NePA in the Hot Seat: A Proposal for an Office of Environmental Analysis

Aliza M. Cohen
University of Michigan Law School

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Judicial deference under the National Environmental Policy Act (NEPA) can be problematic. It is a well-established rule of administrative law that courts will grant a high degree of deference to agency decisions. They do this out of respect for agency expertise and policy judgment. This deference is applied to NEPA lawsuits without acknowledging the special pressures that agencies face while assessing the environmental impacts of their own projects. Though there is a strong argument that these pressures undermine the reasons for deferential review, neither the statute nor the courts have provided plaintiffs with adequate means to remedy this problem. Agency pressure and environmental harms are often amplified in the context of climate change and can lead to incongruous results that are scientifically questionable, counter to NEPA's expressive environmental policy, or both. In light of the current deficiencies in the interpretation and application of the law and the pressing issue of global warming, the time is ripe for reforms that will ensure that agency decisions reflect NEPA's expressive purpose and are, at the very least, supported by honest science. This Note proposes an external office to address NEPA's shortcomings by providing a higher level of scientific review for agency analyses under NEPA. The proposed review grants the wide deference for policy judgments that the administrative state requires, while acknowledging the places where an agency may not be in the best position to adjudge the veracity of the environmental impacts of its own projects.

INTRODUCTION

My good friend Melanie and I live on opposite ends of the National Environmental Policy Act (NEPA) spectrum. Unlike me, Melanie does not concern herself with the statutory or legal details of our Nation's environmental policy. Rather, as a biological scientist at a large engineering firm, she writes the Environmental Impact Statements (EIS) that are a key component of NEPA's "action-forcing" provisions. Melanie recently told me about one preliminary assessment she made that revealed environmental...
impacts that would be unfavorable to her client's project. Soon after, the client showed up with lawyers in tow, pressuring Melanie to modify her findings in response to the client's needs. Melanie refused, but had she done otherwise, her determination, if it remained scientifically defensible, would be virtually unchallengeable as an agency decision through either the administrative process or judicial review. Not only is this problematic from an objective scientific viewpoint, but the accepted results would also seem counter to expressive nature of NEPA,¹ which aims to inspire principled actions in accordance with a national environmental policy. The result, in other words, would be absurd.

Judicial deference under NEPA can be problematic. It is a well-established rule of administrative law that courts will grant a high degree of deference to agency decisions.² They do this out of respect for agency expertise and policy judgment. This deference is applied to NEPA lawsuits without acknowledging the special pressures that agencies face while assessing the environmental impacts of their own projects. Though there is a strong argument that these pressures undermine the reasons for deferential review, neither the statute nor the courts have provided plaintiffs with adequate means to remedy this problem. Agency pressure and environmental harms are often amplified in the context of climate change and can lead to incongruous results that are scientifically questionable, counter to NEPA's expressive environmental policy, or both. In light of the current deficiencies in the interpretation and application of the law and the pressing issue of global warming, the time is ripe for reforms that will ensure that agency decisions reflect NEPA's expressive purpose and are, at the very least, supported by honest science.

Part I of this Note provides an overview of global warming and the relevant statutes—NEPA and the Administrative Procedure Act (APA). Part II addresses NEPA's role in the climate change debate, including the characteristics that make it appealing, those that make it confusing, and those that make it largely ineffective. Part II also demonstrates that NEPA's expressive characteristics become more important in light of climate change, requiring a renewed

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¹ The expressive nature of NEPA is discussed infra Part II.B.2.
² Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 844 (1984) ("We have long recognized that considerable weight should be accorded to an executive department's construction of a statutory scheme it is entrusted to administer, and the principle of deference to administrative interpretations has been consistently followed by this Court whenever decision as to the meaning or reach of a statute has involved reconciling conflicting policies, and a full understanding of the force of the statutory policy in the given situation has depended upon more than ordinary knowledge respecting the matters subjected to agency regulations." (quoting United States v. Shimer, 367 U.S. 374, 382 (1961))).
focus on EIS procedures even though substantive results may remain difficult to achieve. Part III proposes an external office to address NEPA’s shortcomings by providing a higher level of scientific review for agency analyses under NEPA. This proposed review grants the wide deference for policy judgments that the administrative state requires, while acknowledging the places where an agency may not be in the best position to adjudge the veracity of the environmental impacts of its own projects. Part IV concludes.

I. A Climate Change and Statutory Primer

A. Climate Change Science

A full account of climate change science can be found elsewhere, but this section will highlight some of the salient facts. It is especially important to note the complexity of both climate change and its impacts. Because the body of climate change science, though already substantial, is growing, future regulatory strategies must be stringent enough to halt or reduce harmful impacts, while being flexible enough to accommodate developing understandings of what signifies a “cause” and “effect.”

A major driver of global climate change, and thus a focus of attempts at both international coordination and domestic legislation, are anthropogenic emissions of greenhouse gases into the atmosphere.


5. “Anthropogenic” refers to things that originate in human activity. Though most of the focus on greenhouse gas regulation is on carbon dioxide (CO2), greenhouse gases also include methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF6), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and the halons (commonly used in fire extinguishers). Intergov’t Panel on Climate Change, Climate Change 2001: The Scientific Basis 243 (J.T. Houghton & Y. Ding eds., 2001) [hereinafter IPCC 2001 Working Group 1], available at http://www.grida.no/publications/other/ipcc_tar/src/climate/ipcc_tar/wg1/127.htm. According to the 2007 IPCC report, it is “extremely likely that humans have exerted a substantial warming influence on climate” since 1750. IPCC 2007 Working Group 1, supra note 4 at 671 (em-
atmosphere far in excess of what would occur naturally. These greenhouse gases affect the global climate by trapping heat within the atmosphere, resulting in a well-documented planetary warming effect.\(^6\)

The identified sources of these emissions are numerous and implicate industrial, commercial, and agricultural interests, as well as the aggregate activities of private individuals.\(^7\) Other human activities, such as land use changes, may also contribute to overall climate change, further complicating the picture.\(^8\) The impacts of climate change are felt not only through potential hazards to human health and property, but also indirectly through effects on a variety of national and international interests including economic prosperity and national security.\(^9\) Though many impacts are future

\(^6\) The measured change in radiative forcing, a value used to quantify the strength of human and natural agents causing climate change, is at least five times greater than that which would result from natural forces alone. IPCC 2001 Working Group 1, supra note 5, at 131.

\(^7\) The correlation between historic atmospheric concentrations of greenhouse gases and global temperature is remarkable. See J.R. Petit et al., Climate and Atmospheric History of the Past 420,000 Years from the Vostok Ice Core, Antarctica, 399 Nature 429, 431 fig.3 (1999); see also Wibjörn Karlén, Global Temperature Forced by Solar Irradiation and Greenhouse Gases?, 30 Ambio 349 (2001). Modern global temperature measurements, begun in the 1880s, have also shown marked increases in average temperatures corresponding to the continuing rise of the concentration of atmospheric greenhouse gases. James Hansen et al., Global Temperature Change, 103 Proc. Nat’l Acad. Sci. 14288, 14289 fig.1 (2006).


\(^9\) Changes in vegetation cover and urbanization contribute to climate change by forcing “changes in the physical properties of the land surface.” Roger A. Pielke Sr. et al., The Influence of Land-use Change and Landscape Dynamics on the Climate System: Relevance to Climate-change Policy Beyond the Radiative Effect of Greenhouse Gases, 360 Phil. Trans. Royal Soc’y London A 1705, 1706 (2002); see also IPCC 2007 Working Group 1, supra note 4, at 185 (“[T]he overall effect of anthropogenic land cover change on global temperature will depend largely on the relative importance of increased surface albedo in winter and spring (exerting a cooling) and reduced evaporation in summer and in the tropics (exerting a warming).”) (citations omitted).

projections, the actual warming effects have already been recognized. The world is currently entering a streak of unprecedented warmth, with the decade ending in 2009 being the warmest on record.¹⁰

These documented and predicted environmental harms with their attendant effects on human health and welfare are comparable to the dramatic events that spurred the Clean Water Act¹¹ and Clean Air Act,¹² further supporting the notion that the “tipping point” for action to mitigate or address climate change is at hand.¹³ In tackling climate change, however, unlike the development of clean water and air laws, scientists and regulators lack an easily identifiable and politically charged smoking gun: the industrial facility dumping toxic sludge into a shared waterway, the power plant belching dangerous particulates over a vulnerable neighboring community. Greenhouse gas emissions and the other anthropogenic sources of climate change are often numerous, silent, and odorless; the nature of greenhouse gases and their global warming effects make it impossible to discern whose pollution is causing which problem; and small sources in apparently environmentally invulnerable places may have large aggregate effects on climate change. At the moment, comprehensive and effective climate change legislation may be too much of a political hot potato, so it is imperative that

methods used in Emanuel’s study); Roger A. Pielke, Jr., Are There Trends in Hurricane Destruction?, 438 NATURE E11 (2005) (noting no corresponding increase in hurricane damages).


¹³. “Tipping point” has two meanings in this context. First, the notion of a legislative tipping point reflects changes in how the general populace and industries perceive the need for climate change regulation. See, e.g., John Carey & Adam Aston, Climate Wars: Episode Two, BUS. WK., Apr. 23, 2007, at 90 (“[T]he science debate is ancient history. The current argument . . . is about how the government should act to curb carbon emissions. ‘We’ve reached a tipping point on this issue,’ says Jeff Serber, CEO of Southwestern utility PNM Resources.”). Second, the “tipping point” often refers to the scientific notion of a point beyond which climate change is irreversible. See, e.g., Marten Scheffer et al., Early-Warning Signals for Critical Transitions, 461 NATURE 53 (2009); Juliet Eilperin, Debate on Climate Change Shifts to Issues of Irreparable Change, WASH. POST, Jan. 29, 2006, at A1; Brian Walsh, Is There a Climate-Change Tipping Point?, TIME (Sept. 4, 2009), http://www.time.com/time/health/article/0,8599,1920168,00.html.
courts and federal agencies be given a politically viable option to address these issues. It is auspicious then, that NEPA, if properly supported by certain reforms, provides a sufficiently broad and flexible mandate to tackle the unique challenges inherent in climate change.

B. Statutory Framework

In a world where environmental statutes often encompass hundreds of pages, NEPA and the APA are notable both for their brevity and the broad impacts they have on federal agency decision-making. As a starting point for later discussion, both NEPA and the APA, which govern the means by which agency actions become subject to NEPA as well as judicial review of those actions, are presented in this section.

1. NEPA

The National Environmental Policy Act of 1969 ushered in a decade of environmental lawmaking. The passage of the Act was spurred by a growing sentiment that "the most dangerous of all . . . enemies is man's own undirected technology" and that a solution to the problem would necessarily touch on "practically every aspect of everyday life: economic, scientific, technological, legal, and even interpersonal." Accordingly, NEPA's drafters intended to harmonize environmental protection with the resource consumption necessary to advance the "health and welfare of man."

14. Upon signing the bill into law, President Nixon issued a statement proclaiming that "the nineteen-seventies absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters and our living environment. It is literally now or never." Text of Nixon Statement, N.Y. TIMES, Jan. 2, 1970, at 12. After NEPA, Congress passed the vastly revised Federal Water Pollution Control Act in 1970 (amended as the Clean Water Act in 1972), the Coastal Zone Management Act in 1972, the Endangered Species Act in 1973, the Resource Conservation and Recovery Act in 1976, and the amended Clean Air Act in 1977. These statutes form the bulk of the nation's major environmental laws. See also Nicholas C. Yost, NEPA's Promise—Partially Fulfilled, 20 ENVTL. L. 533, 534 & n.5 (1990) ("Senator Jackson [NEPA's Senate author] characterized NEPA as 'the most important and far-reaching environmental and conservation measure ever enacted,'" and John Dingell, its House author proclaimed that "we must consider the natural environment as a whole and assess its quality continuously if we really wish to make strides in improving and preserving it.") (citations omitted).


16. Id.

NEPA advances this purpose by declaring a broad national policy to elevate environmental concerns, and by providing “action-forcing” measures, in the form of Environmental Impact Statements, to assure its implementation. NEPA also established the President’s Council on Environmental Quality to oversee the implementation of NEPA and further the policies set forth in the enabling statute. These three elements—policy, procedure, and executive agency oversight—were intended to work together, much like a system of checks and balances, to ensure the success of the policy as a whole.

NEPA’s declaration of environmental policy sets forth a broad mandate for the federal government to “use all practicable means and measures . . . in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.”

