitarian-based analysis is presented alongside the results of a traditional cost-benefit analysis, regulators will have flexibility to assess what policy outcome is preferable considering different aggregate and distributional outcomes. In this context, the utilitarian analysis provides helpful perspective for the regulator but need not be the deciding factor.

In the context of a rule that controls air pollution, for example, utilitarian weighing might make the adjusted willingness to pay for health benefits of avoided exposure equal across income groups, even if the empirical willingness to pay differs between these groups (which it likely does because it depends on *ability* to pay). Or, such weighting might make such health benefits to low-income groups *even more* valuable than the same health benefits to groups with greater resources. Assuming that willingness to pay for health effects is uniform across social groups is not actually a deviation from standard practice, as we discuss in Recommendation 2. Alternately, using utilitarian weights might take identical costs to two groups and increase the magnitude of those costs to the lower income group, reflecting the fact that the same monetary cost has greater disutility to an individual with less ability to pay that cost.

b. Prioritarian Weights

A regulator could go one step further by applying prioritarian weights to inform an assessment of distributional outcomes. These weights can be used to proxy a prioritarian social welfare function—that is, a welfare function that recognizes a higher societal benefit to improving the utility of the worst-off than improving the utility of the best-off.¹⁷¹ In essence, prioritarian social welfare functions assign larger weights to the welfare gains of the worst-off than weights based solely on marginal utility of income or other measures of well-being.¹⁷² In giving priority to the worst-off, prioritarian weights reflect one possible (albeit common) idea of fairness. In the context described above, when considering a rule with air pollution effects, prioritarian weighting would necessarily give greater value to health benefits of the groups who are most vulnerable to those adverse effects (e.g., due to preexisting health conditions or lack of access to healthcare). Prioritarian weighting also means that if weights were applied to all effects of a proposed action (costs as well as benefits), costs to better-off groups would be weighted less heavily than the same costs to worst-off individuals, even after those costs were income-adjusted to reflect the declining marginal utility of consumption.

The parameters of a prioritarian social welfare function depend on the decisionmaker's normative determinations, including the evaluation of society's aversion to inequality. As a result, calculating prioritarian weights can be challenging. However, there are empirical estimates that a regulator could use to support such a calculation. For instance, society's

distributional preferences and aversion to inequality, though nuanced,¹⁷³ can be measured empirically. One recent paper concludes that from a prioritarian standpoint, an improvement in air quality is eight times more advantageous when that improvement benefits someone with a lower baseline environmental quality, versus another individual whose environmental-quality baseline is twice as high.¹⁷⁴ However, this empirical measurement of inequality aversion depends, among other things, on the type of environmental good that is being considered (e.g., air quality versus soil quality). Calculating an aversion to inequality factor or coefficient can be a complex undertaking that is context-specific. Though OMB could provide guidance on the process for making such a calculation, agencies would potentially need to derive the aversion to inequality factor for each policy proposal.

Other studies of inequality aversion further demonstrate how an individual's well-being relative to others in a given population affects preferences for certain distributional outcomes.¹⁷⁵ In order to apply prioritarian weights practically, a regulator must make normative judgments and other decisions in order to select a methodology for determining the inequality aversion factor.¹⁷⁶ Once again, policymakers could consider an analysis using prioritarian weights alongside a traditional cost-benefit analysis, rather than assign it dispositive preference.

C. OMB Could Recommend that Agencies Calculate Net Welfare Using Weighted Cost-Benefit Analysis

Finally, in the biggest departure from common practice, a regulator could prioritize distributional outcomes by *replacing* traditional cost-benefit analysis with a weighted cost-benefit analysis. Under this approach, the results of a weighted cost-benefit analysis would be presented not alongside those results of a disaggregated cost-benefit analysis, but rather as the main or only result.

If it takes this approach, OMB should give explicit guidance on whether income will be the default measure of utility, and so the basis for weights, and if not, provide guidance on how regulators could use other measures of well-being in the place of income for generating weights. Also, as noted above, a utilitarian weighted cost-benefit analysis will not shed light on distributional impacts along some attributes that could be of interest to a regulator, such as race, while prioritarian weights could.¹⁷⁷ We note that though adopting SWF-based weights as the main decisionmaking tool has some theoretical and academic support,¹⁷⁸ it could pose a challenge from a practical and legal perspective (in addition to the limitations mentioned above).

First, weighting may be an unnecessary step to achieve more equitable outcomes. Some argue that using traditional cost-benefit analysis could lead to progressive (greater benefits to the worse off) rather than regressive (greater benefits to the better off) policies. In a forthcoming paper, Daniel Hemel argues that using traditional weighted cost-benefit analysis is particularly appropriate when assessing policies that are designed to save lives.¹⁷⁹ Hemel is not alone in concluding that regulators should stick with traditional cost-benefit analysis. David Weisbach draws the same conclusion in a 2015 paper, though for different reasons. Essentially, Weisbach argues that agencies exist to “perform specialized tasks,” and that within that narrow scope of responsibility, agencies cannot achieve “desirable distributive policies.” Therefore, he argues that regulatory decisionmakers should continue to use traditional cost-benefit analysis, with redistribution occurring primarily through the tax-and-transfer system.¹⁸⁰

If OMB determines that weighting is the appropriate approach for agencies to meet both efficiency and distributional goals, there are a number of considerations that OMB would have to take into account before choosing this route. For example, employing a social welfare function requires regulators to make political decisions that they may not be empowered to make.¹⁸¹ This may be particularly true when using prioritarian weights, as designating the “worst-off” group in any given scenario is an inherently value-laden judgment that may not fully capture all determinants of fairness. Although regulators have long purported to consider distributional concerns,¹⁸² they may be ill-equipped to determine policy so explicitly and fundamentally based on distributional considerations. And insofar as regulations are justified primarily based on distributional benefits rather than more traditional benefits, courts may be concerned that agencies are relying too heavily on factors outside their core statutory mandate.

There are other possible practical and legal hurdles to adopting weighted cost-benefit analysis as the primary basis for regulatory decisions. For example, traditional cost-benefit analysis is widely applied across the federal government and well understood by courts. While agencies are given broad deference by courts and surely have latitude to make methodological choices, fundamental changes to cost-benefit analysis of this sort may draw judicial ire (justified or not).¹⁸³ It is certainly possible that case law could come to embrace the use of social welfare functions in cost-benefit analysis just as it has traditional cost-benefit analysis.¹⁸⁴ Indeed, agencies are generally empowered by sufficiently open-ended statutory frameworks to choose their preferred methodology and balance different regulatory priorities.¹⁸⁵ However, this may be a risk that the federal government does not wish to take. Indeed, even Adler, one of the biggest proponents of social welfare functions, argues that because applying distributional weights (both utilitarian and prioritarian) is “value-laden,” agencies should “undertake standard [cost-benefit analysis] alongside distributionally weighted [cost-benefit analysis] with some range of weights,” as we have discussed in the previous subsection.¹⁸⁶

* * *

Addressing distributional concerns in regulation involves more than showing how the costs and benefits of a particular regulatory option accrue to different groups. It also requires taking this information into account when deciding whether and how to regulate. Agencies have a range of methodological options for considering distributional impacts alongside other regulatory effects. Clear guidance from OMB on how agencies can contextualize the magnitude or significance of distributional consequences will be critical to ensure robust and consistent consideration of distributional impacts across agencies.

