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I WISH THEY ALL COULD BE CALIFORNIA ENVIRONMENTAL QUALITY ACTS: 
RETHINKING NEPA IN LIGHT OF CLIMATE CHANGE

CONOR O’BRIEN *

Abstract: Scientific evidence indicates that the repercussions of climate change are numerous, severe, and result from human activity. One possible method of curbing climate change may lie with the National Environmental Policy Act (NEPA), which requires that federal agencies gather and disclose information about the environmental impacts of their activities. Shortly after NEPA’s passage, California enacted the California Environmental Quality Act (CEQA), a statute similar to NEPA addressing the environmental impacts of state and local agencies’ activities. One significant departure from NEPA was that CEQA not only required that agencies disclose the environmental impacts of their activities, but that they avoid significant impacts in many circumstances. This Note discusses why omitting this requirement from NEPA makes it less useful in addressing climate change than its California counterpart, compares NEPA to CEQA, and suggests changes which could make NEPA a more useful tool for regulating climate change.

Introduction

In 2006, California Attorney General Bill Lockyer advised leaders of Orange County that construction of a massive freeway would not comply with the California Environmental Quality Act (CEQA) unless the county adequately considered the effects of the freeway on global warming.1 It was the first significant attempt to address the issue of global warming under CEQA.2 The practice gained statewide notoriety the following year when Lockyer’s successor, Jerry Brown, sued San Bernardino County for failing to mitigate the impacts of climate change in the county’s plans to expand the region.3 In November 2007, the attorney general reached an agreement with the county wherein

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* Symposium Editor, BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW, 2008–09.
2 Id.
3 Id.
the county would estimate greenhouse emissions as far back as 1990, and take steps to mitigate current emissions.\textsuperscript{4} Since then, climate change has become a staple of regulation in California, particularly as it affects CEQA compliance.\textsuperscript{5} Prior to the San Bernardino action, California’s Office of the Attorney General had experimented with novel tactics to address climate change, including an argument that vehicles’ greenhouse gas emissions constitute a public nuisance.\textsuperscript{6}

California is not the only state to address climate change.\textsuperscript{7} In 2007, Washington’s largest county passed legislation requiring county officials to consider climate change impacts during environmental reviews under its State Environmental Policy Act (SEPA).\textsuperscript{8} Numerous states have passed legislation similar to SEPA and CEQA.\textsuperscript{9} These laws are modeled largely on the National Environmental Policy Act (NEPA), which requires that federal agencies consider the environmental impacts of their activities before implementing proposals.\textsuperscript{10}

Creative tactics to address climate change are necessary on the state level due to a vacuum in federal enforcement.\textsuperscript{11} Although the impact of climate change is becoming a concern for CEQA compliance, NEPA compliance has not required similar consideration.\textsuperscript{12} This Note

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\textsuperscript{5} See Miller, supra note 1, at 6.

\textsuperscript{6} See id.

\textsuperscript{7} See, e.g., Bill McAuliffe & Paul Walsh, \textit{Midwest Leaders Agree on Plan to Reduce CO2: A Regional, Market-Based Pollution Strategy for Carbon Dioxide Mirrors an Earlier Effort to Reduce Acid Rain}, STAR TRIB. (Minneapolis, MN), Nov. 16, 2007, at 10A. Nine governors of various Midwestern States, and the Canadian province of Manitoba, signed an accord vowing to reduce greenhouse gasses by implementing the first-ever state caps on emissions from power plants and factories. \textit{Id.}


\textsuperscript{11} See Miller, supra note 1, at 6. The Office of Attorney General Jerry Brown office petitioned the Federal Environmental Protection Agency (EPA) to enact new agency rules on the impact ships and planes have on climate change. \textit{Id.} Brown’s office is also suing the EPA in response to the agency’s decision to preclude California from curbing tailpipe emissions. \textit{Id.} Massachusetts, along with a consortium of states, sued the EPA for taking the position that it had no authority to regulate certain greenhouse gas emissions under section 202(a)(1) of the Clean Air Act. \textit{See generally} Massachusetts v. EPA, 549 U.S. 497 (2007).