This policy applies to the diverse activities of the federal government, including the routine coordination of all “plans, functions, programs, and resources” and administration of all “policies, regulations, and public laws of the United States.” Though the formal statement is broad and lofty, NEPA’s declaration of national policy specifies six ends which the federal government has “continuing responsibility” to carry out. These include efforts to secure for both current and future generations their needs for pleasant surroundings, environmental health and safety, historic, natural, and cultural resources, as well as maintenance of a high quality of life and equitable apportionment of limited natural resources. This policy represents an assertion that environmental protection should be part of the broad mandate of every federal agency.

18. S. Rep. No. 91-296, at 9 (1969); 42 U.S.C. § 4332(c) (requiring agencies to prepare written statements outlining the impacts and setting forth alternatives for any major federal action having a significant effect on the "quality of the human environment").
20. S. Rep. No. 91-296, at 24–25 (stating that it is the purpose of the Board of Environmental Quality Advisors—later, the Council on Environmental Quality—to evaluate broadly the successes of federal programs in “relation to environmental trends and problems” and make recommendations to the President).
22. Id. § 4331(b).
23. Id. § 4332(1).
24. Id. § 4331(b).
25. Id. § 4331(b)(1)-(6).
26. See, e.g., Envtl. Def. Fund, Inc. v. Mathews, 410 F. Supp. 336, 337 (D.D.C. 1976) (finding that NEPA “provides FDA with supplementary authority to base its substantive decisions on all environmental considerations including those not expressly identified in . . . other statutes” and holding that FDA may not prohibit the Commissioner from acting solely on the basis of environmental considerations); First Nat’l Bank v. Watson, 363 F. Supp. 466,
It is significant that NEPA does not impose any substantive requirements on the federal government. Rather than mandating a particular balance for or against the environment, it emphasizes that agencies should consider environmental impacts in a way “consistent with other essential considerations of national policy.” With ample use of balancing language, NEPA’s text makes clear that environmental considerations are just one of many elements agencies are expected to consider. Because the statute does not specify the gravity an agency must give to environmental considerations, NEPA “leaves room for a responsible exercise of discretion and may not require particular substantive results in particular problematic instances.”

Though substantively flexible, NEPA imposes rigid procedural obligations on federal agencies. The key component of its procedural mandate is the preparation of an EIS: a detailed statement outlining an action’s environmental impacts, both avoidable and unavoidable, and any possible alternatives.

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472 (D.D.C. 1973) (“NEPA applies to all federal agencies, including the Comptroller of the Currency.”).
27. 42 U.S.C. § 4331(b).
28. This includes a focus on attaining “the widest range of beneficial uses,” id. § 4331(b)(3) (emphasis added); maintaining “wherever possible, an environment which supports diversity and variety of individual choice,” id. § 4331(b)(4) (emphasis added); achieving a “balance between population and resource use,” id. § 4331(b)(5) (emphasis added); and approaching rather than achieving “maximum attainable recycling of depletable resources,” id. § 4331(b)(6).
30. Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n, 449 F.2d 1109, 1112 (D.C. Cir. 1971). Despite NEPA’s emphasis on environmental stewardship, courts have not interpreted the statute’s balancing language to require that agencies “elevate environmental concerns over other appropriate considerations.” Stryker’s Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980). Cf. Endangered Species Act, 16 U.S.C.A. § 1531(c) (2010) (“It is further declared to be the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this chapter.”). Courts interpret this stronger language as requiring agencies to “halt and reverse the trend toward species extinction, whatever the cost.” Tenn. Valley Auth. v. Hill, 437 U.S. 153, 184 (1978); see also id. at 179–83 (explaining the careful omission of balancing language from the Endangered Species Act policy statement). The absurd results that may flow from the lack of substantive mandate are discussed infra Part II.C.
The Council on Environmental Quality (CEQ)\textsuperscript{32} promulgates regulations that guide agencies through the EIS process.\textsuperscript{33} The CEQ's regulations seek to ensure that an agency's environmental analysis is thorough, with the assumption that thorough analyses will result in well-reasoned actions.\textsuperscript{34} Though the aspirations of NEPA's national environmental policy apply to the interpretation and administration of all "policies, regulations, and public laws of the United States,"\textsuperscript{35} an EIS is only required for "major Federal actions significantly affecting the quality of the human environment."\textsuperscript{36} In some circumstances, an agency may avoid the costly and time-intensive EIS process by preparing a less rigorous environmental analysis called an Environmental Assessment (EA)\textsuperscript{37} along with a "Finding of No Significant Impact" (FONSI).\textsuperscript{38} The agency may also promulgate a list of Categorical Exclusions (CE);\textsuperscript{39}

\textsuperscript{32} The CEQ is an Executive Office charged with advising, assisting, and reporting to the President on matters concerning environmental policies and environmental quality. 42 U.S.C. § 4344. See also Henry M. Jackson Found., Facing the Future: Recommendations on the White House Council on Environmental Quality, at Attachment B (2008), available at http://www.eli.org/pdf/seminars/NEPA/Facing%20the%20Future.pdf. To that extent, CEQ publishes regulations to ensure that NEPA doesn't just generate "excellent paperwork," but that it fosters "excellent action." 40 C.F.R. § 1500.1(c).

\textsuperscript{33} The regulations promulgated by CEQ are binding on federal agencies. 40 C.F.R. § 1500.3 ("Parts 1500 through 1508 of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions. . . ."). But see Tomac v. Norton, 433 F.3d 852, 861 (D.C. Cir. 2006) (noting that the "binding effect of CEQ regulations is far from clear").

\textsuperscript{34} See 40 C.F.R. § 1502.1 ("The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government."). See also id. § 1502.2 (requiring an agency's EIS to "state how alternatives considered in [the EIS] and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies").

\textsuperscript{35} 42 U.S.C. § 4332.

\textsuperscript{36} Id. § 4332(C). The regulations provide guidance on the definitions of "major," "federal," and "action" within the meaning of the statute. "Major reinforces but does not have a meaning independent of significantly," 40 C.F.R. § 1508.18, which is further defined in terms of both "context and intensity" of the activity's impacts. Id. § 1508.27. "Federal" actions include "agency rules, regulations, plans, policies, or procedures, . . . legislative proposals," and new or continuing activities which are either "entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies." Id. § 1508.18(a). "Actions" include the aforementioned policies (including formal rules, regulations, and interpretations) and plans, the implementation of programs, as well as the "approval of specific projects . . . located in a defined geographic area." Id. § 1508.18(b)(1)-(4). See, e.g., Friends of the Earth, Inc. v. Mosbacher, 488 F. Supp. 2d 889, 912, 915–16 (N.D. Cal. 2007) (explaining that the point at which federal support of a state or local project turns the project into a "major federal action" is a question of degree).

\textsuperscript{37} 40 C.F.R. § 1508.9.

\textsuperscript{38} Id. § 1508.13.

\textsuperscript{39} Id. § 1508.4.
once the exclusion has been established, an action falling under it will not require an EIS.\footnote{Id.}

If a proposed activity requires an EIS, the agency must consider all of its possible direct,\footnote{Id. § 1508.8(a) ("[C]aused by the action and occur[ing] at the same time and place.").} indirect,\footnote{Id. § 1508.8(b) ("[C]aused by the action and . . . later in time or farther removed in distance.").} and cumulative\footnote{Id. § 1508.7 ("[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such other actions.").} effects. Additionally, the CEQ requires agencies to supplement an EIS as "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts" arise.\footnote{Id. § 1508.8(a).} The "heart of the environmental impact statement"\footnote{Id. § 1502.14(d).} is not in the discussion of the proposed action or its impacts, but in its analysis of "all reasonable alternatives."\footnote{Id. § 1502.14(c).} An agency must consider the "no action" alternative,\footnote{See infra Part II.C.} as well as any "reasonable alternatives not within the jurisdiction of the lead agency."\footnote{Id.} Though it has not come out this way in practice,\footnote{See supra note 31, at 607-08 (2003) (examining narrow construction of agency purpose).} these regulations imply that an agency, upon consideration of the national environmental policy, might entirely forego a proposed project, or at least its control over it. In other words, the regulations seek to ensure that section 101 of NEPA, not the proposed agency action, is the "controlling policy."\footnote{William C. Martucci, Comment, The Developing Common Law of 'Major Federal Action' Under the National Environmental Policy Act, 31 ARK. L. REV. 254, 255 (1977). See also Czarnezki, supra note 31, at 607-08 (2003) (examining narrow construction of agency purpose). Unfortunately, the NEPA process itself requires the expenditure of great amounts of time and money. See Nat'l Parks & Conservation Ass'n v. BLM, 586 F.3d 735, 754 (9th Cir. 2009) (dissenting opinion) (explaining the arduous and costly EIS/EIR process for a mine project near Joshua Tree National Park); Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 533 (8th Cir. 2003) ("In all, the environmental review process took nearly four years and generated roughly 8,600 public comments.").}

Because of the extensive list of covered activities and broad timescale by which the effects of agency actions must be analyzed, all manner of federal actions and impacts may become eligible for review under NEPA. This makes the statute an attractive tool for parties seeking to challenge federal actions that spark environmental concerns, including those related to climate change, which
might not be specifically covered under any other environmental statue.

2. Administrative Procedure Act of 1946

NEPA applies to all major Federal actions, and the majority of these actions—rules, regulations, interpretations, programs, and the like—\(^5\) are actually the work of administrative agencies.\(^6\) Congress establishes the broad contours of legislation, sets forth the statutory objective, and often delegates policy choices and administrative details to the proper agency. The agency ostensibly has the resources and expertise required to formulate and implement the applicable rules.\(^7\) Delegation is common in environmental statutes, where implementation may require an understanding of complex scientific concepts, as well as familiarity with state-of-the-art pollution control technologies.\(^8\)

\(^5\) See supra notes 35–39 and accompanying text.


\(^7\) Congress provides enabling language in the statute. See generally Elizabeth V. Foote, Statutory Interpretation or Public Administration: How Chevron Misconceives the Functions of Agencies and Why it Matters, 59 Admin. L. Rev. 673, 679 (2007); see also Strauss, supra note 52, at 584 (citing the Mine Safety Act, the Occupational Safety and Health Act, and other examples from the administrative state).

\(^8\) See, e.g., section 302(a) of the Clean Air Act, 42 U.S.C. § 7602(a) (2006) (defining "Administrator" as "the Administrator of the Environmental Protection Agency" and referring to "Administrator" more than 2,000 times throughout the statute); section 3(15) of the Endangered Species Act, 16 U.S.C. § 1532(15) (2006) (defining "Secretary" as either the Secretary of the Interior, the Secretary of Commerce, or the Secretary of Agriculture and referring to "Secretary" nearly 300 times throughout the statute); section 101(d) of the Clean Water Act, 33 U.S.C. § 1251(d) (2006) (providing that "the Administrator of the Environmental Protection Agency (hereinafter in this Act called 'Administrator') shall administer this Act" and mentioning "Administrator" nearly 950 times throughout the statute). Though common, legislative delegation is a topic of criticism and concern among both lawyers and academics. Courts continually grapple with the distinction between delegable and non-delegable legislative authority. See United States v. Grimaud, 220 U.S. 506, 517 (1910) ("The line has not been exactly drawn which separates those important subjects, which must be entirely regulated by the legislature itself, from those of less interest, in which a general provision may be made, and power given to those who are to act under such
The Administrative Procedure Act of 1946 (APA) formalizes the process by which the agencies to which Congress delegates authority promulgate their rules and regulations. Because NEPA lawsuits involve challenges to agency actions in federal courts, this section will focus on the judicial review provisions found in section 10 of the APA. The APA authorizes judicial review of any "final agency action for which there is no other adequate remedy in a court." NEPA does not include its own provision for judicial review, and thus falls under the APA standard. The following agency actions under NEPA are considered "final agency action[s]" under the APA:

5. See U.S. DEPT OF JUSTICE, ATTORNEY GENERAL'S MANUAL ON THE ADMINISTRATIVE PROCEDURE ACT, 9 (1947) (Outlining the "four basic purposes" of the Administrative Procedure Act: (1) To require agencies to keep the public currently informed of their organization, procedures and rules; (2) To provide for public participation in the rule making process; (3) To prescribe uniform standards for the conduct of formal rulemaking and adjudicatory proceedings; (4) To restate the law of judicial review).

6. 5 U.S.C. §§ 701-706 (2006). This Note does not address the rulemaking procedures embodied in the APA, but understanding these provisions may be useful in understanding the scope of agency actions that may be subject to NEPA review. See generally ATTORNEY GENERAL'S MANUAL ON THE ADMINISTRATIVE PROCEDURE ACT, supra note 55, at §§ I.C & III (explaining distinction between rulemaking and adjudication and discussing § 4(b) of the APA, respectively); Richard J. Pierce, Rulemaking and the Administrative Procedure Act, 32 TULSA L.J. 185, 186-87 (1996).