RECOMMENDATION 4:

OMB Should Lead a Whole-of-Government Approach to Implement Measures to Mitigate Adverse Distributional Impacts Through Interagency Coordination

Regardless of how agencies account for distributional outcomes in regulatory decisionmaking, there will likely be some undesirable distributional outcomes resulting from otherwise desirable rules. Executive Order 13,985 has already tasked the Domestic Policy Council (“DPC”) with “coordinat[ing] efforts to embed equity principles, policies, and approaches across the Federal Government.”¹⁸⁷ OMB could join forces with the DPC and specifically coordinate among agencies to provide guidance on how agencies can mitigate potential adverse distributional outcomes.¹⁸⁸

As noted in the previous sections, OMB could give agencies guidance to help them to identify adverse distributional outcomes during the rulemaking process. Agencies could then consider other avenues within their statutory authority to address or minimize undesirable distributional outcomes. For example, the Department of the Interior could prioritize fossil-fuel-dependent communities for the siting of renewable energy projects to redress potential lost revenue in those places due to more stringent leasing and production policies.¹⁸⁹ This type of policy accounts for lost income to some groups, an adverse distributional consequence, by providing new income-generating opportunities for those same groups. OMB could consult with agencies on a rule-by-rule basis to identify avenues to mitigate adverse distributional impacts.

If mitigating the adverse distributional effects of an otherwise cost-benefit-justified rule is outside the statutory authority of the rulemaking agency, then the lead agency could work with other agencies to create remediation plans. The DPC or OMB could act as a liaison between agencies. Additionally, OMB (or specifically OIRA) could provide oversight over distributional issues in decisionmaking, including by regularly reviewing distributional analyses across rules and across agencies to assess cumulative distributional effects. As part of such oversight, OIRA, along with the DPC, could convene an interagency working group to provide coordination across the federal government aimed at addressing adverse distributional outcomes. As a first step, **the administration should solicit public input and establish a robust stakeholder process to inform how it implements a whole-of-government approach to improving equity.**

A. OMB and the Domestic Policy Council Should Coordinate Between the Lead Agency and Other Agencies to Address Inequitable Effects

Many adverse distributional outcomes cannot be efficiently solved within the lead agency’s authority, nor can any one agency alone work to solve longstanding distributional disparities suffered by certain groups. In this event, it may be appropriate for two or more agencies to work together to correct distributional imbalances. OMB and/or the DPC should provide coordination in this regard.

In a law review article on this topic, Richard Revesz discusses when it may be desirable for a second agency (other than the rulemaking agency) or multiple other agencies to design the redistributive mechanism.¹⁹⁰ Revesz goes into detail about a real-life example, the Partnerships for Opportunity and Workforce and Economic Revitalization (sometimes known as POWER) Initiative, which was designed to compensate displaced coal industry workers.¹⁹¹ This initiative was in part a way of addressing the disproportionate effect of environmental regulations like the Clean Power Plan on coal communities.¹⁹² Although EPA was responsible for the regulations in question, the Economic Development Administration, Department of Labor, Appalachian Regional Commission, Department of Commerce, and Department of Agriculture all worked with EPA on the POWER Initiative.¹⁹³

Similar to the multiagency cooperation in the POWER Initiative, Executive Order 13,990 establishes the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization.¹⁹⁴ This tasks numerous agencies and offices with “coordinat[ing] the identification and delivery of Federal resources to revitalize the economies of coal, oil and gas, and power plant communities,” among other things.¹⁹⁵ A similar group of agency heads could come together to direct resources towards compensating groups adversely affected by a specific regulation or set of regulations.

Such cooperation could be a model for future efforts. OMB oversight and coordination could facilitate these types of joint ventures across the federal government.

OMB and the DPC Could Initiate a Pilot Program to Study Compensatory Mechanisms

Agencies have limited resources, including limited capacity for cross-agency engagement, but such coordination is essential to identify and implement compensatory mechanisms for groups and communities that have faced disproportionate adverse effects from federal action (and inaction). In fact, the Biden administration has already created one interagency working group aimed specifically at remediating inequitable harms against a particular community, and could create other interagency working groups to benefit other discrete, disadvantaged populations.

Executive Order 14,008 established an interagency working group on Coal and Power Plant Communities and Economic Revitalization.¹⁹⁶ This working group is tasked with addressing the economic costs that these communities have faced due in part to rules aimed at protecting public health and the environment by limiting the use of fossil fuels. In April, the group released a report,¹⁹⁷ per the executive order, that identifies the “mechanisms, consistent with applicable law, to prioritize grantmaking, federal loan programs, technical assistance, financing, procurement, or other existing programs”¹⁹⁸ to support these communities that may have suffered localized adverse impacts from federal actions. The report was informed by stakeholders and advocacy groups, and is but the first step of the working group.

A similar group could be established that addresses the cumulative adverse environmental harms faced by the communities living in Cancer Alley. Cancer Alley is not only in great need of remediation but is also a useful counterpart to coal and power plant communities because it has been affected by the regulatory status quo in very different ways. Whereas coal and energy communities have disproportionately felt the economic burdens of environmental and public health regulations, the communities of Cancer Alley have disproportionately suffered the costs of insufficient or altogether absent health and safety regulations.

Like the coal and power plant communities working group, the Cancer Alley working group could begin by gathering information on how those communities could be compensated (through grantmaking, financing, technical assistance, procurement, and other programs) to address the harms they have suffered due to government action and inaction.

B. OMB and the DPC Should Provide Systemwide Oversight

Beyond addressing the adverse distributional impacts of individual rules, OMB and/or the DPC could also facilitate assessment, and potentially remediation, of distributional inequities across the regulatory system. For instance, regulatory actions—or inactions—may routinely impose disparate impacts on the same groups. Conversely, some groups may experience disproportionate costs under some policies but enjoy offsetting disproportionate benefits under others. In order to identify these cumulative effects, the federal government would benefit from an approach that considers the whole universe of agencies and their actions, rather than looking at each agency or action in a vacuum. This will require systemwide oversight and data collection, which OMB (and OIRA in particular) could lead.¹⁹⁹

As noted above, President Biden has already charged the DPC with leading an interagency process on improving equity across the federal government. Similarly, President Biden has given OMB a number of interagency coordination duties with respect to the climate crisis that the Office could carry out with careful attention to regulatory equity. For instance, President Biden’s executive order *Tackling the Climate Crisis at Home and Abroad* (Executive Order 14,008) directs the Director of OMB to work with the National Climate Advisor to first identify fossil fuel subsidies provided by various agencies and to then take the necessary steps to ensure that “[f]ederal funding is not directly subsidizing fossil fuels.”²⁰⁰ As part of this role, OMB could help identify the nature and magnitude of disparate impacts resulting from fossil-fuel subsidies, and work with agencies to ensure that federal funding does not contribute to adverse distributional impacts. This same executive order also tasks OMB with reviewing and assessing agencies’ Climate Action Plans to ensure these plans are consistent with policy established by the Order. OMB could similarly request plans from agencies that detail how the agencies intend to address equity in their upcoming actions.