\textsuperscript{12} See \textit{infra} Part III.B.
compares and contrasts the language of NEPA and CEQA to show how each can or cannot be used to regulate climate change. It demonstrates that NEPA, on its own terms, requires consideration of the impacts of climate change when planning federal activities. Merely requiring such consideration under NEPA, however, does not mean a federal project necessarily will contribute less to climate change.\textsuperscript{13} In contrast, CEQA provides guidance as to how NEPA can be amended and reinterpreted to become an effective tool for combating climate change.\textsuperscript{14}

Part I discusses the scientific evidence supporting the existence of climate change and the role humans play in hastening it. Part II details NEPA, paying particular attention to its procedural requirements, and the extent to which interpretations of it have limited its effectiveness. Part III explains CEQA and highlights the substantive requirements it imposes on state and local agencies in California. Part IV compares NEPA to CEQA and identifies the changes necessary for NEPA to become a useful tool for regulating climate change.

I. Climate Change: An Overview

Mounting evidence bolsters the hypothesis that an increase in the average surface temperature of Earth is adversely affecting its ability to sustain life.\textsuperscript{15} The negative effects of this warming pattern are numerous.\textsuperscript{16} In addition to glacier recession and a substantial rise in sea levels, another likely effect of this phenomenon is an increase in tropical cyclone activity.\textsuperscript{17} Climate change is also the cause of longer and more intense droughts which affect increasingly large areas.\textsuperscript{18} According to the Intergovernmental Panel on Climate Change (IPCC), it is more likely than not that human activity has exacerbated these trends.\textsuperscript{19}

The IPCC further concluded that eleven of the last twelve years were the warmest in global temperatures since 1850—the year data became available.\textsuperscript{20} Based on this data, IPCC stated that, “Warming of the climate system is unequivocal, as is now evident from observations of

\textsuperscript{13} See Kevin T. Haroff & Katherine Kirwan Moore, Global Climate Change and the National Environmental Policy Act, 42 U.S.F. L. Rev. 155, 166 (2007).
\textsuperscript{14} See infra Part IV.
\textsuperscript{16} See id. at 5–9.
\textsuperscript{17} Id. at 5, 9.
\textsuperscript{18} Id. at 8.
\textsuperscript{19} Id. at 3.
\textsuperscript{20} See id. at 5.
increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.” Human activity—in particular the emission of greenhouse gasses into the atmosphere—is primarily responsible for this warming pattern.

According to the IPCC, atmospheric concentrations of these greenhouse gasses—particularly carbon dioxide, methane, and nitrous oxide—increased significantly due to industrial and agricultural activities since 1750. Carbon dioxide, the most common greenhouse gas in the atmosphere, has increased primarily due to fossil fuel use and land-use change, while increases in methane and nitrous oxide are attributable primarily to widespread farming. Climate change is unique compared to other air pollution problems because the location of greenhouse gas emissions is unimportant. While smog, for instance, tends to settle near its source, greenhouse gases disperse throughout the atmosphere, and its effect is worldwide.

Both private and state activity may contribute to climate change. A private actor may contribute by constructing a coal-burning power plant, which produces carbon dioxide. On a smaller scale, a private actor may contribute to climate change by clearing a forest to build a farm. Since trees play an important role in absorbing carbon dioxide, fewer trees means more unabsorbed carbon dioxide entering the atmosphere. The same actor may further contribute by breeding methane-emitting livestock on the recently cleared area.

Of course, the state may indirectly contribute to greenhouse gas emissions in these regards by granting permits to a coal-burning power plant, thus allowing it to operate. The government also impacts cli-

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21 See IPCC, supra note 15, at 5.
22 See id. at 2.
23 Id.
24 See id. at 2–3.
26 See id.
28 See id.
29 See Confirmed: Deforestation Plays Critical Climate Change Role, ScienceDaily, May 11, 2007, http://www.sciencedaily.com/releases/2007/05/070511100918.htm. Unfortunately, forests accumulate less carbon at higher temperatures. Id. Therefore, as climate change becomes more pernicious, existing forests will offset the warming pattern less effectively. See id.
30 See World Meteorological Organization, supra note 27.
31 See id.
mate change when it allows a developer to clear a forest, or permits an agricultural corporation to raise livestock where a forest once stood. The activity that directly contributes to climate change exists only insofar as the government allows it. Government activity may have a more direct impact on climate change as well. Instead of merely licensing a coal-burning power plant, the government may fund its construction. The National Highway Administration could add lanes to a highway, thereby permitting it to accommodate more cars. The result might be an easing of traffic congestion, providing an incentive for more commuters to drive, thus generating an overall increase in carbon from fuel-burning vehicles. In addition, the actual process of widening highways requires transporting materials and using heavy equipment, which generate greenhouse gasses and contributes to climate change. These are only a few examples of ways in which government actions can contribute to climate change.