7. 5 U.S.C. § 704; see also id. § 701(a) ("This chapter applies, according to the provisions thereof, except to the extent that (1) statutes preclude judicial review; or (2) agency action is committed to agency discretion by law.").


9. See Bennett v. Spear, 520 U.S. 154, 177-78 (1997) ("As a general matter, two conditions must be satisfied for agency action to be final: First, the action must mark the consummation of the agency's decision-making process—it must not be of a merely tentative or interlocutory nature. And second, the action must be one by which rights or obligations have been determined, or from which legal consequences will flow.") (internal citations and quotations omitted).

Supplemental Environmental Impact Statement (SEIS), an agency's completion of an EA/FONSI, and an agency's application of a CE. Taken together, these claims represent a majority of the more than one hundred NEPA cases—all decided under the APA's standard for judicial review—filed each year.

The APA sets forth a highly deferential "arbitrary and capricious" default standard for courts reviewing agency decisions. Under this standard, the reviewing court shall set aside an agency decision only if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." As the Supreme Court has

(1989) (challenging the Army Corps of Engineers' determination that a supplemental EIS was unnecessary). But see 5 U.S.C. § 704 ("A preliminary, procedural, or intermediate agency action or ruling not directly reviewable is subject to review on the review of the final agency action.").

61. Norton v. S. Utah Wilderness Alliance, 542 U.S. 55, 73 (2004) (conservation group challenging Bureau of Land Management's failure to prepare a SEIS); Miss. River Basin Alliance v. Westphal, 230 F.3d 170 (5th Cir. 2000) (conservation groups challenging adequacy of an SEIS where the "Court's role in reviewing the adequacy of the SEIS is governed by the Administrative Procedure Act"); see also 40 C.F.R. § 1502.9(c) (2009) (outlining when agencies shall prepare supplements to either a draft or final EIS).

62. See, e.g., Winter v. Natural Res. Def. Council, 129 S. Ct. 365 (2008) (plaintiffs challenging Navy's EA for naval readiness activities in Southern California, which resulted in a finding of no significant impact); see also 40 C.F.R. §§ 1508.9, 13 (defining EA and FONSI, respectively).

63. See, e.g., West v. Sec'y of the Dep't of Transp., 206 F.3d 920, 926-29 (9th Cir. 2000); see also 40 C.F.R. § 1508.4 (defining CE).


65. Ray v. Lehman, 55 F.3d 606, 608 (Fed. Cir. 1995) ("The scope of review under the arbitrary and capricious standard is narrow and a court is not to substitute its judgment for that of the agency."); Envtl. Def. Fund, Inc. v. Costle, 657 F.2d 275, 283 (D.C. Cir. 1981) ("This 'arbitrary and capricious' standard of review is a highly deferential one which presumes the agency's action to be valid.") (citations omitted); Nat'l Motor Freight Traffic Ass'n v. Interstate Commerce Comm., 590 F.2d 1180, 1184 (D.C. Cir. 1978) ("In general, the 'arbitrary and capricious' standard requires a reviewing court to defer to an agency's judgment so long as it has a rational basis."). But see Scott A. Keller, Depoliticizing Judicial Review of Agency Rulemaking, 84 WASH. L. REV. 419 (2009) (proposing that courts review agency rulemaking under the "rational basis with bite" standard).

66. 5 U.S.C. § 706 (2006). The full text of the provision reads:

The reviewing court shall—

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be—(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; (B) contrary to constitutional right, power, privilege, or immunity; (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; (D) without observance of procedure required by law; (E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed
interpreted it, a court generally should overturn an agency action under the APA only if

the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. 67

The APA thus puts the onus on the courts to accurately discern what Congress intended and to ensure that the agency decision is not "implausible" given the context.

The narrow scope of APA review makes the courts' interpretation of the statute's intent crucial. Since NEPA lacks rigid substantive mandates, courts have failed to link NEPA's procedural provisions with the "substantive" declaration of environmental policy. The courts' construction of "arbitrary and capricious" in the context of NEPA and its implications for NEPA's effectiveness as a tool for environmental protection (and global climate change mitigation) will be considered in the following section.

II. THE GOOD, THE BAD, AND THE UGLY: NEPA AND CLIMATE CHANGE

Following the Supreme Court's decision in Massachusetts v. EPA68 and the Environmental Protection Agency's (EPA) Endangerment Finding for greenhouse gas emissions under section 202 of the Clean Air Act,69 the EPA is authorized to move forward with climate change regulations.70 Because many believe that the Clean Air Act

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68. 549 U.S. 497, 528 (2007) (holding that section 202(a)(1) of the Clean Air Act "authorizes EPA to regulate greenhouse gas emissions from new motor vehicles in the event that it forms a 'judgment' that such emissions contribute to climate change").


is not the ideal statutory tool to regulate greenhouse gas emissions, Congress is concurrently drafting its own climate change legislation. In the meantime, plaintiffs rely on both common law claims and existing environmental regulations to address climate change where federal regulations offer no effective remedy. Regardless of the authority under which future climate change regulations will be promulgated, such rules are now inevitable. The question has morphed from "should we regulate greenhouse gas emissions" to "how best should we regulate greenhouse gas emissions" to "how best should we regulate greenhouse gas emissions."
emissions?"  

This section will demonstrate that, regardless of the structure of future climate change legislation, NEPA has potential to remain an important statute for addressing climate change. In doing so, this section also addresses some of the more vexing issues surrounding NEPA’s application to climate change.

In more than a dozen lawsuits since 2003, plaintiffs have used NEPA to challenge an agency’s failure to adequately consider the climate change impacts of major federal projects. A growing number of courts are willing to conclude that global-warming impacts and carbon emissions fall within NEPA’s purview, both categorically, and as a foreseeable effect of the agency’s action. This section analyzes the extent to which NEPA can rationally function as an effective part of the nation’s climate change regime. Part A focuses on NEPA’s benefits, namely the areas in which it fills existing gaps in a command-and-control regulatory framework. Part B focuses on threshold questions that stymie discourse on NEPA and climate change. Part C then shows how climate change exacerbates widely recognized shortfalls in NEPA jurisprudence.


77.  See Ctr. for Bio. Diversity v. Nat’l Highway Traffic Safety Admin. 538 F.3d 1172, 1217 (9th Cir. 2008) (finding that “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct”); Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 548, 550 (8th Cir. 2003) (finding that the Surface Transportation Board had failed to account for pollutants, including carbon dioxide, that do not fall under a regulatory cap). But see Audubon Naturalist Soc’y v. U.S. Dep’t of Transp., 524 F. Supp. 2d. 642, 708 (D. Md. 2007) (finding the lack of national cap for greenhouse gas emissions a determinative factor in holding that it was not useful to consider greenhouse gas emissions as part of the planning and development process).

78.  See Mid States Coal. for Progress, 345 F.3d at 550 (“[I]t would be irresponsible for the [Surface Transportation Board] to approve a project of this scope without first examining the effects that may occur as a result of the reasonably foreseeable increase in coal consumption.”); Friends of the Earth v. Mosbacher, 488 F. Supp. 2d 889 (N.D. Cal. 2007) (holding that plaintiffs could demand review of domestic effects of increased greenhouse gas emissions from federal support of international fossil fuel exploration projects); Border Power Plant Working Grp. v. Dep’t of Energy, 260 F. Supp. 2d 997, 1017 (S.D. Cal. 2003) (requiring consideration of climate change impacts for generation of power by one turbine of Mexican power plant, where Presidential Permits and federal rights-of-way connecting the plant to the power grid in Southern California were the but-for cause of generation of power at the turbine). Caleb W. Christopher also identifies a third barrier to incorporating climate change impact considerations in Environmental Impact Statements: the determination of whether the project’s impact is "significant." Caleb W. Christopher, Success by a Thousand Cuts: The Use of Environmental Impact Assessment in Addressing Climate Change, 9 VT. J. ENVTL. L. 549, 556 (2008).
Together, these three sections set the stage for the proposed reform that follows.

A. The Good: NEPA's Structural Advantages in the Climate Change Context

1. Ex Ante, Not Ex Post

The purpose of NEPA is to "incorporate environmental considerations into federal agencies decision-making processes . . . ."79 Thus, NEPA takes an ex ante rather than ex post approach to environmental harms. By requiring agencies to fully disclose foreseeable harms and consider alternative actions before expending great amounts of money, NEPA forces consideration of environmental considerations before a project becomes "the controlling policy."80

A NEPA suit typically seeks an injunction to halt a project pending a more adequate environmental review.81 By contrast, plaintiffs in common law nuisance actions often seek equitable remedies to restrict extant sources of pollution. In Connecticut v. American Electric Power Company,82 for example, plaintiffs sought abatement of "[d]efendants' ongoing contributions to the public nuisance of global warming."83 The defendants, significant greenhouse gas emitters, included six electric power companies running fossil-fuel fired power plants in twenty states.84 Putting aside the question of whether a court would ever issue an injunction in this case,85 the requested remedy, for all of its environmental gains, would also result in the loss of jobs and foregone investment in substantial infrastructure. On the other hand, if the court awarded damages in lieu of an injunction, such damages could be difficult to quantify and the results would be inequitable: only the participating plaintiffs would receive compensation for global harms. Consequently, it is more efficient and equitable to preempt a harmful project

80. See supra note 50.
82. 582 F.3d 309, 314 (2d Cir. 2009).
83. Id.
84. Id.
85. For an example of the Supreme Court denying such an injunction, see Missouri v. Illinois, 200 U.S. 496, 525-26 (1906) (citing, in part, the doctrine of unclean hands). See also Boomer v. Atlantic Cement Co., 257 N.E.2d 870 (N.Y. Ct. App. 1970) (considering a disparity in economic consequences when deciding whether to issue a permanent injunction against a cement plant).
before construction is underway. A NEPA lawsuit targeting a power project at the federal permitting or funding stage can avoid these sunk-cost considerations for litigants.

2. Capturing Sources Otherwise Under the Regulatory Radar

Because carbon dioxide and other greenhouse gases are emitted by every exhaling mammal, every wood-burning fireplace, every backyard barbecue, and onward up the chain to every coal-fired power plant, legislation seeking to curb greenhouse gas emissions must set a threshold below which regulation does not reach in order to avoid counterproductive results. The Clean Water Act demonstrates the unanticipated drawbacks of attempting to regulate multiple widespread sources. Although the Clean Water Act declares it a national goal to halt all discharges of pollution into navigable waters, it strictly limits the category of regulated discharges to point sources (largely municipal and industrial discharges) and takes a limited approach to nonpoint source pollution from unregulated land-use activities. The results are striking: despite the successful implementation of the point source permitting program, water quality remains a serious issue, largely a result of nonpoint source pollution. Extensive scholarship has

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86. This amount of federal involvement can allow even a private project to qualify as a "major federal action" subject to NEPA review. See 42 U.S.C. § 4332 (2006).
88. 33 U.S.C. §§ 1251(a)(1) & 1362(12) (2006). Point sources are defined as any "discernible, confined and discrete conveyance" with a specific exemption for agricultural runoff. Id. § 1362(14); see also United States v. Plaza Health Labs., 3 F.3d 643, 647 (2d Cir. 1993) ("We find no suggestion . . . that [C]ongress intended the CWA to impose criminal liability on an individual for the myriad, random acts of human waste disposal, for example, a passerby who flings a candy wrapper into the Hudson River, or a urinating swimmer. Discussions during the passage of the 1972 amendments indicate that [C]ongress had bigger fish to fry.").
90. U.S. GEN. ACCOUNTING OFFICE, REPORT TO THE CHAIRMAN, SUBCOMM. ON REGULATION AND BUS. OPPORTUNITIES, COMM. ON SMALL BUS., HOUSE OF REPRESENTATIVES, WATER POLLUTION: MORE EPA ACTION NEEDED TO IMPROVE THE QUALITY OF HEAVILY POLLUTED WATERS 11–12 (1989) (noting that 25% of assessed river miles did not fully meet water quality standards and that "nonpoint sources are the leading current cause of failure to support uses in the nation's lakes, streams, and estuaries").
been devoted to strengthening the Clean Water Act's provisions for nonpoint source pollution, with no effective solution in sight.

NEPA can counteract the difficulties of the Clean Water Act approach by forcing agencies to consider sources of greenhouse gas emissions that would go largely unabated under any federal emissions “cap” geared towards specific industries. Rather than considering the environmental impacts of limited sources, NEPA requires consideration of any environmental impact, provided that the impact is “significant” and that it stems from a “major federal action.” Though it may be infeasible for regulations to target diffuse or indirect sources of greenhouse gas emissions, these emissions, like nonpoint source pollution, may still comprise a significant portion of the nation’s contributions to climate change. Thus, NEPA can help reduce the climate change impacts of otherwise unregulated activities.