OIRA, an office within OMB, is already responsible for carrying out some tasks that could be translated into the context of distributional analysis. For example, since agencies already provide regulatory impact analyses to OIRA for review, OIRA would be the perfect candidate to oversee a systemic review of agencies’ distributional analyses.²⁰¹ First, it could collect data from agencies on their distributional analyses. This might include setting up an online database that is accessible to agencies and interested stakeholders alike that includes distributional effects for specific rules. This information could be aggregated in the database and organized by rule or action, year, agency, subpopulation, etc. Then, OIRA could look at the net effects on specific groups across agencies and across rules.

Using its expertise in assessing the consequences of regulation, OIRA could work with agencies to formulate an appropriate response to distributional consequences of proposed rules.²⁰² Given its understanding of the regulatory landscape, OIRA would also be well suited to advise agencies on when the distributional impacts of their regulations are significant and merit corrective action, similar to the agency’s function in assessing whether a regulation is “significant” under Executive Order 12,866 triggering a detailed regulatory impact analysis. In the event that OIRA identifies a number of actions with potentially adverse distributional impacts affecting the same group, it could establish an interagency working group to address these impacts.

Finally, again due to its unique position overseeing the significant actions of all agencies, OIRA would be well positioned to assess cumulative distributional issues resulting from many actions. This could be done in partnership with or under the advisement of the DPC and the White House Environmental Justice Advisory Council. OIRA could, for example, incorporate other distributional issues into the environmental justice scorecard prescribed by Executive Order 14,008,²⁰³ or generate separate scorecards to capture how well agencies are addressing equity in their decisionmaking.

OIRA could also use the unified agenda process to facilitate review of distributional analyses. Under this approach, agencies would flag potential adverse distributional outcomes early in the regulatory process. If possible, agencies could include preliminary distributional findings as part of their semi-annual submission to the unified agenda.²⁰⁴ With this information, OIRA would be able to better guide agencies through the rulemaking process to address distributional concerns from the early stages, rather than waiting for notice and comment on each action. Similarly, OIRA, along with the DPC, could connect agencies to address distributional inequities. Moreover, providing this information early allows for further stakeholder engagement and input into the upcoming year's rulemaking process across agencies.

In its annual review and report to Congress, OIRA could assess distributional outcomes (both of key rules and across rules) and report whether any particular groups were adversely impacted by the year's regulatory actions.²⁰⁵ Understanding the effects on specific groups from the entire universe of regulations in a given period of time is key to addressing longer-term inequities. Such information could also provide a baseline from which to consider the distributional effects of the following year's regulatory agenda.

OMB generally, or OIRA in particular, along with the DPC, could also convene an interagency working group to address the distributional outcomes of regulatory actions. This group could be tasked with "facilitat[ing] the organization and deployment of a Government-wide approach" to equity, the way the newly formed National Climate Task Force is tasked with taking such an approach to addressing climate change.²⁰⁶ This could be housed within the existing Interagency Working Group on Environmental Justice or it could subsume the Equitable Data Working Group to minimize duplication of efforts, or could operate as a distinct body. Among other important tasks, such an interagency working group on distributional impacts could help OIRA assess the collective distributional impacts across regulations and across agencies to include in OIRA's annual report to Congress.²⁰⁷

The interagency working group could also be responsible for taking stock of methodological shortcomings of existing distributional analyses, such as identifying unquantified effects that have important equity implications for further research,²⁰⁸ in partnership with the Equitable Data Working Group established by Executive Order 13,985. In this regard, it would have similar responsibilities to the Interagency Working Group on the Social Cost of Greenhouse Gases. Because interoperable, systematic distributional analysis would be new, there would inevitably be room for continuous improvement within and across agencies. An interagency working group could lead research efforts and contribute to OIRA's methodological guidance on established best practices. As Jason Schwartz has recognized, "[o]nce a set of best practices is established by the interagency working group, it will become less costly for agencies to conduct their distributional analyses, because they can refer back to established practices rather than trying to reinvent a new methodology each time."²⁰⁹

Wicked Problems, Systems Thinking, and Distributional Analysis

Social policy problems, like environmental injustice and other issues of inequity, can be seen as “wicked problems”:²¹⁰ they are not lone problems in and of themselves, but in fact the product of a constellation of issues involving many stakeholders.²¹¹ Wicked problems are defined by ambiguity, so there can be disagreement not only about the nature of the problem and its solutions, but also more abstract concerns about what constitutes a public good or how to define key elements like equity and justice.²¹² There is also not necessarily a clear end point at which a wicked problem can be considered resolved, which is perhaps the most important characteristic for the purposes of this report.²¹³ Rather, wicked problems need to be looked at from multiple perspectives and each element of the problem must be considered along with all the others. This is why it may not be sufficient for a federal agency to act alone, or even in partnership with other individual agencies, to address distributional concerns that are the product of regulatory actions. Instead, distributional concerns should be considered across the entire regulatory system.

The existing siloed structure of the executive branch dampens our ability to see federal agencies—and their actions—as components of a broader system.²¹⁴ Specialized agencies operate exclusively within statutorily prescribed policy silos and only rarely undertake joint rulemakings and analyses.²¹⁵ Moreover, while OIRA’s review of significant rules constitutes a form of systemic oversight, it is limited to furthering efficiency objectives. OIRA does not take this same type of bird’s-eye-view with respect to other aspects of regulatory actions. Systems thinking, which has established methodologies and tool kits, can help policymakers “to identify and understand critical linkages, synergies and trade-offs between issues generally treated separately and thus to reduce unintended consequences.”²¹⁶

Using a systems thinking approach to distributional effects could be particularly effective for several reasons. First, some groups face historic and systemic inequities that are the product of decisions made across policy arenas. Second, the same groups may be losers (i.e., suffer net harms) from a given set of contemporary regulations. Third, decisionmakers may ‘speak a different language’ (i.e., operate from a different point of view) than affected individuals/communities or regulated industry, and so miscommunication between decisionmakers and stakeholders can be prevalent; systems thinking takes the perspectives of the various stakeholders into account.²¹⁷ Fourth, as noted above, there are often tradeoffs—but also unidentified synergies—in trying to address distributional concerns that agencies cannot address on their own. Fifth and finally, because social problems like environmental justice are often wicked problems, there is no single solution, but rather many solutions must be assessed and implemented.

Conclusion

The federal regulatory system could play an important role in addressing inequality and promoting fairness and environmental justice. Greater oversight and clearer guidance from OMB will be critical to creating long-lasting change on this front. As this report has outlined, OMB should provide detailed guidance to agencies on conducting granular analysis, assessing costs and benefits for a manageable number of demographic subgroups, and weighing distributional concerns alongside other regulatory impacts. Additionally, OMB and the DPC should facilitate coordination between agencies to promote equity throughout the regulatory system.