II. The National Environmental Policy Act

The passage of the National Environmental Policy Act (NEPA) in 1970 introduced a distinct new model of statutory regulation which required federal agencies to consider the environmental consequences of their actions, and to disclose those consequences to the public. In drafting NEPA, Congress attempted to articulate the perception held by numerous Americans. Many believed the quality of the environ-

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32 See Davis v. Morton, 469 F.2d 593, 597 (10th Cir. 1972) (holding that approving or licensing a project is a federal action).
33 See id.
35 See Audubon Naturalist Soc’y v. U.S. Dep’t of Transp., 524 F. Supp. 2d 642, 657, 708 (S.D. Md. 2007) (noting that the Federal Highway Administration considered the effects of climate change in its decision to construct the Inter-County Connector as part of a larger part of Washington D.C.’s outer beltway).
ment was deteriorating, and that federal legislation was needed to slow its decline. NEPA’s framers were concerned the “quality” of the environment was both detrimental to people’s physical well-being, and damaging to the country’s ability to sustain natural resource exploitation.

NEPA’s drafters identified the failure of government agencies to consider the environmental repercussions of their activities as a significant source of environmental degradation. Prior to NEPA, government agencies had little reason to consider these repercussions. Moreover, depending on an agency’s function, indulging in environmental sensitivity could be either inefficient or downright untenable. In fact, the Atomic Energy Commission—now the Nuclear Regulatory Commission—considered its mandate of regulating nuclear energy to be irreconcilable with the environmental ideals of NEPA, and thus contended it lacked the statutory authority to consider non-radiological environmental issues. However, NEPA’s drafters believed this negligence was wreaking havoc on the environment.

A. Overview of NEPA

NEPA contains two primary sections—sections 101 and 102—which differ in the extent to which they impose duties on federal agencies. Section 101, which itself is separated into section 101(a) and sec-

41 See 42 U.S.C. § 4321 (2000) (including among its purposes the promotion of “efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man”). According to Senator Henry Jackson, former Chairman of the Senate Committee on Interior and Insular Affairs and primary drafter of NEPA, this environmental degradation included “haphazard urban growth, the loss of open spaces, strip-mining, air and water pollution, soil erosion, deforestation, faltering transportation systems, a proliferation of pesticides and chemicals, and a landscape cluttered with billboards, powerlines, and junkyards.” See Caldwell, supra note 39, at 1.
42 See Caldwell, supra note 39, at 1–2.
43 See id.
46 See Caldwell, supra note 39, at 1.
tion 101(b), sets forth the Act’s basic substantive policies, but imposes no duties on agencies bound to comply with NEPA.\textsuperscript{48} Section 101 enunciates vague policies, such as a requirement that the government “use all practicable means and measures” to protect environmental values.\textsuperscript{49} Courts have interpreted section 101 to impose no enforceable requirements on federal agencies.\textsuperscript{50}

In contrast, section 102 does impose legally enforceable requirements on agencies and contains the procedural apparatus through which the goals are to be attained.\textsuperscript{51} Most notably, section 102 introduces the Environmental Impact Statement (EIS).\textsuperscript{52} Whenever a proposed major federal action would have a significant impact on the environment, the responsible federal agency must prepare a statement that details the anticipated impacts, as well as any alternatives that may avoid them.\textsuperscript{53} Once prepared, the EIS must be made available to the public.\textsuperscript{54}

Interpretations of sections 101 and 102 come from two sources—the judiciary and the Council on Environmental Quality (CEQ).\textsuperscript{55} As this Note will show, the judiciary was largely responsible for breathing several other sections as well. See, e.g., 42 U.S.C. § 4342. For instance, section 201 establishes the Council on Environmental Quality. \textit{Id.}


\textsuperscript{49} See 42 U.S.C. § 4331(a). Likewise, section 101(a) acknowledges “the profound impact of man’s activity on . . . the environment” but does not require that man actually alter his activity. 42 U.S.C. § 4331; \textit{see Strycker’s Bay, 444 U.S. at 227; Vt. Yankee, 435 U.S. at 558.}

\textsuperscript{50} See \textit{Houck, supra} note 40, at 179. Nor does the preface to section 101 impose any burdens on agencies, stating, “The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment . . . .” \textit{See 42 U.S.C. § 4321.}

\textsuperscript{51} See 42 U.S.C. § 4332; Houck, \textit{supra} note 40, at 178; \textit{see also Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n, 449 F.2d 1109, 1115 (D.C. Cir. 1971) (holding that the duties of section 102 are “not inherently flexible” and “must be complied with to the fullest extent”).}

\textsuperscript{52} See 42 U.S.C. § 4332(C).