Moreover, by focusing on harmful effects rather than specific sources, NEPA can cover sources of climate change that have received less popular and political attention because, though they may be significant, they are not “greenhouse gases.” Focusing exclusively on greenhouse gases results in an incomplete picture of climate change. Scientists have identified a host of other climate change “forcers” including “black carbon (diesel soot and woodsmoke), tropospheric ozone (smog), and methane (natural gas and gases from sewage treatment plants, animal feedlots, and abandoned coal mines),” the reduction of which may actually


92. See supra note 36.

93. Transportation projects, mining activities, forest management plans, and transmission projects are just a few examples of federal projects that will not necessarily fall under a feasible umbrella of regulated industry, but may have significant effects on greenhouse gas emissions due to their effects on land use, commodities pricing, or other factors. See Dave Owen, Climate Change and Environmental Assessment Law, 33 COLUM. J. ENVTL. L. 57, 85 (2008) (listing some state agency projects that emit greenhouse gases).

94. NEPA’s procedural requirements apply only once a threshold impact has been determined. See, e.g., 42 U.S.C. § 4332(C) (2006) (requirements apply to “every recommendation or report on...major Federal actions significantly affecting the quality of the human environment” (emphasis added)); 40 C.F.R. § 1508.27 (2009) (defining “significantly” as used in the NEPA context).

slow the effects of climate change more quickly than comparable carbon dioxide reductions. If these additional forcers have a significant impact on climate change, they too must weigh into an agency's considerations under NEPA.

Lastly, NEPA can accommodate new scientific findings as the body of climate change research continues to grow. NEPA's threshold definition of "significant impact" is based on current knowledge, rather than reflecting a rigid perception of the world at the time of the statute's drafting. As scientific understanding develops, so too must the factors that go into an agency's decision-making process. Regulations suffer a significant time lag that need not hamper NEPA.

3. Reduced Threshold Standing Inquiry for Procedural Claims

NEPA provides a way for plaintiffs to raise awareness of climate change concerns in a federal court. Environmental plaintiffs have long had difficulty overcoming the threshold Article III standing inquiry, which consists of three basic requirements— injury, causation, and redressability—for all plaintiffs asserting their right to sue in federal court. These three elements are difficult to prove in climate change cases. For example: How can plaintiffs demonstrate that (a) they have been personally injured by global climactic change, (b) the defendant's actions are a cause of their climate-

96. Id. The emphasis on carbon dioxide is not unfounded, however, since carbon dioxide persists in the atmosphere on a timescale of 50 to 3,000 years while these other forcers last only a few days to a few years. Id. Thus, a long-term approach to climate change mitigation necessarily must focus on reducing atmospheric carbon dioxide.


98. By specifying ends (an environmental policy), NEPA requires agencies to consider new activities causing new types of harms in newly measurable ways. The Clean Air Act, in comparison, includes an extensive "initial list" of Hazardous Air Pollutants and places the responsibility of "periodically" updating that list with the Administrator. 42 U.S.C. § 7412(b)(1)-(3). Under this approach, a new hazardous air pollutant (or a known pollutant with newly discovered hazardous effects) will not be regulated under the Clean Air Act without administrative action. See id.

related harm when so many others contribute to the problem, and (c) their requested remedy will redress a problem whose solution requires coordination on a global scale? If any of these elements are lacking, a plaintiff faces dismissal before a case can be heard on the merits. Fortunately, plaintiffs can avoid this uncertainty by taking advantage of relaxed standing requirements when asserting procedural claims, such as those under NEPA and the APA.  

The differences in courts' approaches to procedural and substantive harms in a climate change lawsuit are exemplified in *Center for Biological Diversity v. United States Department of the Interior*. Plaintiffs alleged both procedural and substantive harms in a suit challenging a Department of Interior (DOI) action. The court held that plaintiffs failed to advance their substantive theory of standing, but the plaintiffs could still proceed under their procedural injury claims. Though recently the Second and Fifth Circuits have allowed plaintiffs to advance substantive claims

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The *Lujan* Court explained:

> The person who has been accorded a procedural right to protect his concrete interests can assert that right without meeting all the normal standards for redressability and immediacy. Thus . . . one living adjacent to the site for proposed construction of a federally licensed dam has standing to challenge the licensing agency's failure to prepare an environmental impact statement, even though he cannot establish with any certainty that the statement will cause the license to be withheld or altered, and even though the dam will not be completed for many years.

> *Id.*

A plaintiff asserting procedural harms can meet the redressability requirement by showing that "there is some possibility that the requested relief will prompt the injury-causing party to reconsider the decision that allegedly harmed the litigant." *Massachusetts v. EPA*, 549 U.S. at 518; see also *Natural Res. Def. Council v. EPA*, 542 F.3d 1235, 1246 (9th Cir. 2008); *Nulakheyutmonen Nkihtaqmikon v. Impson*, 503 F.3d 18, 28 (1st Cir. 2007).

101. 563 F.3d 466 (D.C. Cir. 2009).  

102. *Id.* at 471 ("[The Department of] Interior failed to take into consideration both the effects of climate change on [Outer Continental Shelf] areas and the [oil and gas] Leasing Program's effects on climate change. . . .").

103. *Id.* at 475–76 (citing adverse affects on species and ecosystems and plaintiffs' diminished enjoyment of both the area and its wildlife inhabitants).

104. The DOI had initiated a process to expand leasing areas for offshore oil and gas development. *See id.* at 471.

105. *Id.* at 477–78 (finding that the plaintiffs lacked a sufficiently particularized injury and that the asserted causal link was too tenuous).

106. In fact, the court did not even analyze causation for the procedural claims. Despite this holding, the court held the NEPA claims were not yet ripe for review. *Id.* at 480 (referencing the leasing program's multi-stage nature) ("NEPA obligations mature only once it reaches a 'critical stage of a decision which will result in irreversible and irretrievable commitments of resources to an action that will affect the environment.'" (quoting *Wyo. Outdoor Council v. U.S. Forest Svc.*, 165 F.3d 43, 49 (D.C. Cir. 1999)) (internal quotations omitted)).
in climate change public nuisance suits, other courts have dismissed similar claims on political question or prudential grounds.

By taking advantage of relaxed threshold standing requirements for procedural harms, NEPA plaintiffs can save time and expense in litigation. With the possibility of a proliferation of procedural climate change lawsuits, however, it is important that NEPA be modified or strengthened to reflect its rising importance in the field of climate change litigation. A proposal to do so is discussed in Part III.

B. The Bad: Tackling the Threshold Questions

This section tackles two issues that stymie our discussion of NEPA’s application in the context of climate change and help us evaluate the need for reform. It begins with a discussion of NEPA’s international aspects, in particular the obligation of federal agencies to assess the global impacts of domestic projects, as well as the domestic impacts of international projects. This section will then concludes with a discussion of the expressive value of NEPA and how that shapes our view of NEPA’s purpose and avenues for possible reform.

1. National Policy, Global Dilemma

What place should NEPA, the National Environmental Policy Act, have in furthering what is now an international environmental policy dilemma? International considerations arise in NEPA in two ways. First, how should federal agencies assess the domestic impacts of international projects? Second, how should federal agencies

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assess the global impacts of domestic projects? Climate change blurs the line as it concerns the location of the impact—a foreign project that contributes significantly to climate change will have domestic and global effects—but fortifies the lines with regards to the sources, since activities on foreign soil may have domestic effects but remain outside of the scope of NEPA review.

The presumption against extraterritoriality for federal statutes dictates that courts typically restrain a statute’s extraterritorial reach when its full application would conflict with foreign policy. When NEPA’s procedural requirements implicate the sovereignty of other nations, courts trim back NEPA’s reach accordingly. For example, courts specify that a NEPA lawsuit does not challenge the project itself, which may occur on foreign soil, but rather the agency’s decision-making, a truly domestic affair. Another general rule that follows this presumption is that an EIS for a federal action abroad need not fully analyze environmental impacts that are entirely foreign.

These rules are fairly easy to apply when impacts are localized. Climate change, however, is the antithesis of a local impact. If a federal agency action abroad contributes increased greenhouse gas emissions, the environmental impacts are incurred both abroad and domestically. Global warming is just that—global. The climate change scenario thus erodes many of the foreign policy assumptions that are
used to absolve an agency of its obligation to consider the environmental impacts of an international project. In *Friends of the Earth v. Mosbacher*, the district court used this reasoning to require two federally chartered banks to consider the domestic climate change impacts of the international fossil fuel exploration projects they financed. *Friends of the Earth* indicates that the global nature of climate change may allow domestic plaintiffs to challenge a federal agency's inadequate consideration of environmental impacts of foreign actions abroad when they contribute to global warming.

Unfortunately, though, the presumption against extraterritoriality reduces the efficacy of this environmental review. An agency is not obligated to consider the effects of third-party actions that the "agency has no ability to prevent . . . due to its limited statutory authority," and courts are likely to find that an agency has "limited statutory authority over the relevant actions" when third-party actions involve foreign nationals or their governments. In 2003, the Eighth Circuit found that it would be "irresponsible" for the Surface Transportation Board to approve a rail line serving new coal mines "without first examining the effects that may occur as a result of the reasonably foreseeable increase in coal consumption" from the increased availability of low-cost coal. The same year, a federal district court in California required the Department of Energy to consider the foreseeable increase of greenhouse gas emissions from a Mexican power plant following a new federal right-of-way connecting the plant to the California energy grid. In the latter case, however, the court limited the scope of the agency's EIS to only one of three turbines at the plant—the one that exclusively served the California market—while the other two, which served mainly Mexican markets,

114. See, e.g., Harry H. Almond, *The Extraterritorial Reach of United States Regulatory Authority Over the Environmental Impacts of its Activities*, 44 ALB. L. REV. 739, 771 (1980) ("NEPA requirements call for substantial amounts of information [which] will have to be acquired from the State where the action is to take place. Acquiring such information may require substantial and costly assistance from that State, its public officials and experts.").

115. *Friends of the Earth*, 488 F. Supp. 2d, at 908 (pointing to the global nature of climate change). This issue—domestic impacts—also comes up with regards to plaintiffs' standing to sue when they can claim injury due to climate change.

116. Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 770 (2004); see also *Friends of the Earth*, 488 F. Supp. 2d at 908–09 (extraterritoriality is not a bar to NEPA review, but full environmental analysis may be limited by plaintiffs' ability to establish requisite causation).


120. Id. at 1016 ("Two of the . . . turbines are designed to produce power exclusively for sale to a Mexican utility, and it is reasonably foreseeable that very little of this power will flow
were excluded. Likewise, in *Sierra Club v. Clinton*, a challenge to a Presidential Permit for an oil pipeline bringing crude oil from Canadian tar sands to the United States, the court held that the increased greenhouse gas emissions from exploitation of tar sands in Canada was outside of the scope of the EIS review. The choice to exploit the tar sands is part of Canada's own energy policy; an EIS is not the proper forum to consider the interplay between those policy choices (creating sources of heavy crude oil) and American policy choices (creating a demand for heavy crude oil), though they relate to both nations' contributions to climate change. The outcome of these cases, and of others which may logically follow, is that an agency's environmental analysis for a major federal action with connections to another nation may require consideration of all of the relevant impacts—including domestic impacts resulting from climate change—but, because of extraterritoriality concerns, analysis of the sources of those impacts will preclude effective review.

One last consideration is NEPA's role in international law. Despite the shortfalls in its application abroad, NEPA continues to be pace-setting legislation for the global community. Since 1970, eighty-seven other nations, the United Nations, the European Union, and the World Bank have adopted NEPA's statutory framework. Significantly, most of these international statutes have not followed NEPA's model of judicial oversight of agency assessments, though they do emphasize different means of restraining the natural tendency of agencies to bias an environmental analysis in their favor, and acknowledge the role of public participation in the assessment process. This detail provides a useful segue to the next topic of discussion, explaining the need to

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121. *Id.* at 1017 ("Because the line of causation is too attenuated between these turbines and the federal action[,] . . . the emissions of the non-export turbines were not effects of the BCP line and . . . the federal defendants were therefore under no NEPA obligation to analyze their emissions as effects of the action.").


123. *Id.* at 1134. The EIS already considered the increased emissions from the U.S. refineries receiving the crude oil, and the court found that analysis adequate. *Id.* at 1134–36.

124. *See Friends of the Earth v. Mosbacher*, 488 F. Supp. 2d 889, 918 n.19 (N.D. Cal. 2007) ("Because the Court is unable to determine whether the alleged actions would have gone forward without Defendants' participation and cannot determine whether Defendants could exercise control over the projects, the Court cannot determine whether Defendants are a legally relevant cause of the alleged effects on the domestic environment.").


strengthen NEPA in light of climate change despite its significant inherent shortfalls.