Endnotes

- ¹ Exec. Order No. 13,985 § 1, 86 Fed. Reg. 7009 (Jan. 20, 2021).
- ² *Id.* § 4(a) (requiring study of “best methods . . . to assist agencies in assessing equity”).
- ³ *Id.* § 1.
- ⁴ Modernizing Regulatory Review § 2(b)(ii), 86 Fed. Reg. 7223 (Jan. 20, 2021). Notably, the memorandum does not define “disadvantaged,” “vulnerable,” or “marginalized” communities. Executive Order 13,985 does, however, provide a non-exhaustive list of “underserved communities that have been denied [consistent and systematic fair, just, and impartial] treatment,” which includes “Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.” Exec. Order No. 13,985 § 2.
- ⁵ *Id.* § 2(a).
- ⁶ *See id.*
- ⁷ Richard L. Revesz, *Regulation and Distribution*, 93 NYU L. REV. 1489, 1500–11 (2018) (presenting, but then criticizing, this “orthodox view”).
- ⁸ *Id.* at 1512–18; *see also* H. Spencer Banzhaf, *Regulatory Impact Analyses of Environmental Justice Effects*, 27 J. LAND USE & ENV’T L. 1, 14 (2011) (“[A]ctual compensations for the distributional effects of government projects and regulations are exceedingly rare, if not an outright fiction.”).
- ⁹ Revesz, *supra* note 7, at 1511–12.
- ¹⁰ *See* Banzhaf, *supra* note 8, at 14 (stating that “if redistribution is a national objective, then any regulatory action that promotes this objective, ceteris paribus, is obviously preferable to one that does not”).
- ¹¹ Zachary Liscow, *Redistribution for Realists* 6 (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3792122.
- ¹² Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993).
- ¹³ Exec. Order No. 12,291 § 3(d)(1)–(2), 46 Fed. Reg. 13,193 (Feb. 17, 1981) (calling on agencies to “identif[y] . . . those likely to receive the benefits” and “those likely to bear the costs” of each regulation). However, this Order does not advise regulators on how to incorporate such a distributional analysis into its assessment of net benefits. Instead, the Order advises agencies that “[r]egulatory objectives shall be chosen to maximize the net benefits to society,” suggesting that distributional and justice considerations merit scant consideration. *Id.* § 2(c).
- ¹⁴ *Id.* § 2(c).
- ¹⁵ Exec. Order No. 12,866 § 1(b)(5).
- ¹⁶ OFFICE OF MGMT. & BUDGET, ECONOMIC ANALYSIS OF FEDERAL REGULATIONS UNDER EXECUTIVE ORDER 12,866 (Jan. 11, 1996), <https://georgewbush-whitehouse.archives.gov/omb/infoereg/riaguide.html>.
- ¹⁷ *Id.* § III(A)(8).
- ¹⁸ *Id.*
- ¹⁹ *Id.*
- ²⁰ OFFICE OF MGMT. & BUDGET, CIRCULAR A-4, REGULATORY IMPACT ANALYSIS 3 (2003) [hereinafter “Circular A-4”].
- ²¹ *Id.* at 14.
- ²² *Id.*
- ²³ Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011).
- ²⁴ *Id.* § 1(b).
- ²⁵ *Id.* § 1(c).
- ²⁶ Exec. Order No. 12,898 § 1-101, 59 Fed. Reg. 7629 (Feb. 11, 1994) (“To the greatest extent practicable and permitted by law, . . . each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations”); *accord id.* § 3-302(a). Executive Order 12,898 does not define “minority populations” or “low-income populations.”
- ²⁷ Council on Env’t Quality, *Environmental Justice: Guidance Under the National Environmental Policy Act* (Dec. 10, 1997), https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.
- ²⁸ Fed. Interagency Working Grp. on Env’t Just., *Promising Practices for EJ Methodologies in NEPA Reviews* (2016), https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.
- ²⁹ EPA, *Guidelines for Preparing Economic Analyses 10-1 to 10-23* (last updated 2014) [hereinafter “EPA Guidelines”].
- ³⁰ EPA, *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis* (2016), https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf [hereinafter “EPA Technical Guidance”].

- ³¹ *Id.* at 13.
- ³² See, e.g., *id.* at 11–14 (describing key analytical considerations); *id.* at 41–59 (offering guidance on assessing distribution of benefits and costs in regulatory impact analysis).
- ³³ Lisa A. Robinson, James K. Hammitt & Richard Zeckhauser, *The Role of Distribution in Regulatory Analysis and Decision Making* (Mossavar-Rahmani Ctr. for Bus. and Gov’t, Harvard Kennedy Sch., Working Paper No. 2014-02, 2014), https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/files/Zeckhauser_final.pdf.
- ³⁴ *Id.* at 9.
- ³⁵ *Id.* at 10–12.
- ³⁶ *Id.* at 12.
- ³⁷ Carl F. Cranor & Adam M. Finkel, *Toward the Usable Recognition of Individual Benefits and Costs in Regulatory Analysis and Governance*, 12 REG. & GOVERNANCE 131, 131 (2018) (emphasis added).
- ³⁸ Elizabeth Ann Glass Geltman, Gunwant Gil, & Miriam Jovanic, *Beyond Baby Steps: An Empirical Study of the Impact of Environmental Justice Executive Order 12898*, 39 FAMILY AND CMTY. HEALTH 143, 143 (2016); see also Revesz, *supra* note 7, at 1540 (“[O]f the nearly 4,000 rules the EPA promulgated during the Obama administration, the agency referred to only seven as ones taking environmental justice concerns into account.”).
- ³⁹ Denis Binder et al., *A Survey of Federal Agency Response to President Clinton’s Executive Order No. 12898 on Environmental Justice*, 31 ENV’T. L. REP. NEWS & ANALYSIS 11133 (2001).
- ⁴⁰ See Banzhaf, *supra* note 8, at 5–6 (“[W]hen it has incorporated even these limited environmental justice objectives into its [cost-benefit analyses], EPA has tended to stop at perfunctory, pro forma assertions that it is not creating or exacerbating an environmental injustice.”).
- ⁴¹ Federal Motor Vehicle Safety Standards; Rear Visibility, 79 Fed. Reg. 19,178 (Apr. 7, 2014).
- ⁴² *Id.* at 19,184.
- ⁴³ *Id.* at 19,236.
- ⁴⁴ USDA, *Regulatory Impact Analysis: Supplemental Nutrition Assistance Program: Requirements for Able-Bodied Adults Without Dependents 2* (2019), <https://www.regulations.gov/document?D=FNS-2018-0004-19016>. This analysis was conducted in support of Supplemental Nutrition Assistance Program: Requirements for Able-Bodied Adults Without Dependents, 84 Fed. Reg. 66,782 (Dec. 5, 2019).
- ⁴⁵ *Id.* at 49–51.
- ⁴⁶ The U.S. District Court for the District of Columbia found this regulation to be arbitrary and capricious, citing, among other reasons, the agency’s failure to meaningfully evaluate distributional impacts. *D.C. v. United States Dep’t of Agric.*, 496 F. Supp. 3d 213, 256–57 (D.D.C. 2020). This case represents a rare judicial rebuke of an agency’s distributional analysis.
- ⁴⁷ Frank Ackerman & Lisa Heinzerling, *Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection*, 150 U. PA. L. REV. 1553, 1573 (2002).
- ⁴⁸ Melissa J. Luttrell & Jorge Roman-Romero, *Regulatory (In)Justice: Racism and CBA Review*, YALE J. ON REG. (Oct. 27, 2020), <https://www.yalejreg.com/nc/regulatory-injustice-racism-and-cba-review-by-melissa-j-luttrell-and-jorge-roman-romero/>.
- ⁴⁹ See, e.g., Anne N. Junod, Carlos Martín, Rebecca Marx, & Amy Rogin, *Equitable Investments in Resilience: A Review of Benefit-Cost Analysis in Federal Flood Mitigation Infrastructure*, THE URBAN INSTITUTE (2021) (explaining how use of cost-benefit analysis often directs federal flood mitigation funding to wealthier communities by focusing on home values). Although this report focuses on the use of cost-benefit analysis in federal regulation, its recommendations on how to improve upon those analyses are also applicable for cost-benefit analyses performed for other purposes, such as federal grantmaking.
- ⁵⁰ See generally Joe’s Vision, JOE BIDEN, <https://joebiden.com/joes-vision/>.
- ⁵¹ Modernizing Regulatory Review, *supra* note 4, § 2(a).
- ⁵² *Id.* § 2(b)(ii).
- ⁵³ Exec. Order No. 13,985.
- ⁵⁴ *Id.* § 1.
- ⁵⁵ *Id.* The Order defines two terms: “equity” and “underserved communities.” It defines “equity” as “the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer [] persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.” It defines “underserved communities” as “populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of ‘equity.’” *Id.* § 2.
- ⁵⁶ *Id.* §§ 4(a), 5, 6(a).
- ⁵⁷ *Id.* § 3.
- ⁵⁸ *Id.* § 9(c)(ii).
- ⁵⁹ Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021).
- ⁶⁰ *Id.* §§ 219, 221(b).
- ⁶¹ *Id.* § 222(a).