\textsuperscript{53} See \textit{id.}

\textsuperscript{54} \textit{Id.}

\textsuperscript{55} See 42 U.S.C. §§ 4342–4344; \textit{see, e.g., Strycker’s Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) (“[O]nce an agency has made a decision subject to NEPA’s procedural requirements, the only role for a court is to ensure that the agency has considered the environmental consequences.”).}
life into—and subsequently eviscerating the significance of—section 101, while leaving section 102 procedural requirements largely intact. The CEQ, established by section 201, is responsible for promulgating regulations that explain federal agencies’ obligations under NEPA.

1. Section 101—Unenforceable, Lofty Ideals

Section 101 is entitled “Congressional Declaration of National Environmental Policy,” and it contains NEPA’s general substantive principles. Whether section 101 imposes any affirmative duties on federal agencies is a question nearly as old as NEPA itself, and to date, the answer appears to be an unequivocal no. For those who believe it does, however, NEPA grants courts the authority to review agencies’ decisions in order to make sure they comply with this substantive mandate. The problem with this interpretation is that it has been unclear precisely what substantive requirements NEPA imposes.

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56 See Calvert Cliffs’, 449 F.2d at 1115.
60 See 42 U.S.C. § 4332. For instance, section 101 of NEPA imposes on the federal government a responsibility to “use all practicable means . . . to the end that the Nation may . . . fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations.” Id. This principle of stewardship for future generations inheriting the Earth and her resources is one of several principles section 101 of NEPA enunciates. Id. Others include: (1) assuring for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings; (2) attaining the widest range of beneficial uses of the environment without degradation (3) preserving important aspects of our national heritage, and maintaining an environment which supports diversity and variety of individual choice (4) achieving a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and (4) enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources. Id. However precisely these principles enunciated the attitudes Americans held toward their environment, these statements have become nothing more than mere principles. See Houck, supra note 40, at 179–80.
61 See The Least Adverse Alternative Approach, supra note 47, at 735 (discussing whether NEPA imposes substantive requirements in light of differing judicial interpretations a mere four years after NEPA’s passage).
63 See The Least Adverse Alternative Approach, supra note 47, at 742–43.
64 See Houck, supra note 40, at 179.
Before the Supreme Court had the chance to weigh in on the matter, one court proposed an answer. In 1971, just a little over a year after NEPA was passed, the D.C. Circuit Court held in Calvert Cliffs’ Coordinating Committee v. U.S. Atomic Energy Commission that the substantive language of section 101 required that a project be rejected where its environmental costs outweighed its benefits. According to Judge Wright’s majority opinion, NEPA establishes environmental protection as an integral part of an agency’s mandate. Not only did NEPA require an agency to include environmental impacts in its EIS, but it also required the agency to accord them proper weight in its decision-making. Courts, meanwhile, had a “duty” to “see that the important legislative purposes [of section 101], heralded in the halls of Congress, [were] not lost or misdirected in the vast hallways of the Federal bureaucracy.” This meant reviewing agency decisions to assure that they were not ignoring the environment. This interpretation breathed life into the substantive language of section 101.

Although the Calvert Cliffs’ interpretation was later rejected by the Supreme Court, it was bolstered by the language of NEPA itself, which points out that laws and regulations “shall be interpreted and administered in accordance with the policies set forth in this chapter.” Indeed, one stated purpose of NEPA is to establish substantive standards for resolving conflicts between environmental interests and other values. Moreover, the Calvert Cliffs’ opinion cited to language explicitly within the statute in support of its holding—that the substantive requirements of section 101 be “administered to the fullest extent possible.”