2. Expressive Value of Law—Why Care About Efficacy Per Se?

"[I]t is necessary to . . . define the 'environmental' desires of the American people in operational terms that the President, Government agencies at all levels, the courts, private enterprise, and the public can consider and act upon."[127]

The previous section highlighted some relevant criticism of NEPA’s ability to fully capture the environmental impacts of federal agency actions. Despite these criticisms, NEPA has provided a model framework that has been copied around the globe.[128] Does this broad dissemination of NEPA-style legislation suggest that NEPA is an effective statute? What can explain why, despite the foreign policy limitations of NEPA’s application to climate change, it is nevertheless a good idea to strengthen NEPA so that it can better address climate change? The answer to this question lies in part with the “expressive theory of law.”[129]

An expressive theory of action is one that “prescribe[s] norms for regulating the adoption of certain mental states, and . . . requires actions and statements to express these states adequately.”[130] Rather than focusing on the achievement of certain ends, the focus is on “whether the connection between the means and the end is justified.”[131] An expressive theory of law, therefore, is “concerned with evaluating [government] action.”[132] Courts operate under the expressive theory of law by “engag[ing] in [the] purposive interpretation of laws . . . .”[133]

We can view NEPA through this lens because of the expressive elements found in both its text and legislative history. First, the title of the statute is the National Environmental Policy Act, not the Environment Protection Act, Environmental Analysis Act, or any

128. See supra notes 125 & 126.
130. Id. at 1508-09.
131. Id. at 1510 (“They ask: does performing act A for the sake of goal G express rational or morally right attitudes . . . ?”).
132. Id. at 1520.
133. Id.
other title that would emphasize fixed obligation over environmental aspirations. The word "policy" itself connotes "a course or principle of action" rather than any specific action. NEPA emphasizes principles of action throughout its first two sections. NEPA recognizes that "each person has a responsibility to contribute to the preservation and enhancement of the environment," but seeks to further this policy only through obligations placed on federal agencies. The policy is implemented, not through substantive requirements, but through procedural obligations, reflecting a belief that agencies will naturally incorporate the expressions of environmental policy in the process of fulfilling these procedural requirements. NEPA's policy statements align with the expressive view that rules do not prescribe maximization of certain values, but rather state or reinforce the values that frame our actions. Viewed in this light, NEPA reflects a belief that a law's effects can reach beyond its direct substantive mandates—a belief that the agencies, though not provided with formal targets, will still strive to meet NEPA's expressive ends. This also reflects a belief that a growing environmental ethic, shared by the federal agencies through "cooperation with [s]tate and local governments" and carefully crafted environmental analyses subject to public review.

135. CONCISE OXFORD ENGLISH DICTIONARY 1109 (11th ed. 2008).
136. For example, the Congressional statement of a national environmental policy asserts that the federal government should be guided by knowledge of "the profound impact of man's activity on the interrelations of all components of the natural environment," 42 U.S.C. § 4331(a) (2006), act "in a manner calculated to foster and promote the general welfare," id., and "improve and coordinate Federal plans, functions, programs, and resources" to meet essential considerations of environmental policy, id. § 4331(b).
137. Id. § 4332.
138. S. REP. No. 91-296, at 13, ("Successful Federal leadership in environmental management must be based upon the best possible information and analyses . . . . Federal action must rest upon a clear statement of the value and goals which we seek." (emphasis added)). But see, e.g., Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989) ("Simply by focusing the agency's attention on the environmental consequences of a proposed project, NEPA ensures that important effects will not be overlooked or underestimated . . . . [and] the requirement that agencies prepare detailed impact statements inevitably bring pressure to bear on agencies to respond to the needs of environmental quality." (emphasis added) (quotations and citations omitted)). The legislative intent indicates a desire for the policy to be a starting point for all agency decisions, while the courts focus on the procedural aspects.
139. Anderson & Pildes, supra note 129, at 1512. ("[E]xpressive theories are like the rules of grammar or logic. Those rules do not tell us to maximize the amount of correct grammatical or logical statements in the world, as if that itself were the goal. Instead, those rules tell us that when we are speaking or reasoning, we should do so subject to certain regulative constraints.").
141. 42 U.S.C. § 4331(a).
will enforce the message that the task of environmental preservation belongs to "each person."  

NEPA's legislative history further supports this expressive view. It indicates that the drafters hoped the statute would contribute to a "more orderly, rational, and constructive Federal response to environmental decisionmaking . . . ." They hoped it would be largely self-policing, accomplished with minimal interference by the courts. Rather than a conscious decision to limit NEPA's efficacy, omissions of substantive provisions reflected a legislative desire to emphasize the expressive elements of the National Environmental Policy Act over realization of any fixed environmental goal.

The expressive theory sidesteps one criticism of broadening NEPA's applicability to complex and synergistic environmental problems: the numerous constraints faced when using it to mandate "wise" environmental decision-making. Since expressive rules focus on values rather than specific results, a law aimed at expressive principles should shift the discourse accordingly. Such a law is not a failure merely because application of its principles is difficult or because consequential goals have not been reached. "[E]xpressive constraints . . . are not justified in terms of the end state they permit or produce functionally, but in terms of how well

142. Id. § 4331(c). See also Danielle Keats Citron, Law's Expressive Value in Combating Cyber Gender Harassment, 108 Mich. L. Rev. 373, 407 (2009) (describing how law creates a public set of meanings and shared understanding between states and the public that have "an important cultural impact that differs from its more direct coercive effects").
145. See, e.g., Anderson & Pildes, supra note 129, at 1510–11 (contrasting expressive theory with the "consequentialist approach," which approves of any mean that produces the "best" results). Alternatively, the absence of these provisions can be read as a failure to forecast important developments in the evolution of environmental and administrative law rather than a conscious decision to limit NEPA's substantive requirements. Jason J. Czarnezki, Revisiting the Tense Relationship Between the U.S. Supreme Court, Administrative Procedure, and the National Environmental Policy Act, 25 Stan. Envtl. L.J. 3, 9 n.32 (2006).
146. See, e.g., supra notes 26-29 (lack of substantive mandate); supra notes 65-67 (high degree of agency deference); supra notes 118-120 (difficulties in extraterritorial application); infra notes 156-173 (problems of agency bias).
they interpret and protect the underlying values that ground the constraints."\textsuperscript{147} NEPA provides six such "underlying values," the first of which is the obligation of the federal government to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations."\textsuperscript{148} Adequate consideration of climate change fits neatly into this aspirational box. Climate change is truly a multi-generational problem; record high measures of atmospheric greenhouse gases today are the result of changes in land use, energy use, and industry that have been developing since the Industrial Revolution.\textsuperscript{149} The sources of climate change are thus not the result of our generation, but generations past. The mirror image is also true: unlike changes in air and water quality or the decreasing presence of impacted species, climate change impacts are removed in both place and time from the project itself. Future generations, not our own, will shoulder the burden of coping with the impacts of actions we benefit from today. Additionally, proposals to remedy climate change largely center around vast changes to the way we live our lives now, which are both politically unpopular and require overcoming a great deal of social inertia. A shift in approach to environmental problems that starts at the top, if sufficiently expressive, can have a trickle-down effect through state and local levels, sufficient to strengthen support for policy changes that will shake the current framework at its foundations.\textsuperscript{150}

In addition to framing NEPA in a way which makes its substantive deficiencies more tolerable in light of advancing important environmental values, the expressive approach sheds light on a new way to view NEPA's aims and, more importantly, new avenues with which to strengthen it. If, as expressive theories of law would have it, NEPA aims to legislate values that shape our actions rather than achieve specific results, the law should be concerned with how accurately the agency actions effectuate the values sought by section 101 of NEPA, and not with the way an agency follows the procedures outlined in the statute. Though NEPA should not, and

\textsuperscript{147} Anderson & Pildes, supra note 129, at 1561.
\textsuperscript{149} See supra note 6 and accompanying text.
\textsuperscript{150} Lawrence Lessig, The Regulation of Social Meaning, 62 U. Chi. L. Rev. 943, 1006-07 (1995) ("[S]ince there is no clear individual mechanism to erode them, if institutions that have become inefficient are to die, often they must be changed. But... it will rarely be in the interest of any individual to act to change an inefficient institution. Often, moreover, there will be no collective entity that can act to change it for the collective as a whole. Thus the inefficient institution is stuck, till shaken free from this equilibrium."). One technique for changing social meanings is "to induce actions that tend either to undermine or to construct a particular social meaning." Id. at 1013.
was never intended to, allow plaintiffs and courts to interject themselves into an agency's decision-making process, it should be strengthened so that the agency's actions reflect the expressive aims of NEPA—that environmental values should pervade the agency's decision-making process, rather than be inserted as a mere "check-the-box" formality.

C. The Ugly: Climate Change Exacerbates NEPA's Shortcomings

NEPA has successfully brought disclosure of environmental impacts to the forefront of agency decision-making. It has also granted environmental plaintiffs a valid cause of action to delay projects pending adequate consideration of environmental impacts. Though these two elements are important, they fall short of both what NEPA was intended to do and what it can do: ensure that agencies adequately consider the environmental impacts of their actions and adjust their behavior accordingly. As this section will discuss, judges grant vast deference to agency NEPA determinations based on assumptions of agency expertise and behavior that do not hold in the modern environmental administrative state. Further, the nature of climate change exacerbates these problems. Ultimately, this section will show that agencies may not be well-positioned to judge the sufficiency of their own environmental

151. See supra note 30 (demonstrating how NEPA's balancing language prevents plaintiffs and courts from using the statute to accomplish specific substantive results).

152. See Noelle Straub, CEQ Chief Urges Agencies to Freshen Approach to NEPA, GREENWIRE (Mar. 23, 2009), http://www.eenews.net/Greenwire/2009/03/23/4/. A critical and objective approach to analyzing the true impacts of an agency's project is a fundamental component of NEPA's expressive aims. One example of "box-checking" is when agencies insert the most convenient, rather than most accurate, scientific analysis into an EIS—sufficient to constitute a "hard look," but insufficient to inform the public and the agency itself about the true environmental impacts of its actions. The expressive values of NEPA are not being met in this case because the public is denied its chance to be fully apprised of the role environmental impacts play in an agency's decision.

153. On NEPA's 10-year anniversary, William Hedeman, Jr., the Director of EPA's Office of Environmental Review, remarked that NEPA was "still respected and ... capable of offering much opportunity to protect the environment in the future," but admitted that most NEPA "litigation has focused on procedural compliance with the requirements of NEPA rather than getting to the basic substantive mandates of the Congress as reflected in NEPA's goals and policies." The National Environmental Policy Act: An Interview With William Hedeman, Jr., EPA JOURNAL (1980), http://www.epa.gov/history/topics/nepa/02.htm. Fifteen years later, a CEQ study acknowledged NEPA's success as an information-forcing statute, but concluded that NEPA implementation had fallen short of its goals. COUNCIL ON ENVTL. QUALITY, EXEC. OFFICE OF THE PRESIDENT, THE NATIONAL ENVIRONMENTAL POLICY ACT: A STUDY OF ITS EFFECTIVENESS AFTER TWENTY-FIVE YEARS, at iii (1997) [hereinafter NEPA EFFECTIVENESS] (noting that agencies often treated the EIS as "an end in itself, rather than a tool to enhance and improve decision-making" and finding that agencies often "engage in consultation only after a decision has—for all practical purposes—been made").
analyses that may endanger the ultimate success of their own major actions—an assertion that sets the stage for the reform that follows.

1. Agency Discretion and Absurd Results

In NEPA lawsuits, courts and agencies focus on the form of their environmental analyses over the function.\(^{154}\) Though a scientifically defensible but otherwise insincere effort at environmental analysis seems contrary to the expressive purposes of NEPA in general, and section 101 in particular, courts are hamstrung by the "arbitrary and capricious" standard of review and decades of Supreme Court precedent.\(^{155}\) The following results are all possible under the Court’s current interpretation of NEPA’s requirements:

**Agencies Disregard NEPA’s Expressive Purpose.** Though NEPA does not require “environmental concerns [to] trump all others,”\(^{156}\) it seems inconsistent with section 101 of NEPA to hold that an agency’s other interests should consistently trump environmental concerns. But that is what occurs under “hard look” review.\(^{157}\) In *Robertson v. Methow Valley Citizens Council*,\(^{158}\) the Supreme Court hypothesized an absurd result—the complete decimation of a species as a result of a federal action—that passes muster under NEPA simply because the agency knew what it was getting into.\(^{159}\) The Court endorsed this interpretation of NEPA notwithstanding that such an action is “unwise.”\(^{160}\) An agency’s unwise decision, combined with judicial complacency to let such decisions stand, stands in direct opposition to NEPA’s expressive purpose. How can NEPA successfully “interpret and protect . . . underlying values”\(^{161}\) when it allows those very values to be disregarded? As the first appellate court opinion on NEPA so aptly put it, to read the EIS requirement

\(^{154}\) This is the check-the-box approach criticized by CEQ Chair Nancy Sutley. See Straub, *supra* note 152.