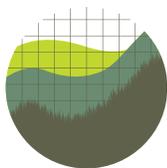
- ⁶² These working groups are: The Justice40 initiative working group, the Climate and Economic Justice Screening Tool working group, and the Executive Order 12,898 Revisions working group.
- ⁶³ White House Environmental Justice Advisory Council, *Interim Final Recommendations for Justice40, Climate and Economic Justice Screening Tool, & Executive Order 12898 Revisions* 65 (May 13, 2021), https://www.epa.gov/sites/default/files/2021-05/documents/whejac_interim_final_recommendations_0.pdf.
- ⁶⁴ Methods and Leading Practices for Advancing Equity and Support for Underserved Communities Through Government, 86 Fed. Reg. 24,029, 24,029 (May 5, 2021).
- ⁶⁵ *Id.* at 24,030.
- ⁶⁶ Exec. Order 13,985 § 2(a).
- ⁶⁷ *Id.* § 9.
- ⁶⁸ Andrew L. Goodkind et al., *Fine-Scale Damage Estimates of Particulate Matter Air Pollution Reveal Opportunities for Location-Specific Mitigation of Emissions*, 116 PROCS. NAT'L ACAD. SCIS. 8775 (2019).
- ⁶⁹ Here, damages are defined as the monetary valuation of premature mortality attributable to exposure to fine particulate matter.
- ⁷⁰ Janet Currie et al., *Environmental Health Risks and Housing Values: Evidence from 1,600 Toxic Plant Openings and Closings*, 105 AM. ECON. REV. 678 (2015).
- ⁷¹ Banzhaf, *supra* note 8; see also Ellen S. Post, Anna Belova & Jin Huang, *Distributional Benefit Analysis of a National Air Quality Rule*, 8 INTERNAT'L J. ENV'T RES. & PUB. HEALTH 1872 (2011).
- ⁷² Goodkind et al., *supra* note 68.
- ⁷³ John M. Morehouse & Edward Rubin, *Downwind and Out: The Strategic Dispersion of Power Plants and Their Pollution* 47 (Ctr. for Growth & Opportunity at Utah State U. Working Paper, 2021).
- ⁷⁴ EPA, *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* 16 (1998).
- ⁷⁵ Qian Di et al., *Air Pollution and Mortality in the Medicare Population*, 26 NEW ENG. J. MED. 2513 (2017).
- ⁷⁶ Solomon Hsiang, Paulina Oliva & Reed Walker, *The Distribution of Environmental Damages*, 13 REV. ENV'T ECON. & POL'Y 83 (2019); see also Banzhaf, *supra* note 8.
- ⁷⁷ Tatyana Deryugina et al., *Geographic and Socioeconomic Heterogeneity in the Benefits of Reducing Air Pollution in the United States* (Nat'l Bur. of Econ. Res. Working Paper Series, 2020).
- ⁷⁸ Daniel Krewski et al., *Extended Follow-up and Spatial Analysis of the American Cancer Society Study Linking Particulate Air Pollution and Mortality* (Health Effects Inst. Rsch. Rep., 2009).
- ⁷⁹ CO-Benefits Risk Assessment (COBRA) Health Impacts Screening and Mapping Tool, Data and Tools, EPA, <https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool> (last updated June 26, 2017).
- ⁸⁰ Neal Fann et al., *Maximizing Health Benefits and Minimizing Inequality: Incorporating Local-Scale Data in the Design and Evaluation of Air Quality Policies*, 31 RISK ANALYSIS 908 (2011).
- ⁸¹ Banzhaf, *supra* note 8.
- ⁸² Jonathan I. Levy, *Accounting for Health Risk Inequality in Regulatory Impact Analysis: Barriers and Opportunities*, 41 RISK ANALYSIS 610 (2021); see also EPA, *Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (1998).
- ⁸³ Goodkind et al., *supra* note 68.
- ⁸⁴ Dallas Burtraw, Maya Domeshek & Amelia Keyes, *Carbon Pricing 104: Economic Effects Across Income Groups*, RE-SOURCES FOR THE FUTURE (May 4, 2020), <https://www.rff.org/publications/explainers/carbon-pricing-104-economic-effects-across-income-groups/>.
- ⁸⁵ Lisa A. Robinson, James K. Hammitt & Richard J. Zeckhauser, *Attention to Distribution in U.S. Regulatory Analyses*, 10 REV. ENV'T ECON. & POL'Y 308 (2016).
- ⁸⁶ EPA, *EPA Environmental Justice Strategy* 3 (Apr. 3, 1995), <https://www.epa.gov/environmentaljustice/epa-environmental-justice-strategy-1995>.
- ⁸⁷ Elizabeth Glass Geltman, Gunwant Gill & Miriam Jovanovic, *Beyond Baby Steps: An Empirical Study of the Impact of Environmental Justice Executive Order 12898*, 39 FAM. & CMTY. HEALTH 144 (2016).
- ⁸⁸ EPA Technical Guidance, *supra* note 30.
- ⁸⁹ *Id.* at 1.
- ⁹⁰ *Id.* at 14.
- ⁹¹ *Id.* at 47.
- ⁹² See *supra* notes 12–46 and accompanying text.
- ⁹³ See Robinson et al., *supra* note 33, at 21.
- ⁹⁴ Cass R. Sunstein, *The Cost-Benefit State* 22–23 (Coase-Sandor Institute for Law & Economics Working Paper No. 39, 1996).
- ⁹⁵ John Graham, *Savings Lives Through Administrative Law and Economics*, 157 U. PA. LAW. REV. 395, 520 (2008).
- ⁹⁶ *Id.*
- ⁹⁷ As discussed above, a 2016 EPA guidance document recommends that analysts quantify the distribution of costs and benefits as part of their regulatory analysis. Many legal and economic scholars also support the practice. See *supra* notes 30–32 and accompanying text. Many legal and economic scholars also support the practice. See, e.g., Banzhaf, *supra* note 8, at 9 n.35 (collecting sources).