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66 See id. at 1115 (“[I]f the decision was reached procedurally without individualized consideration and balancing of environmental factors—conducted fully and in good faith—it is the responsibility of the courts to reverse.”); The Least Adverse Alternative Approach, supra note 47, at 742–43.
67 See Calvert Cliffs’, 449 F.2d at 1112.
68 See id.
69 See id. at 1111.
70 See id. at 1115.
71 See Houck, supra note 40, at 182–83.
73 See 42 U.S.C. § 4331(a)(5); The Least Adverse Alternative Approach, supra note 47, at 739.
74 See 449 F.2d at 1114 (“[T]o the fullest extent possible’ sets a high standard for the agencies, a standard which must be rigorously enforced by the reviewing courts.” (quoting 42 U.S.C. § 4332)); Houck, supra note 40, at 182–83.
However, the interpretation of *Calvert Cliffs*’ was imperfect. Commentators argued that a cost-benefit analysis was not justified by NEPA’s text. On the other hand, the alternative school of thought—agencies must only comply with NEPA’s procedural requirements—was thought by environmentalists to undermine NEPA’s intent. Unfortunately for environmentalists, the Supreme Court was soon to oppose *Calvert Cliffs*’ interpretation of NEPA’s substantive burdens. A short series of decisions subsequently succeeded in whittling NEPA to its barest procedural mechanisms. In *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, the Supreme Court stated NEPA only “insure[s] a fully informed and well-considered decision [to proceed with the proposed action], not necessarily a decision the judges of the Court of Appeals or of this Court would have reached had they been members of the decisionmaking unit of the agency.” Although *Vermont Yankee* did not preclude judicial review of compliance with NEPA’s substantive goals absolutely, in *Strycker’s Bay Neighborhood Council, Inc. v. Karlen*, the Court declared:

> Once an agency has made a decision subject to NEPA’s procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot “‘interject itself within the area of discretion of the executive as to the choice of the action to be taken.’”

In so holding, the Court barred the possibility of judicial review as a mechanism for implementing NEPA’s substantive goals. The grand legislative purposes expounded in section 101 were replaced by two humbler purposes described by the Supreme Court: “[NEPA assures] the agency . . . will have available . . . information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience . . . .”

75 See The Least Adverse Alternative Approach, supra note 47, at 746.
76 See id.
77 See id. at 739–40.
80 Vt. Yankee, 435 U.S. at 58; Weiland, supra note 48, at 290.
81 Strycker’s Bay, 444 U.S. at 227–28 (quoting Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976)).
82 See id.; Weiland, supra note 48, at 290.
2. Section 102—NEPA’s Action-Forcing Provision

In spite of this substantive amputation, NEPA’s procedural mechanisms remained largely intact. As the Calvert Cliffs’ opinion stated, “the Section 102 [procedural] duties are not inherently flexible” and absent “a clear conflict of statutory authority,” they must be complied with to the fullest extent. In disagreeing with the reading expounded by Calvert Cliffs—that NEPA imposes additional substantive requirements—the Strycker’s Bay Court reaffirmed NEPA’s procedural requirements. This being so, NEPA—insofar as it has been enforced at all—has been enforced through its procedural requirements, which have been refined by the judiciary and by the CEQ.

a. The Requirements of Section 102 Are Apparent

The most important procedure established by section 102 is the requirement that an agency prepare an EIS wherever a major federal action will have a significant impact on the human environment. The statement must identify anticipated environmental impacts, as well as alternatives to the proposed action. Once prepared, the EIS must be made available to the public.

The judiciary found less trouble interpreting and applying the procedures of section 102 than it had interpreting and applying sec-

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84 See Houck, supra note 40, at 188.
86 See Strycker’s Bay, 444 U.S. at 227 (“NEPA, while establishing ‘significant substantive goals for the nation,’ imposes upon agencies duties that are ‘essentially procedural.’” (quoting Vt. Yankee, 435 U.S. at 558)); Robertson, 490 U.S. at 350; Weiland, supra note 48, at 290.
89 42 U.S.C. § 4332(C). Furthermore, the statement must discuss “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” and “any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” Id.
90 Id. In addition to the public, a completed EIS must be made available to “the appropriate Federal, State, and local agencies[,] . . . the President, [and] the Council on Environmental Quality.” Id.
tion 101.\textsuperscript{91} Whereas section 102’s procedural mandates are straightforward, section 101’s policy language is vaguely drafted and more difficult to apply.\textsuperscript{92} Unlike the so-called “requirement” of section 101 that the federal government “attain the widest range of beneficial uses of the environment,” the requirement that a federal agency complete an EIS is straightforward and certain.\textsuperscript{93} A court may determine whether an agency complied with the procedural requirements of section 102, but it cannot overturn an agency’s decision for failing to comport with section 101.\textsuperscript{94} As a result, agencies could comply with NEPA without choosing an environmentally prudent course of action, as long as they follow the statute’s procedures.\textsuperscript{95}