\(^{155}\) See generally Czarnetzki, *supra* note 31, at 10–12.


\(^{157}\) See Sunstein, *supra* note 54, at 181. The reviewing court ensures only that the "look" occurred, and that it appears to have been "hard." Rather than evaluate the strength of an agency’s conclusion, the logic of their reasoning, or the precise balance given to agency considerations, the court will defer as long as the considerations themselves—the "hard looks"—are well-reasoned. *Id.*

\(^{158}\) 490 U.S. 332 (1989).

\(^{159}\) *Id.* at 351 (“NEPA merely prohibits uninformed—rather than unwise—agency action.”).

\(^{160}\) For good retrospective accounts of how courts have viewed NEPA’s statement of environmental policy, see Kalen, *supra* note 144; Yost, *supra* note 14.

\(^{161}\) Anderson & Pildes, *supra* note 129, at 1561.
as requiring "no more than the physical act of passing certain folders and papers, unopened, to reviewing officials along with other folders and papers" would be to read the requirement "so narrowly as to make the Act ludicrous." 162

An EIS is valuable because it informs the public of those instances where an agency's preferred alternative is one with serious environmental consequences. Agencies are political instruments and their actions and decisions are both vulnerable to and influenced by public scrutiny. Public scrutiny of agency decisions, in turn, can be one alternative to judicial enforcement of NEPA's procedural mandate. However, the value that public awareness brings to fulfilling NEPA's expressive environmental policy is worth only as much as the value of the analysis contained within an agency EIS.

**Agencies Employ Suspect Science.** Because courts will defer to the technical expertise of the agencies conducting environmental analyses, the "arbitrary and capricious" and "hard look" standards of review leave reasonable choice of science to the agency. While plaintiffs may submit additional scientific data that directly challenges the scientific basis upon which the agency's conclusion rests, the agency is obligated to give the new information only the requisite "hard look." 163 The agency, as promulgator of the impact statement, has the advantage of putting forth its preferred version of the relevant science first, with the risk that an EIS, rather than providing an objective view of environmental impacts, may just be used to "set[] forth certain facts in certain forms, regardless of what the real facts may be." 164 In *Conservation Northwest v. Rey*, 165 both the court and the plaintiffs disagreed with the agency's scien-

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163. Conservation Nw. v. Rey, 674 F. Supp. 2d 1232, 1253 (W.D. Wash. 2009); Spiller v. White, 352 F.3d 235, 243 (5th Cir. 2003) ("Where conflicting evidence is before the agency, the court and not the reviewing court has the discretion to accept or reject from the several sources of evidence.") (citation omitted); Sierra Club v. U.S. Dep't of Transp., 753 F.2d 120, 128 (D.C. Cir. 1985) (noting that it is "clearly within the expertise and discretion of the agency to determine proper testing methods").


tific determination, but the "hard look" review precluded their judgments from prevailing in place of a reasoned agency decision. Despite its unstable scientific footing, the EIS was held to be valid with respect to its considerations of climate change.

**Agencies Use EIS to Justify Foresgone Conclusions.** Agencies have discretion over when they begin the EIS process. CEQ regulations specify only that it must be early enough in the process to ensure effective review. The agency's decision can have a significant effect on the success of the process as a whole, particularly as it concerns the effectiveness of an agency's analysis and selection of a preferred action from a list of reasonable alternatives. If started too late, the "agency and private sector planning processes" have progressed to the point where "alternatives and strategic choices are foreclosed." Unfortunately, though courts can criticize agencies' "sunk cost" strategies, the equitable nature of a remedy under NEPA (an injunction, pending adequate environmental review) combined with the statute's lack of substantive mandates limits judicial action where substantial agency investment has already occurred.

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166. The EIS concluded that the Forest Plan management activities would have a de minimis impact on global climate change. Id. at 1253 (noting that the "Agencies' conclusions may be conclusory and even incorrect" and that the "Plaintiffs (and even the Court) may be inclined to disagree with the Agencies").

167. Id. (nothing that the agencies were only required, "at the maximum, to disclose the opposing viewpoint and explain their decision").

168. Id.


170. NEPA EFFECTIVENESS, supra note 153, at 11 ("How early an agency integrates NEPA into its internal planning will dramatically affect the length of time for approval, the cost, and the ultimate success of a proposal.").

171. 40 C.F.R. § 1502.14 (2009) (defining the section on selection of a preferred action as "the heart of the environmental impact statement").

172. NEPA EFFECTIVENESS, supra note 153, at 11; see also Metcalf v. Daley, 214 F.3d 1135, 1142 (9th Cir. 2000) (stating that an agency's NEPA analysis must not be taken "as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made"); Arlington Coal. on Transp. v. Volpe, 458 F.2d 1323, 1333–34 (4th Cir. 1972) ("Once the ... planning process has reached these latter stages, flexibility in selecting alternative plans has to a large extent been lost. ... Either the [agency] will have to undergo a major expense in making alterations in a completed [plan] or the environmental harm will have to be tolerated. It is all too probable that the latter result would come to pass.") (citations omitted); David E. Cole, Note, Judicial Discretion and the "Sunk Costs" Strategy of Government Agencies, 30 B.C. ENVTL. AFF. L. REV. 689, 689–95 (2002–2003) (citing the Tellico Dam project as an example of this type of behavior in the context of the Endangered Species Act).

2. Judicial Deference and Assumptions About Agency Behavior

Lack of judicial enforcement of NEPA's substantive provisions perpetuates agency behavior that is inconsistent with the national environmental policy set forth in NEPA's opening section. An objective evaluation of environmental impacts is a key component of NEPA's expressive purpose. A biased analysis allows an agency to downplay its own impacts, undermining the information-generating component of an EIS and reducing NEPA's efficacy as a tool to harmonize federal actions with the realities of limited environmental resources. Unfortunately, the judiciary is bound by longstanding tenets of agency discretion, which limit judges' ability to enforce objective scientific analysis. This section discusses the assumptions about agency behavior guiding judicial deference and demonstrate how these assumptions often fail when an agency promulgates an EIS.

Deferential judicial review in the context of environmental decisions is guided by assumptions about agency behavior, namely: (1) that agencies have the technical expertise to assess the scientific issues that arise in an EIS, (2) that agencies are competent to evaluate an EIS in furtherance of the national environmental policy, and (3) that agencies will independently exercise their NEPA obligations to the fullest extent possible.

Agencies Lack Technical Expertise. Judicial review is rooted in the APA's deferential "arbitrary and capricious" standard, which itself is premised on the notion that judges lack the agency's "high level of... expertise" and must defer to its judgment in technical matters. Although agencies are in a better position than courts of general jurisdiction to evaluate scientific issues arising from environmental analyses, it does not follow that agencies necessarily

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174. See Metcalf, 214 F.3d at 1142.
176. Kleppe v. Sierra Club, 427 U.S. 390, 412 (1976); see also FCC v. Fox Television Stations, Inc., 129 S. Ct. 1800, 1826 (2009) ("There should be a strong presumption that the [agency's] initial views, reflecting the informed judgment of independent commissioners with expertise in the regulated area, also reflect the views of the Congress that delegated the [agency] authority to flesh out details not fully defined in the enacting statute.").
177. Balt. Gas & Elec. Co. v. Natural Res. Def. Council, 462 U.S. 87, 103 (1983) ("When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential."). But see French, supra note 175, at pt. III.B (arguing that such deference in NEPA may be unwarranted due to NEPA's broad mandate and its application to all agencies, even those without specific environmental expertise).
have expertise in every NEPA determination.\textsuperscript{178} This is because NEPA is a general statute; its broad mandate applies to all federal agencies, many of which do not inherently have scientific, much less environmental, expertise.\textsuperscript{179} Agencies are authorized to contract environmental expertise by hiring third parties to complete their environmental analyses, but this approach raises other concerns, such as the possibility that a third party may be better at writing compliant papers than at recommending appropriate actions.\textsuperscript{180}

\textit{Agencies Are Not Competent to Make Fully Informed Decisions.} An agency that possesses the technical expertise to evaluate scientific issues in an EIS may still lack the resources to fully apply that expertise. This is because "NEPA imposes duties on agencies; agencies do not exist to administer NEPA."\textsuperscript{181} While the cost of NEPA compliance may be a small percentage of total project costs for complex projects, it can become proportionately higher and more burdensome for smaller projects.\textsuperscript{182} In response to limited resources, agencies may abbreviate the EIS process in ways that may be judicially defensible but scientifically incomplete.\textsuperscript{183}

\textit{Agencies Do Not Independently Incorporate NEPA Mandates.}\textsuperscript{184} NEPA may lack a stricter provision for judicial scrutiny because Congress assumed that agencies would incorporate the Act's environmental

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\item[178.] See, e.g., French, \textit{supra} note 175, at 960 n.200 (citing Park County Res. Council, Inc. v. U.S. Dep’t of Agric., 817 F.2d 609, 620 (10th Cir. 1987)).
\item[179.] See, e.g., \textit{Administration of the National Environmental Policy Act—1972: Appendix to Hearings Before the Subcomm. on Fisheries and Wildlife Conservation of the Committee on Merchant Marine and Fisheries}, 92nd Cong. 1 (1972) (After NEPA, some agencies "urgently need[ed] the development of entirely new in-house research machinery or broadened assistance of outside consultants in order to carry out adequate environmental analysis"); \textit{supra} note 171 (NEPA also requires agencies to consider alternatives that fall outside their particular area of expertise).
\item[180.] Davis, \textit{supra} note 173, at 54 ("The hired expert may be more skilled in paper compliance than in the management and mitigation of harm to the environment. It is not reasonable to expect a hired contractor to undermine the desires of its employer by emphasizing adverse environmental harm or criticizing the proposed project.") (citing Matthew J. Lindstrom, \textit{Procedures Without Purpose: The Withering Away of the National Environmental Policy Act’s Substantive Law}, 20 \textit{J. Land Res. & Envtl. L.} 245 (2000)).
\item[181.] Park County Res. Council v. U.S. Dep’t of Agric., 817 F.2d 609, 620 (10th Cir. 1987).
\item[183.] For example, budget constraints have led the Bureau of Land Management (BLM) to limit its range of alternatives considered for all land use planning projects to four fixed management options. \textit{The Role of NEPA in the Intermountain States: Oversight Field Hearing Before the Comm. on Res.}, 109th Cong. 29 (2005) (statement of Dave Brown, Regional Regulatory Advisor (Rocky Mountain Region), BP America, Inc.).
\item[184.] But see Davis, \textit{supra} note 173, at 37–38 & nn.14–18 (noting some views that the EPA should incorporate NEPA mandates).
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mandate into their decision-making processes. This expressive hope that “environmental awareness and responsibility would be infused into the very fabric of the federal government” has not turned out as Congress intended. NEPA’s statutory mandate for environmental considerations is not the only guiding mandate imposed on agencies; environmental concerns often clash with “existing agency missions,” and NEPA’s language does little to resolve the conflict. As one court said, “there is always the risk that a government official who originates a project may be too partial toward it to be completely objective in weighing environmental objections to it,” and NEPA leaves an agency with the full discretion to “resolve uncertainties in favor of the priorities set out in its original grant of authority.” Though NEPA’s procedural requirements force an agency to disclose impacts and consider alternatives that may have less harmful environmental impacts, the agency’s mission—and desire to pursue its project through its preferred method—may lead it to apply a set of criteria used to justify a decision to the public that has already been reached on other grounds. For example, the Army Corps of Engineers refused to