- ⁹⁸ See EPA Technical Guidance, *supra* note 30, at 41–57.
- ⁹⁹ Ronald J. Shadbegian, Wayne Gray & Cynthia Morgan, *Benefits and Costs from Sulfur Dioxide Trading: A Distributional Analysis*, (Nat’l Ctr. for Env’t Econ. Working Paper 05-09, 2005).
- ¹⁰⁰ *Id.* at 15–18.
- ¹⁰¹ Winston Harrington et al., Resources for the Future, *Distributional Consequences of Public Policies: An Example from the Management of Urban Vehicular Travel* (Resources for the Future Discussion Paper 14-04, 2014).
- ¹⁰² See, e.g., Daniel Hemel, *Regulation and Redistribution with Lives in the Balance*, U. CHI. L. REV., at 2 (forthcoming, manuscript available at March 2, 2021), <https://papers.ssrn.com/abstract=3796235> (“Incorporating distributive objectives into cost-benefit analysis of lifesaving regulations while maintaining equal dollar [values of a statistical life] for rich and poor will potentially produce perverse outcomes that—according to standard economic thinking—actually redistribute from poor to rich.”).
- ¹⁰³ Applying uniform benefit estimates across demographic groups is effectively a form of utilitarian weighting, which is described further in Recommendation III, *infra*.
- ¹⁰⁴ EPA Guidelines, *supra* note 29, at B-4 to B-6. *But cf.* RICHARD L. REVESZ & MICHAEL A. LIVERMORE, *RETAKEING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH* 80–81 (2008) (discussing evidence that older individuals place a higher value on each remaining life-year).
- ¹⁰⁵ EPA Guidelines, *supra* note 29, at B-4 (“[T]he income elasticity of [willingness to pay] to reduce mortality risk is positive . . .”).
- ¹⁰⁶ David Glover & John Henderson, *Quantifying Health Impacts of Government Policies: A How-To Guide to Quantifying the Health Impacts of Government Policies*, UK DEP’T OF HEALTH 12 (2010) (advising that “the health gains to any two individuals should be valued the same regardless of their income”); see also *id.* at 10–12 (endorsing disaggregating assessment of regulatory impacts).
- ¹⁰⁷ EPA Technical Guidance, *supra* note 30, at 57.
- ¹⁰⁸ *Id.* at 58.
- ¹⁰⁹ *Id.* at 57–59; EPA Guidelines, *supra* note 29, at 10-8 to 10-9.
- ¹¹⁰ Exec. Order No. 12,898 § 1-101.
- ¹¹¹ This includes “Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer . . . persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.” Exec. Order 13,985 § 1.
- ¹¹² See *supra* note 43 and accompanying text.
- ¹¹³ See, e.g., MATTHEW ADLER, *MEASURING SOCIAL WELFARE: AN INTRODUCTION* 16 (2019) [hereinafter *MEASURING SOCIAL WELFARE*] (“If income indeed has declining marginal well-being impact, then an equal distribution of a fixed total ‘pie’ of income among otherwise identical individuals generates a bigger sum total of well-being, as compared to an unequal distribution of the same ‘pie.’”). Social welfare functions are discussed in further detail in Recommendation 3.
- ¹¹⁴ Earlier this year, for instance, a divided panel of the U.S. Court of Appeals for the Sixth Circuit enjoined the Small Business Administration from prioritizing applications for relief funding based upon the race or sex of the applicant. *Vitolo v. Guzman*, 999 F.3d 353, 366 (6th Cir. May 27, 2021). Two weeks after that decision, a federal judge in the Eastern District of Wisconsin issued a temporary restraining order blocking the Department of Agriculture from administering a loan-forgiveness program based on the applicant’s race. *Faust v. Vilsack*, 2021 WL 2409729 (E.D. Wis. June 10, 2021). A federal judge in the Middle District of Florida also enjoined the same program less than two weeks later, on similar grounds. *Wynn v. Vilsack*, 2021 WL 2580678 (M.D. Fla. June 23, 2021). In general, federal courts are skeptical of mathematical analyses involving “suspect classifications” such as race. See, e.g., *Gratz v. Bollinger*, 539 U.S. 244, 279 (O’Connor, J., concurring) (concluding that university-admission process relying on racial “point allocations” violates the Equal Protection Clause because it “ensures that the diversity contributions of applicants cannot be individually assessed”). *But see Grutter v. Bollinger*, 539 U.S. 306 (permitting university-admission process that considers racial diversity as a “soft variable[]” in a holistic analysis).
- ¹¹⁵ See, e.g., *supra* note 43 and accompanying text.
- ¹¹⁶ We refer to traditional cost-benefit analysis to differentiate the status quo from cost-benefit analysis where utilitarian or prioritarian weights are applied to the costs and benefits of different groups before aggregation, as described below.
- ¹¹⁷ See below in the discussion of utilitarian and prioritarian weights that income is the default, but not necessarily the only, basis for weights. Weights could also consider attributes like health status. See *infra* p. 31–32.
- ¹¹⁸ See e.g., Marc Fleurbaey & Rossi Abi-Rafah, *The Use of Distributional Weights in Benefit-Cost Analysis: Insights from Welfare Economics*, 10 REV. ENV’T ECON. & POL’Y 286, 289 (“Interpersonal comparisons have long been considered problematic because they are associated with difficult value judgments. Although the Pareto principle, which is so popular in economics, is itself a value judgment, it seems easy to defend. In contrast, dealing with the conflicting interests of winners and losers involves defining who is worse off, or more deserving, and this is clearly no simple task.”).