b. The Criteria for Compliance with Section 102

NEPA’s requirement that an agency prepare an EIS whenever “proposals for legislation and other major Federal action significantly affect[] the quality of the human environment” does not mean that the government must prepare an EIS every time it slightly alters the American landscape.\textsuperscript{96} NEPA requires an agency to prepare an EIS only where its proposed action constitutes a “major Federal action” that would have a “significant” effect on the “human environment.”\textsuperscript{97}

\textsuperscript{91} See Ferester, \textit{supra} note 9, at 208.
\textsuperscript{92} See Houck, \textit{supra} note 40, at 178–80.
\textsuperscript{93} See 42 U.S.C. § 4331; Houck, \textit{supra} note 40, at 179. Professor Houck draws a useful distinction between “principles” in this case, and “laws.” See Houck, \textit{supra} note 40, at 179. According to him, laws—unlike principles—draw a clear line between “that which may be done and that which may not be done.” \textit{Id.} Thus, while a declaration that highways shall not go through public parks is adequately precise to be law, a declaration that agencies shall “attain the widest range of beneficial uses of the environment” could either support or preclude the same behavior depending on its interpretation. \textit{See id.} As another illustration, although one could argue whether a proposed action “preserv[es] important aspects of our national heritage” in accordance with section 101, there is less room for debate over whether a federal agency has included an EIS along with a proposal for a federal action. The agency either did or did not submit such a statement. See 42 U.S.C. § 4331; Houck, \textit{supra} note 40, at 179–80.

\textsuperscript{94} See Houck, \textit{supra} note 40, at 181.
\textsuperscript{96} See 42 U.S.C. § 4332(C). In addition, there are numerous categorical exclusions where an agency may determine a particular activity is exempt from the EIS requirements. See 40 C.F.R. § 1508.4 (2007). In other cases there are categorical inclusions where an agency determines that a particular activity automatically requires the preparation of an EIS. \textit{E.g.} Deep Seabed Hard Mineral Resources Act, 30 U.S.C. § 1419(d) (1980) (requiring an EIS be prepared when a permit is issued for certain underwater mining enterprises).
\textsuperscript{97} See 42 U.S.C. § 4332(C).
If an agency can demonstrate that its proposal would not qualify as such an action, it need not prepare an EIS.\textsuperscript{98}

The circumstances under which an EIS is necessary, as well as the standards by which a court determines its adequacy, are determined by the courts\textsuperscript{99} and by the CEQ.\textsuperscript{100} The CEQ was created by section 201 of NEPA.\textsuperscript{101} It promulgates regulations which are incorporated in the Code of Federal Regulations.\textsuperscript{102} Compliance with NEPA means complying with these regulations.\textsuperscript{103}

i. Major Federal Action

The language of NEPA itself does not define a “major Federal action.”\textsuperscript{104} The CEQ provided a broad definition which includes “actions with effects that \textit{may} be major and which are \textit{potentially} subject to Federal control and responsibility.”\textsuperscript{105} The CEQ’s definition includes both an agency’s decision to act, as well as its decision not to act.\textsuperscript{106} Major federal action includes projects “approved” by an agency as well as projects that are “entirely or partly financed, assisted, conducted, [or] regulated” by a federal agency.\textsuperscript{107}