185. ANDERSON, supra note 127, at 257 (reflecting the hope that NEPA would “change[] the congressionally recognized tendency of federal decision making toward environmental neglect and destruction”) (footnote omitted).
186. ANDERSON, supra note 127, at 291.
187. See, e.g., id. at 288 (“The impression we have is that with few exceptions the agencies have not yet begun to take NEPA’s substantive mandate very seriously. In general they have complied by preparing superficial analyses of environmental impact, usually after basic proposals were well along in agency review processes.”). This is not surprising, given that agencies’ reluctance to fully consider the environmental effects of their actions was one of the motivating forces behind NEPA’s passage. Id. at 13. See also LIROFF, supra note 164, at 125 (“[I]n the response of the [Atomic Energy Commission] before Calvert Cliffs’ in the response of the [Federal Power Commission] before Greene County, and in the response of the [Federal Highway Administration], one sees the Neanderthal reaction of development-oriented agencies, secure in their niches, not caring to concern themselves with the potentially troublesome environmental implications of their work. A lack of concern for NEPA was evidenced as well among those agencies seemingly committed to environmental quality.”). At the 2005 Oversight Field Hearings, a representative of the Zuni Tribe reflected that “[f]rom our perspective, [the Office of Surface Mining] views itself as a promoter rather than a regulator of the coal industry and was either unable or unwilling to comprehend or properly address the religious and cultural concerns of Native Americans. Likewise, environmental considerations raised by conservation organizations were given little credence.” The Role of NEPA in the Intermountain States: Oversight Field Hearing Before the Comm. on Res., 109th Cong. 67 (2005) (statement of Calbert A. Seciwa, Pueblo of Zuni Tribal Member, Former Member of the Zuni Salt Lake Coalition).
188. ANDERSON, supra note 127, at 257; see generally Eric Biber, Too Many Things to Do: How to Deal with the Dysfunctions of Multiple-Goal Agencies, 33 HARV. ENVT'L. L. REV. 1 (2009).
190. ANDERSON, supra note 127, at 257.
191. Id.; see also N. Cheyenne Tribe v. Hodel, 851 F.2d 1152, 1157 (9th Cir. 1988) (“Bureaucratic rationalization and . . . momentum are real dangers . . . .”); Davis, supra note 173,
prepare an EIS for a dredging project off the Louisiana coast even after the Corps determined that the environmental impacts would be "significant."192

3. Climate Change Exacerbates the Problems of Deferential Review and Agency Discretion

The special complexities of climate change science—sources, effects, and global status—exacerbate the ineptness of assumptions about agency behavior described in Part II.C.2, supra. This makes the likelihood of absurd results—those defined as judicially plausible under a deferential standard of review but inconsistent with NEPA’s expressive purpose and statement of environmental policy—all the more likely in the climate change context.

a. Expertise

Agencies are not climate change experts and have not, until recently, been asked to consider the climate change impacts of their activities as part of their NEPA (or other statutory) obligations.193 Furthermore, climate change analyses are complex and technical.194 The Supreme Court has acknowledged that it will be at its most deferential when an agency is acting on the "frontiers of science."195 Yet it is at these frontiers where agencies are most susceptible to either (1) honest but significant errors in the correct choice of science, or (2) cherry-picking the model that best

at 49 ("Allowing the lead agency that is promoting the project to determine environmental risks is like allowing the fox to guard the henhouse.").

192. See NEPA: Lessons Learned and Next Steps: Oversight Hearing Before the Comm. on Res., 109th Cong. 25–26 (2005) ("Often an agency simply does not follow the law.... In order to safeguard its coast, the State of Louisiana had to go to court to prevent the Corps from flaunting the Congressional command. The State was successful in the U.S. Court of Appeals for the 5th Circuit in New Orleans in enforcing NEPA.") (citing Louisiana v. Lee, 758 F.2d 1081 (5th Cir. 1985)).


194. See, e.g., supra note 4.

195. Balt. Gas & Elec. Co. v. Natural Res. Def. Council, 462 U.S. 87, 103 (1983); Sierra Club v. U.S. Dep’t of Transp., 753 F.2d 120, 129 (D.C. Cir. 1985) ("[T]he court is not to rule on the relative merits of competing scientific opinion[s]. The agency is entrusted with the responsibility of considering the various modes of scientific evaluation and theory and choosing the one appropriate for the given circumstances. The court’s responsibility lies in assuring that the agency had before it all the data to make an informed decision that adequately took account of the important environmental concerns."). (citation omitted).
fits the desired conclusion. Both of these outcomes would be contrary to the aims of NEPA, but not within the power of the judiciary to account for and minimize.

b. Competency

Even an agency that has diligently adhered to the NEPA framework and has a large staff of environmental analysts or list of preferred third-party contractors will face new challenges if asked to consider climate change impacts of its actions as well. Additionally, extraterritorial considerations limit an agency’s ability to both gather and consider relevant studies in certain situations, regardless of resources or technical competency.

c. Effectiveness of Public Disclosure

As discussed earlier, agencies are often reticent to consider environmental concerns that may conflict with or impair their own statutory mandates. NEPA calls for a check on this behavior through its emphasis on public involvement, which is most effective when the objectionable environmental impact is imminent, particularized, and will directly affect the local community. Because climate change impacts may occur at times and places far removed from the agency project, public comments regarding climate change may have little impact on actual agency decision-making.

d. Self-interest

Analysis of an action’s climate change impacts may jeopardize the core of an agency project, rather than its particular manifestation. For example, in Mid States Coalition for Progress v. Surface Transportation Board, the project’s “foreseeable” impacts due to greenhouse gas emissions arose because the purpose of the action was to provide rail transport for coalmines. Other environmental

196. See Charles D. Case, Problems in Judicial Review Arising from the Use of Computer Models and Other Quantitative Methodologies in Environmental Decisionmaking, 10 B.C. ENVTL. AFF. L. REV. 251, 277 (1982) (explaining the vulnerability of analysis by agencies and experts as "susceptible...to manipulative distortion").

197. See supra Part II.B.1.

198. See, e.g., 40 C.F.R. §§ 1501.7 & 1506.6 (2009).

concerns could be mitigated by altering the agency's choice of route, but the concern about climate change could not. This tendency to jeopardize the core of an agency's project may well entice an agency to downplay or ignore climate change impacts.

III. Reform

This Section sets forth a reform that is intended to ensure that agencies' environmental analyses under NEPA reflect accurate, honest, and thorough scientific information; that federal agencies internalize NEPA's expressive environmental values; and that the occurrence of absurd results due to deferential review and agency deficiencies are diminished. This can be accomplished by assuring that agencies' EIS are supported by the best science, rather than the most convenient science.

As an added bonus, by seeking to oversee rather than control, and to enforce rather than coerce, this reform may be more politically feasible than current iterations of environmental legislation. The suggestions below leave the tough policy choices and ultimate decision-making in the hands of the expert agency, while ensuring that the public receives and the agencies utilize the most objective scientific information possible. Further, this method of systematic oversight strengthens NEPA's expressive aims. The use of honest science depoliticizes the information-forcing aspect of an agency's EIS. By forcing agencies to use the most accurate, rather than the most convenient, information available, agencies are able to fully disclose how their proposed project fits into the lofty goals outlined in NEPA's statement of a national environmental policy.

Overcoming NEPA's Shortcomings

NEPA's successes are tempered by difficulties in ensuring that agencies actually adjust their decisions based on impacts revealed in environmental analyses. Though much criticism has focused on how the Supreme Court has severed NEPA's substantive policy goals from its procedural mandates, this emphasis is, to some

200. These successes include increased information generation by agencies, public involvement in agency decisions through the EIS process, and availability of a private right of action to challenge federal projects pending adequate environmental review.

201. See, e.g., Matthew J. Lindstrom & Zachary A. Smith, The National Environmental Policy Act: Judicial Misconstruction, Legislative Indifference & Executive Neglect 3 (2001); Yost, supra note 14, at 534 (criticizing the Supreme Court's "near obliteration of substantive review").
extent, misplaced. Even if NEPA could be read to impose substantive environmental goals on federal agencies, courts of general jurisdiction could not weigh the merits of an agency's scientific conclusions against those of objecting scientists and citizens. The deferential "arbitrary and capricious" standard of review can guard against the most egregious agency violations—for example, where an agency has failed to fully consider relevant information, or where agencies' written conclusions are contrary to their proffered scientific evidence.\footnote{202} But judicial review, even if less deferential, cannot guard against other more nuanced actions, both intentional and accidental, that subvert NEPA's statement of environmental policy and reduce an EIS to mere "box-checking." In light of that, this Note proposes an external layer of agency review—an expert Office of Environmental Analysis (the Office)—designed to have both the expertise and objectivity necessary to ensure that agencies promote national environmental values while properly utilizing the most appropriate science.

Agencies are under tremendous pressure to shirk adherence to an environmental policy that stalls projects, costs money, strains limited resources, and conflicts with the particular agency's own statutory mandates. Reforms that will enforce a stricter standard of agency compliance with their environmental mandate are necessary. Though NEPA cannot (and should not) put a halt to the multitude of federal actions that impact the natural world,\footnote{203} it can ensure that agency actions properly reflect environmental values and accurate scientific analysis. The awareness that federal actions must be accomplished in recognition of "the profound impact of man's activity on the interrelations of all components of the natural environment"\footnote{204} is the expressive value of NEPA, and one that will be solidified through the reform proposed in this Note. Like courts, the Office of Environmental Analysis will not interject its own preferred policy in place of an agency's reasoned balancing of needs and costs. However, unlike courts, the Office will have the capacity to interject its objective view of the most accurate science, based on reasoned analysis and understanding of the technical complexities inherent in even the most basic EIS.


\footnote{203}{NEPA also seeks to protect other resources, including cultural, historical, and archaeological aspects of our national heritage. 42 U.S.C. § 4331(b)(4) (2006).}

\footnote{204}{Id. § 4331(a) (expressing NEPA's goal that "man and nature...exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans").}
NEPA’s expressive value is even more important in light of climate change considerations. In addition to the benefits of NEPA’s impact-based, forward-thinking, scientifically flexible approach, agency consideration of climate change impacts through NEPA reinforces the federal government’s commitment to, and awareness of, climate change and sustainable development. Under the expressive theory, the effects of this commitment extend beyond better federal decision-making: first, it could influence state and local governments, industry, and even individuals, who should recognize their own “responsibility to contribute to the preservation and enhancement of the environment”; second, accurate environmental analyses (rather than analyses carefully crafted to justify already committed resources) can provide policymakers and the public with a body of accurate information to aid in their consideration of drastic changes to transportation and utility infrastructures that may be necessary as climate change advances, but should not be embarked upon hastily; third, a strong federal commitment to accurate environmental analysis and honest consideration of environmental factors could provide the proverbial “swift kick to catapult us out of our parochial comfort zones” and prepare the American people politically for alterations in development patterns, transportation choices, and energy consumption that will be necessary to limit climate change impacts.

205. See supra Part II.A.
206. See, e.g., Lindstrom & Smith, supra note 201, at 8 (noting that NEPA was intended to “legislate[] values, not through a regulatory mandate but through a national declaration”).
207. 42 U.S.C. § 4331(c); see, e.g., Paula Dittrick, Studies Call for Climate Change Policy from Government, OIL & GAS J., May 26, 2008, at 30 (indicating industry leaders are aware of the need for change and are looking for government to lead the way). Many states are already using their “little NEPAs”—state environmental assessment statutes modeled on NEPA’s framework—as “NEPAs-plus” by incorporating substantive requirements and incorporating climate change considerations. See Madeline June Kass, Little NEPAs Take on Climate Goliath, 23 NAT. RESOURCES & ENV’T 40, 41–42 (Fall 2008); see also supra notes 128–129 (NEPA as a model in the international field).
208. See, e.g., supra notes 172–176
211. For example, the American Clean Energy and Security Act, passed by the House in June of 2009, called for utilities to meet 20% of their electricity demand through use of renewable sources by 2020 and a 17% emissions reduction from 2005 levels by 2020. See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009). The 2007 IPCC assessment identified a list of key mitigation technologies and practices by sector, indicating the scope of potential changes across the economy. INTERGOV’T PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: MITIGATION OF CLIMATE CHANGE at 10 tbl.SPM.3 &
provides a second impetus for expressive reform: climate change magnifies the pressures that currently limit an agency’s implementation of environmental policy,212 which increases the likelihood that current agency approaches will be largely ineffectual despite judicial decisions and CEQ guidance to the contrary.

B. The Benefits of External Agency Review

External agency review is necessary because courts lack the expertise and individual agencies lack the objectivity necessary to ensure that self-interest and inaccuracy do not pervade the NEPA process.

Judicial Reforms. Much of the current NEPA scholarship has focused on the Supreme Court’s interpretation of NEPA and its relationship with the APA.213 The overwhelming precedent of forty years of NEPA litigation necessarily influences any call for judicial reforms: the entrenched APA deferential standard of review, as well as the focus on procedural action, would be difficult to change. Moreover, though some environmental analyses may be accessible to judges without technical backgrounds (impact on plant and animal species, acreage of wetland impacts, destruction of scenic or aesthetic resources, etc.), many analyses (including climate change scenarios) are complex.214 The reliability of an agency’s analysis relies in part on the reliability of the science it utilized. Unfortunately, NEPA is silent with regard to defining the contours of reliable “science”215 and the judiciary must, for reasons of propriety, defer to agency decisions. The problems inherent in relying on courts of general jurisdiction216 for overseeing scientific

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212. See supra Parts II.B.1, II.C.2, II.C.3.