- 119 Phosphoric Acid Manufacturing and Phosphate Fertilizer Production RTR and Standards of Performance for Phosphate Processing, 80 Fed. Reg. 50,386 (Aug. 19, 2015).
- 120 *Id.* at 50,430.
- 121 *Id.*
- 122 EPA determined this rule to not be significant under Executive Order 12,866. *Id.* at 50,431.
- 123 Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands, 80 Fed. Reg. 16,188 (Mar. 26, 2015).
- 124 Circular A-4, *supra* note 20, at 3.
- 125 *Id.* at 2. The Circular uses nonmonetized and unquantified somewhat interchangeably, noting that “[a] non-quantified outcome is a benefit or cost that has not been quantified or monetized in the analysis.” *Id.* at 3.
- 126 Lisa A. Robinson et al., *Reference Case Guidelines for Benefit-Cost Analysis in Global Health and Development* xviii (2019), <https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2447/2019/05/BCA-Guidelines-May-2019.pdf>.
- 127 See Circular A-4, *supra* note 20, at 27 (encouraging agencies to assess “detailed information on the nature, timing, likelihood, location, and distribution of the unquantified benefits and costs”).
- 128 *Id.* at 2.
- 129 The inequality metrics discussed in this section can be applied in a variety of ways. This table merely illustrates the type of information each metric could provide that would be useful to a policymaker.
- 130 Sam Harper et al., *Using Inequality Measures to Incorporate Environmental Justice into Regulatory Analyses*, 10 INT’L J. ENV’T RES. PUB. HEALTH 4039, 4042 (citing Jonathan Levy et al., *Quantifying the Efficiency and Equity Implications of Power Plant Air Pollution Control Strategies in the United States*, 115 ENV’T HEALTH PERSPECT. 743 (2007)); Jonathan Levy et al., *Evaluating Efficiency-Equality Tradeoffs for Mobile Source Control Strategies in an Urban Area*, 29 RISK ANALYSIS 34 (2009); Neal Fann et al., *Maximizing Health Benefits and Minimizing Inequality: Incorporating Local-Scale Data in the Design and Evaluation of Air Quality Policies*, 31 RISK ANALYSIS 908 (2011).
- 131 Harper et al., *supra* note 130, at 4041.
- 132 E.g., Urban Inst., *Segregation Measures*, <https://www.urban.org/research/data-methods/data-analysis/quantitative-data-analysis/segregation-measures> (last visited June 28, 2021).
- 133 U.S. Census Bureau, *Income Inequality Metrics*, <https://www.census.gov/topics/income-poverty/income-inequality/about/metrics.html> (last visited June 28, 2021).
- 134 See Robert Dorfman, *A Formula for the Gini Coefficient*, 61 REV. ECON. STAT. 146 (1979); FRANK COWELL, *MEASURING INEQUALITY* (1995).
- 135 *Id.* at 147.
- 136 *Id.* (citing Corrado Gini, *Variabilità e Mutabilità*, J. ECON. INEQ. (1912)).
- 137 James Boyce et al., *Measuring Environmental Inequality*, 124 ECOL. ECON. 114, 118 (2016).
- 138 See, e.g., Daniel L. Millimet & Daniel Slottje, *Environmental Compliance Costs and the Distribution of Emissions*, 42 J. REGUL. SCI. 105 (2002) (using Gini coefficient to assess how uniform increases in federal environmental standards impact the distribution of environmental hazards).
- 139 Jonathan Levy et al., *Incorporating Concepts of Inequality and Inequity into Health Benefits Analysis*, 5 INT’L J. EQUITY HEALTH 1, 10 (2006).
- 140 See Harper et al., *supra* note 130, at 4052 for a detailed discussion on the Atkinson Index.
- 141 Levy et al., *supra* note 139, at 10. We note that other tools discussed in this section incorporate those judgments implicitly (e.g., by excluding a factor that represents societal preferences about inequality).
- 142 *Id.*
- 143 See U.S. Census Bureau, *Theil Index*, <https://www.census.gov/topics/income-poverty/income-inequality/about/metrics/theil-index.html> (last visited June 28, 2021) (“The Theil index measures an entropic ‘distance’ the population is away from the ‘ideal’ egalitarian state of everyone having the same income.”).
- 144 *Id.*
- 145 *Id.*
- 146 Levy et al., *supra* note 139.
- 147 Harper et al., *supra* note 130.
- 148 Levy et al., *supra* note 139, at 10–12.
- 149 Harper et al., *supra* note 130, at 4041 (2013) (“We are primarily concerned with characterizing the degree of inequality across social groups in defined health outcomes and how that inequality changes as a function of regulatory measures targeting environmental exposures.”).
- 150 *Id.* at 4039.
- 151 *Id.* at 4043–46.
- 152 *Id.*
- 153 Boyce et al., *supra* note 137, at 115.
- 154 Levy et al., *supra* note 139.
- 155 According to these axioms, the metric should: “avoid value judgments about the relative importance of transfers at different percentiles of the risk distribution; incorporate health risk with evidence about differential susceptibility; include baseline distributions of risk; use appropriate geographic resolution and scope; consider multiple competing policy alternatives”; and satisfy the Pigou-Dalton transfer

- principle (that an indicator “should not decrease when risk is transferred from a low-risk to high-risk person, and it should decrease when risk is transferred from a high-risk to low-risk person”) and subgroup decomposability (an indicator “should be able to have total inequality divided into its constituent parts”).
- ¹⁵⁶ Neal Fann et al., *Maximizing Health Benefits and Minimizing Inequality: Incorporating Local-Scale Data in the Design and Evaluation of Air Quality Policies*, 31 RISK ANALYSIS 908 (2011).
- ¹⁵⁷ Erin T. Mansur and Glenn Sheriff, *On the Measurement of Environmental Inequality: Ranking Emissions Distributions Generated by Different Policy Instruments*, 8 J. ASSOC. ENV'T & RES. ECONOMISTS 721 (2021).
- ¹⁵⁸ *Id.* at 1.
- ¹⁵⁹ *Id.*
- ¹⁶⁰ In his 2019 book, Matthew Adler dedicates a chapter on how to define/measure a unit of well-being. MEASURING SOCIAL WELFARE, *supra* note 113, ch. 2.
- ¹⁶¹ Fleurbaey & Abi-Rafeh, *supra* note 118.
- ¹⁶² See, e.g., Matthew Adler & Koen Decancq, *Measuring Well-Being and Respect for Preferences*, in PRIORITARIANISM IN PRACTICE (Matthew Adler and Ole Frithjof Norheim, eds., forthcoming).
- ¹⁶³ *Id.*
- ¹⁶⁴ Maddalena Ferranna et al., *Addressing the COVID-19 Pandemic: Comparing Alternative Value Frameworks* 19, (National Bureau of Economic Research, Mar. 29, 2021).
- ¹⁶⁵ MEASURING SOCIAL WELFARE, *supra* note 113.
- ¹⁶⁶ Matthew D. Adler, *Factoring Equity into Benefit-Cost Analysis*, REGUL. REV. (Apr. 26, 2021), <https://www.theregview.org/2021/04/26/adler-factoring-equity-benefit-cost-analysis/> [hereinafter Factoring Equity].
- ¹⁶⁷ See, e.g., Ferranna et al., *supra* note 163, at 6 (constructing weights considering that well-being depends on “consumption/income, longevity, and health status”).
- ¹⁶⁸ See, e.g., Tamma Carleton & Michael Greenstone, *Updating the United States Government’s Social Cost of Carbon* 25 (2021); Circular A-4, *supra* note 20, at 35 (explaining that one rationale for discounting is that “if consumption continues to increase over time, as it has for most of U.S. history, an increment of consumption will be less valuable in the future than it would be today, because the principle of diminishing marginal utility implies that as total consumption increases, the value of a marginal unit of consumption tends to decline”).
- ¹⁶⁹ Her Majesty’s Treasury, *The Green Book: Central Government Guidance on Appraisal and Evaluation* (2020), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938046/The_Green_Book_2020.pdf [hereinafter UK Greenbook].
- ¹⁷⁰ *Id.* at 97.
- ¹⁷¹ See Matthew D. Adler, *Benefit-Cost Analysis and Distributional Weights: An Overview*, 10 REV. ENV'T ECON. & POL'Y 264 (2016) [hereinafter BCA and Distributional Weights]; Factoring Equity, *supra* note 165.
- ¹⁷² Adler explains the family of prioritarian social welfare functions at length, but very simply, they are tools that can be used when a decisionmaker places value on improving the well-being of the worst-off, even if that leads to larger decreases in well-being to the best-off. MEASURING SOCIAL WELFARE, *supra* note 113, at 88.
- ¹⁷³ See, e.g., Raymond Fisman, Ilyana Kuziemko & Silvia Vanutelli, *Distributional Preferences in Larger Groups: Keeping up with the Joneses and Keeping Track of the Tails*, 19 J. EURO. ECON. ASSOC. 1407 (2021).
- ¹⁷⁴ Frank Venmans & Ben Groom, *Social Discounting, Inequality Aversion, and the Environment*, 109 J. ENV'T ECON. & MGMT. 1 (2021).
- ¹⁷⁵ For instance, Fisman et al., *supra* note 172, use different models to understand what value an individual may place on greater equality. The authors also discuss aversion-to-inequality models more generally. This study in particular looks at “the role of others’ payoffs in choosing distributional outcomes.” *Id.* at 1409. In other words, the authors can “distinguish, for example, whether individuals put more weight on reducing inequality at extreme income levels such as the top and bottom, or focus on inequality nearer to the subject’s own income.” *Id.* Their findings explain some anecdotal evidence regarding society’s aversion to inequality, like why the top one percent of earners are an easier target than those who are extremely well-off but lower down on the income scale for higher tax rates. *Id.* at 1408.
- ¹⁷⁶ See BCA and Distributional Weights, *supra* note 170, at 271 (explaining that defining the inequality aversion parameter can also reflect “the moral preferences” of a decisionmaker).
- ¹⁷⁷ As we note above, using race as a factor in decisionmaking may raise constitutional issues. See *supra* note 114 and accompanying text.
- ¹⁷⁸ See, e.g., Fleurbaey & Abi-Rafeh, *supra* note 118, for a brief overview of this literature.
- ¹⁷⁹ Hemel, *supra* note 102.
- ¹⁸⁰ David A. Weisbach, *Distributionally Weighted Cost-Benefit Analysis: Welfare Economics Meets Organizational Design*, 7 J. LEGAL ANALYSIS 151 (2015).
- ¹⁸¹ See, e.g., BCA and Distributional Weights, *supra* note 170, at 278 (“The use of distributional weights does raise questions of institutional role. An unelected bureaucrat might feel that it would be legally problematic, or democratically illegitimate, for her to specify weights.”); see also Fleurbaey & Abi-Rafeh, *supra* note 118, at 289.