However, the definition is not all-encompassing. For instance, neither an agency’s decision to bring civil or criminal enforcement action, nor mere funding assistance are considered actions subject to NEPA.\textsuperscript{108}

\begin{footnotes}
\item[98] See id.
\item[99] See, e.g., Andrus v. Sierra Club, 442 U.S. 347, 348–49 (1979) (holding that agencies are not required to prepare an EIS to accompany appropriation requests); Sugarloaf Citizens Ass’n v. Fed. Energy Regulatory Comm’n, 959 F.2d 508, 512 (4th Cir. 1992) (holding that purely ministerial acts do not fall under NEPA regulation).
\item[100] See Houck, supra note 40, at 184. NEPA created the CEQ and defined its role. See id. Initially, the CEQ was limited to conducting studies and advising the President on environmental matters. See id. In time, it was empowered to issue “guidelines”—without the force of law—on points of NEPA interpretation. See id. In 1978, however, an executive order empowered the agency to issue NEPA regulations with which agencies were bound to comply. See id. These regulations had the force of law. See id. Some criticized the members of the CEQ as being too friendly with certain industries, and promulgating regulations that were hostile toward environmentalism. See Houck, supra note 40, at 184. Regardless, the CEQ’s expanded role in promulgating rules for NEPA compliance has turned it into a formidable fixture of the NEPA landscape. See id.
\item[101] 42 U.S.C. § 4342.
\item[102] See Houck, supra note 40, at 184.
\item[103] See id.
\item[104] See 42 U.S.C. § 4332.
\item[105] 40 C.F.R. § 1508.18 (2007) (emphasis added).
\item[106] Id.
\item[107] See id. § 1508.18(a).
\item[108] See id.
\end{footnotes}
Additionally, case law suggests that nondiscretionary actions are beyond NEPA's scope. An agency may succeed in demonstrating that an action is not “Federal” if the agency cannot control the outcome of the project in material respects or if it has no discretion to exercise judgment regarding the outcome. This is particularly relevant where federal agencies are not the primary actors. For example, the federal government can fund a project in its entirety, but if state or local agencies make all the decisions, then it is not a federal action.

ii. Significant Effect on the Human Environment

In addition, NEPA requires that an EIS be prepared only where the proposed activity implicates “a significant effect on the human environment.” “Effect” is broadly defined to include those which are “aesthetic, historic, cultural, economic, [or] social.” Determining whether an effect is “significant” is more challenging. An effect can be either singularly significant in itself, or individually minor but collectively significant. The regulations also define “effects” to include both direct and indirect effects, though the effects must be reasonably foreseeable. However, whether an effect is too remote to be ripe for NEPA consideration is left largely to the discretion of the agency. NEPA only requires that an agency act in good faith when it determines that

109 See South Dakota v. Andrus, 614 F.2d 1190, 1194 (8th Cir. 1980).
110 See Save Barton Creek Ass’n v. Fed. Highway Admin., 950 F.2d 1129, 1134 (5th Cir. 1992).
111 See id.
112 See id. at 1135.
113 42 U.S.C. § 4332 (2000). CEQ regulations define “human environment” in particularly expansive terms. See 40 C.F.R. § 1508.14 (2007). In fact, the definition begins by stating that, “Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.” Id. (emphasis added). Still, this definition has limits. See id. The regulations explicitly state that proposals whose impacts are solely economic, social, or psychological do not need to be considered in an EIS unless the effects on natural and physical environment would otherwise necessitate preparation of an EIS. See id.; Metro. Edison v. People Against Nuclear Energy, 460 U.S. 766, 774 (1983) (holding the Nuclear Regulatory Commission complied with NEPA although it didn’t contemplate psychological health damage).
114 See 40 C.F.R. § 1508.8 (2007).
115 See id. § 1508.7.
116 Id. § 1508.8. Direct effects are defined as those “which are caused by the action and occur at the same time and place.” Id. Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” Id.
117 See Custer County Action Ass’n v. Garvey, 256 F.3d 1024, 1039–40 (10th Cir. 2001).
an effect on the environment is too remote or speculative to qualify as significant.\textsuperscript{118}

In \textit{Hanly v. Kleindienst (Hanly II)}, the Second Circuit held that two factors determine whether an effect will be significant.\textsuperscript{119} The first factor is context, and requires an agency or a reviewing court to compare the adverse environmental effects of a proposed action to activities existing in the affected area.\textsuperscript{120} The second factor is the intensity of the action’s adverse environmental effects.\textsuperscript{121} These factors are considered in concert with one another so that, “[w]here conduct conforms to existing uses, its adverse consequences will usually be less significant than when it represents a radical change.”\textsuperscript{122} The CEQ regulations adopt the standard articulated in \textit{Hanly II}, and explicitly divide the inquiry into the “context” of the proposed action, and its “intensity.”\textsuperscript{123}