213. See, e.g., Czarnecki, supra note 145; Lindstrom, supra note 180; McGarity, supra note 81; Donald N. Zillman & Peggy Gentles, Perspectives on NEPA in the Courts, 20 ENVTL. L. 505 (1990).


216. See Clarke, supra note 214, at 587; see also Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 200–01 (D.C. Cir. 1991) (“In examining the impacts of noise on the environment, the FAA relies on wisdom and experience peculiar to the agency and alien to the judges on this court.”). Justice Stevens once said “When I am so confused, I go with the
integrity cannot be fully remedied by reforms that aim to incorporate extra-record evidence and principles from Daubert review. Proposals to increase the use of special masters in environmental litigation at the trial level can increase the technical competency of a trial court’s fact-finding function, but may interfere too much with the “appropriate exercise of judicial function.”

Likewise, jurisdictional and administrative concerns put an end to early discussions of a special environmental court, staffed with an expert judiciary. In response to growing concern over the “complexity of factual determinations” in environmental legislation, Congress included in the Clean Water Act of 1972 a directive to the President to make a “full and complete investigation and study of the feasibility of establishing a separate court system, having jurisdiction over environmental matters.” The Attorney General report that followed investigated the feasibility of three possible systems. In addition to criticizing the monetary and administrative costs of the new court system, the proposal failed to adequately address jurisdictional concerns, including definitional and over-breadth problems. Other scholars question the wisdom of specialized courts in general because of concerns over judicial bias in these settings.
Executive measures. Recent scholarship has focused on the role of CEQ and the Executive Office, urging them to strengthen NEPA implementation through executive order or formal rulemaking procedures. Though CEQ can put forth language requiring that an agency's EIS include considerations of “atmospheric and climactic disturbances,” this may not be sufficient to prevent absurd results from either extraterritorial limits on agency review or an agency's insincere choice of available science. Regulatory reforms intending to strengthen the substantive aspect of NEPA may do nothing more than perpetuate an agency’s “check-the-box” procedural approach to its NEPA obligations without furthering its substantive goals or expressive value.

Further legislation. Lastly, legislation that addresses NEPA's substantive weakness by creating a judicially enforceable right to a healthful environment is politically implausible, while inserting a standard of review that exceeds the oft-criticized APA “arbitrary and capricious” standard raises issues of judicial competency. Even given the benefit of a less deferential standard of review (such as clear error or de novo review), judges on courts of general jurisdiction that view science as alien are not in a position to consider their understanding of scientific matter against that of the “expert” agency, nor are they in a position to weigh on the legitimacy of an agency's policy decisions. Though stricter standards might express a more serious approach to agency analysis, it is likely that the actual agency approach will remain unchanged.

External agency review aims to solve the same ills as the judicial, executive, and legislative reforms discussed above. All of

226. See, e.g., HENRY M. JACKSON FOUND., supra note 32, at 1. The foundation, named for one of the Senators who established the CEQ, recommends

[a]n Executive Order (1) directing all federal agencies to identify, within 90 days, programs and activities that, as currently administered, contribute to climate change, and to identify alternatives that would reduce these impacts and promote better environmental stewardship, and (2) directing all federal agencies to assess the extent and manner in which climate change may affect their missions and the resources they manage, and to develop plans and strategies within one year for avoiding, adapting to or minimizing such impacts to the fullest extent possible.

Id. at 3.

227. See, e.g., ENVTL. LAW INST., REDISCOVERING THE NATIONAL ENVIRONMENTAL POLICY ACT: BACK TO THE FUTURE 31-32 (1995). The ELI recommends an executive order “requir[ing] agency adherence to the six NEPA objectives in decisionmaking,” id., and CEQ regulations requiring agencies to implement those objectives as a “checklist of [environmental] objectives,” id. at 33-34. See also EPA JOURNAL, supra note 153 (suggesting that “change can occur through a commitment by the federal agencies charged with implementing [NEPA] through the opportunities provided in changes brought about by the new Council on Environmental Quality regulation. . . . rather than a change in the statute itself”).
these reforms, to some degree, recognize that agencies are apt to engage in biased or scientifically questionable reviews of their own environmental impacts. The current administrative and legal framework provides little oversight to correct these problems. Like other reforms, external agency review strengthens the assertion of NEPA’s mandate that “the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the national environmental policy but does so while acknowledging the limits on both the judiciary’s and the agencies’ ability to enforce it.

C. Existing External Review Under NEPA

Section 309 of the Clean Air Act provides a mechanism for external review of agency EIS.229 The provision directs the EPA to review and provide written comments on major federal actions that require NEPA analysis250 and to refer the matter to CEQ if the EPA finds the action is “unsatisfactory from the standpoint of public health or welfare or environmental quality ....”225 Though this section was incorporated as a means to enforce agency implementation of NEPA,232 the oversight provided by CEQ and EPA is limited: the statutory language grants EPA only the authority to review another agency’s project. That leading agency is then free to carry on with the proposed project over EPA’s express disapproval. When challenged, the EPA recommendation does not alter the existing standard of review. Courts will still review the agency’s action under the deferential “arbitrary and capricious” standard. Applied this way, the court has allowed a project to stand, over the environmental experts’ objections.235

229. Id. § 7609. The CEQ then outlines a procedure for referrals and response. 40 C.F.R. § 1504.3 (2006). This is the “Agency as Lobbyist” discussed in Eric Biber, supra note 188, at 42–45.
231. Id. § 7609(b).
232. See William L. Andreen, In Pursuit of NEPA’s Promise: The Role of Executive Oversight in the Implementation of Environmental Policy, 64 Ind. L.J. 205, 223 (1989) (arguing that section 309 was enacted as part of the Clean Air Act Amendments of 1970 “[o]ut of sheer exasperation” of agencies being either unable or unwilling to fully embrace the new procedural and substantive demands made by NEPA).
233. See Davis, supra note 173, at 62 & nn.196–98 (citing a case where EPA expressly stated “we recommend you deny the permit” and the permit, approved over EPA’s objections, withstood judicial review).
It may be possible to strengthen the role of executive branch oversight in the NEPA process. Though more extensive EPA involvement would provide a greater check on a leading agency's environmental assessment and NEPA review, there are downsides to this approach. First, the EPA is already stretched too thin and unable to perform many of its statutorily mandated tasks, obligations, and responsibilities. Second, the EPA, in its role as policy-maker and regulator, may not be sufficiently insulated from politics and other outside influences to fully represent the interests of “uninterested” science. The proposed Office of Environmental Analysis recognizes these limits and counteracts them with a narrow scope and little political influence.

D. Advantages of an Office of Environmental Analysis

This Note supplies an alternative proposal—a nonpartisan agency that monitors the integrity of federal agencies’ NEPA review. This agency will have the authority to review both accurately and objectively an agency’s choice of scientific baseline, methodology, and models; it can also determine how “honestly” an agency incorporates scientific analyses and applies the six considerations of NEPA’s opening section to reach its final decision. This proposal combines the strengths of earlier proposals—the expertise envisioned by CEQ and EPA oversight and the objectivity and uniformity sought through an expert court system—without their attendant jurisdictional and administrative problems and implications of political bias. If successfully established, the Office can “police” agencies as necessary to ensure that an environmental ethic—the expressive purpose of NEPA—is actually incorporated into agency decision-making.

234. See generally Davis, supra note 173; Andreen, supra note 232.
235. Such a check would be given effect by EPA’s role as an “expert” agency as an independent, objective, science-minded reviewer.
236. See supra note 54. The small number of referrals made by EPA to CEQ (only fourteen between 1974 and 1985) may be reflective of this. See Andreen, supra note 232 at 238–39 & nn.241–43.
NEPA in the Hot Seat

1. The Office

The Office of Environmental Analysis should be structured to preserve two important elements of NEPA: (1) active public participation in agency review through the public comment process and disclosure of environmental impacts, and (2) establishing an ongoing agency responsibility to perpetuate NEPA's environmental policy. The Office could take the form of an independent regulatory or Congressional agency. While the Office's specific form is beyond the scope of this Note, whatever form it does take will need to insulate it from influence, from both political actors and the agencies it is responsible for reviewing. To preserve the Office's legitimacy while insulating it from these influences, it will not be tasked with rule-making obligations. To maintain the integrity of its work, it will perform a limited role: review of agencies' environmental analyses (EIS, EA, and FONSI). The Office of Environmental Analysis will not evaluate the policy considerations underlying an agency's analysis; rather, it will ensure that the science in the analysis has not been skewed by those underlying objectives.

2. The Process

To preserve the public participation element of the NEPA process, review by the Office of Environmental Analysis should take place after the initial comment period for a draft EIS, but before its final promulgation. The Office will thus be in a position to consider public input as part of its ultimate review and account for the fact that even the "expert" agency might not be aware of the full breadth of scientific knowledge applicable to the environmental analysis. The Office's review process may be time consuming, but will be greatly facilitated when an agency puts forth a clear, concise, and scientifically defensible work product for review.

In fact, aspects of the Office's process might actually speed NEPA review. By putting the burden of fast and favorable review on the agency crafting the EIS, the Office's presence will create positive incentives for agencies to incorporate both NEPA's policies and procedures into their proposed major actions. The public will

238. Agencies can be further incentivized to craft NEPA-worthy analyses by dividing review within the Office to various agencies (meaning the same team reads the EIS of the same agencies each time). With this structure in place, delays caused by the review process will be the fault of that agency alone, and not of other delinquent agencies clogging up the pipeline. This can also increase the efficiency of the reviewer's task, since an agency's similar projects are likely to embrace similar environmental issues.
indirectly benefit from the agency's incentive to draft an EIS designed for quick and thorough review. A clearly written, concisely drafted, and well-supported EIS allows the public a greater opportunity to review, understand, and comment than one in which scientific analysis is kept only at the level necessary to withstand "hard look" review.

To further reduce delays, the Office of Environmental Analysis can incorporate a streamlined review procedure for analyses that rely on more "straightforward" science collected by the agency itself—site survey data, for example—or limit the types of analyses subject to review to those that include direct or cumulative impacts, or incorporate the use of models.239

Lastly, time lost in the Office review process can be regained when parties are disputing the validity of an EIS. By offering objective scientific analysis, the Office can provide recommendations for the agency to strengthen its own analysis and make its EIS more litigation-proof. In the alternative, review that is and remains unfavorable to the agency's analysis provides parties and courts of general jurisdiction a clear basis on which to challenge the agency's "hard look."

3. Judicial Review

The creation of the Office of Environmental Analysis will leave judicial review of NEPA lawsuits unchanged, but with one significant difference: in matters of methodology or scientific analysis, the court must defer, not to the "expert" leading agency, but to the conclusions of the expert and unbiased Office of Environmental Analysis. Conceptually, the Office can function as an institutionalized Special Master, providing the desirable expertise function without altering the structure of the judicial proceeding.240

The impact of this environmental review can be significant. A study on Special Master proceedings found that the majority of courts adopted the Special Masters' findings of fact without modification241 and that the Special Masters' activities appeared to

239. The "arbitrary and capricious" standard of review can protect against agency efforts to bypass Office review by neglecting to consider these impacts or incorporate relevant models.

240. See Brazil, supra note 221, at 417–23; Farrell, supra note 221, at 967–85.

influence the outcome of the case. Likewise, reports prepared by the Office of Environmental Analysis can be used to enforce a judge's assertion that the agency action is, as in Conservation North-west v. Rey, incorrect, or to make courts aware of deficiencies that would otherwise be beyond the limits of judicial competency to identify.

The courts and the Office of Environmental Analysis must still leave the policy choices to the leading agency. The mere presence of the Office will not create substantive mandates in a statute where such provisions are otherwise lacking. Nor will the Office's judgment necessarily override the expert agency's conclusions. However, the Office's analysis will provide parties with a sound basis to ensure that the EIS promotes NEPA's expressive environmental policy while furthering understandings of how agencies are shaped by the need for environmental conservation. No matter what the agency's underlying policy, the agency's conclusions must be justified by the science endorsed by the Office of Environmental Analysis.

IV. CONCLUSION

No reform will "solve" the problem of climate change or guarantee that a federal agency will choose the environmentally preferable option in light of its other necessary considerations. Despite this, it is important to strengthen NEPA with regards to its expressive purpose: to ensure that environmental values (and awareness of climate change impacts) are incorporated into agency actions and reflected in an objective EIS. The proposed Office of Environmental Analysis seeks to return integrity to the NEPA process, mitigate the problem of agency bias, and bring an expert level of review to analysis of proposed agency actions.

242. Id. at 57 tbl.14.