- ¹⁸² See, e.g., Robinson et al., *supra* note 33.
- ¹⁸³ In a new working paper, Harvard Professor and former OIRA administrator Cass Sunstein argues that “courts . . . should tread lightly” when making determinations about whether the use of a social welfare function-based approach to regulatory analysis is arbitrary. Cass R. Sunstein, *Arbitrariness Review (With Special Reference to the Social Cost of Carbon)* (Harvard Kennedy School working paper, June 26, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3874312.
- ¹⁸⁴ MEASURING SOCIAL WELFARE, *supra* note 113, at 213.
- ¹⁸⁵ *Id.* at 214 (arguing that the law likely enables agencies to choose between a social welfarist approach and a traditional cost-benefit analysis approach).
- ¹⁸⁶ Factoring Equity, *supra* note 165.
- ¹⁸⁷ Exec. Order 13,985 § 3.
- ¹⁸⁸ This section draws significantly from Revesz, *supra* note 7, and Jason Schwartz, Inst. for Pol’y Integrity, *Enhancing the Social Benefits of Regulatory Review* 11–12 (2020), https://policyintegrity.org/files/publications/Enhancing_the_Social_Benefits_of_Regulatory_Review.pdf.
- ¹⁸⁹ See Jayni Hein, Inst. for Pol’y Integrity, *A New Way Forward on Climate Change and Energy Development for Public Lands and Waters* 12 (Sept. 2020) (proposing that Interior “identify renewable resource generation potential in areas that have experienced or are expected to experience a decline in fossil fuel production” and potentially prioritize those areas for such renewable development).
- ¹⁹⁰ Revesz, *supra* note 7, at 1573.
- ¹⁹¹ See *Investing in Coal Communities, Workers, and Technology: The POWER+ Plan 2–3* (2015), The President’s Budget, https://obamawhitehouse.archives.gov/sites/default/files/omb/budget/fy2016/assets/fact_sheets/investing-in-coal-communities-workers-and-technology-the-power-plan.pdf.
- ¹⁹² Revesz, *supra* note 7, at 1550.
- ¹⁹³ *Id.* at 1551.
- ¹⁹⁴ Exec. Order No. 14,008 § 218.
- ¹⁹⁵ *Id.* Membership in this interagency working group is comprised of the Secretaries of the Treasury, Interior, Agriculture, Commerce, Labor, Health and Human Services, Transportation, Energy, Education, the Administrator of the EPA, the Director of OMB, the Assistant to the President for Domestic Policy and the Director of the Domestic Policy Council, and the federal co-Chair of the Appalachian Regional Commission.
- ¹⁹⁶ Exec. Order No. 14,008 § 218.
- ¹⁹⁷ Interagency Working Group on Coal and Power Plan Communities and Economic Revitalization, *Initial Report to the President on Empowering Workers Through Revitalizing Energy Communities* (April 2021), https://netl.doe.gov/sites/default/files/2021-04/Initial%20Report%20on%20Energy%20Communities_Apr2021.pdf.
- ¹⁹⁸ Exec. Order No. 14,008 § 218 (B)(ii).
- ¹⁹⁹ See Revesz, *supra* note 7, at 1556–68 for a detailed argument for why the Office of the President is an appropriate conduit for these considerations.
- ²⁰⁰ Exec. Order 14,008 § 209.
- ²⁰¹ See Revesz, *supra* note 7, at 1570–72 for a discussion of why OIRA is a suitable candidate to oversee federal government-wide distributional issues.
- ²⁰² *Id.*
- ²⁰³ Exec. Order No. 14,008 § 220 (d),
- ²⁰⁴ Schwartz, *supra* note 187.
- ²⁰⁵ *Id.*
- ²⁰⁶ See Exec. Order No. 14,008 § 203.
- ²⁰⁷ Schwartz, *supra* note 187, at 12.
- ²⁰⁸ *Id.*
- ²⁰⁹ *Id.*
- ²¹⁰ See Horst Rittel & Melvin Webber, *Dilemmas in a General Theory of Planning*, 4 POL’Y. SCI. 155, 160–61 (1973).
- ²¹¹ See Kreuter et al., *Understanding Wicked Problems: A Key to Advancing Environmental Health Promotion*, 31 HEALTH ED. BEHAVIOR 441, 443 tbl.1 (2004) (providing a breakdown of what makes a problem “wicked”).
- ²¹² *Id.*
- ²¹³ *Id.*
- ²¹⁴ See OECD, *Systemic Thinking for Policy Making – The Potential of Systems Analysis for Addressing Global Policy Challenges in the 21st Century* at 3 (Gabriela Ramo & William Hynes eds., 2019), [https://www.oecd.org/naec/averting-systemic-collapse/SG-NAEC\(2019\)4_IIASA-OECD_Systems_Thinking_Report.pdf](https://www.oecd.org/naec/averting-systemic-collapse/SG-NAEC(2019)4_IIASA-OECD_Systems_Thinking_Report.pdf) (“[O]ur established approaches to analysis and policy are heavily based on the Western scientific tradition of reductionism—where we separate complex realities into specialized disciplines, fields of research, agencies and ministries, each focused on a part of the overall truth. We are then confronted by the need to pull all these disparate views together in order to organize an effective policy response.”).
- ²¹⁵ There are, of course, exceptions. For instance, EPA and NHTSA have jointly promulgated fuel-efficiency and greenhouse gas emission standards for motor vehicles in recent years.
- ²¹⁶ Ramo & Hynes, *supra* note 213, at 3.
- ²¹⁷ See, e.g., Jeroen van der Heijen, *Systems Thinking and Regulatory Governance: A Review of the International Academic Literature* 15–16, (State of the Art in Regul. Governance Rsch. Paper 2020).



Institute *for*
Policy Integrity

NEW YORK UNIVERSITY SCHOOL OF LAW

Institute for Policy Integrity
New York University School of Law
Wilf Hall, 139 MacDougal Street, New York, New York 10012
policyintegrity.org