\textbf{iii. EIS or FONSI?}

In the absence of categorical inclusion or exclusion from the EIS requirement, an agency must complete an Environmental Assessment (EA) to evaluate the above criteria and determine whether an EIS is necessary.\textsuperscript{124} If not, an agency then prepares a Finding of No Significant Impact (FONSI), in which case compliance with NEPA requires no further action.\textsuperscript{125} If there is a finding of significant impact, the agency can still prepare a FONSI, but it must state mitigation measures the agency will undertake that will reduce the impact to below the thresh-
old of “significance,” and it must implement these measures.\textsuperscript{126} Otherwise, the agency must prepare an EIS.\textsuperscript{127} If the agency chooses to file an EIS instead of a FONSI subject to mitigation, the agency need not mitigate adverse environmental effects, or pursue a more environmentally sound alternative.\textsuperscript{128} Any EA, EIS, or FONSI prepared becomes a part of the public record.\textsuperscript{129}

An agency’s decision to file a FONSI instead of an EIS may be challenged,\textsuperscript{130} but a court may require the agency to file an EIS only if it finds the agency’s initial decision “arbitrary and capricious.”\textsuperscript{131} Where an EIS has been prepared, courts require only that an agency take a “hard look” at the alternatives included in the statement, including the “no action” alternative, or status quo.\textsuperscript{132} To hold that an EIS is inadequate for failing to include an alternate course of action, a court must conclude the failure was arbitrary or capricious.\textsuperscript{133} Beyond that, courts have no authority to implement the substantive principles of NEPA.\textsuperscript{134}

B. Courts Require Agencies to Consider Climate Change

Litigants have attempted to force agencies to address the impacts of their activities on climate change by hauling them into court for failing to comply with NEPA.\textsuperscript{135} In so doing, some cases imply that a

\begin{itemize}
\item \textsuperscript{126} See Nat’l Parks & Conservation Ass’n v. Babbitt, 241 F.3d 722, 733–34 (9th Cir. 2001) (“An agency’s decision to forego issuing an EIS may be justified in some circumstances by the adoption of [mitigation] measures.”).
\item \textsuperscript{127} See id.
\item \textsuperscript{129} See 42 U.S.C. § 4332(C) (2000); 40 C.F.R. § 1506.6 (2007).
\item \textsuperscript{130} See Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 1274 (10th Cir. 2004); Platter, supra note 38, at 487.
\item \textsuperscript{131} See Greater Yellowstone Coal., 359 F.3d at 1274.
\item \textsuperscript{133} See Dubois v. U.S. Dep’t of Agric., 102 F.3d 1273, 1284–85 (1st Cir. 1996) (holding that the Forest Service’s failure to sufficiently explore all reasonable alternatives for proposed expansion of a ski facility was arbitrary and capricious).
\end{itemize}
thorough EA must include a discussion of climate change.\textsuperscript{136} If the EA reveals the impacts on climate change to be “significant,” the agency must file an EIS.\textsuperscript{137} In this regard, these actions have been increasingly successful.\textsuperscript{138} Although these successes may lead agencies to disclose climate change impacts, they have not led agencies to pursue alternative courses of action in order to avoid intensifying climate change.\textsuperscript{139}

The first decision to address whether compliance with NEPA requires an agency to discuss climate change impact was \textit{City of Los Angeles v. National Highway Traffic Safety Administration}.\textsuperscript{140} This case addressed the National Highway Traffic Safety Administration’s (NHTSA) proposal to lower corporate average fuel economy (CAFE) standards.\textsuperscript{141} Although the court held that the one-mile-per-gallon change in the CAFE standards was not significant enough to require an EIS, the court accepted that examining the effects of climate change was appropriate for a NEPA analysis.\textsuperscript{142}

In another case dealing with CAFE standards, the Ninth Circuit explicitly endorsed the position that a proposed project’s impact on climate change must be considered in order to comply with NEPA.\textsuperscript{143} \textit{Center for Biological Diversity v. National Highway Traffic Safety Administration} involved the reformulation of CAFE standards for light trucks.\textsuperscript{144} The NHTSA concluded that its proposed change in standards would have no significant impact on the environment.\textsuperscript{145} This conclusion was made in spite of contrary evidence provided by the petitioners of

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\item \textsuperscript{136} See Ctr. for Biological Diversity, 508 F.3d at 513; City of Los Angeles, 912 F.2d at 493; Border Power, 260 F. Supp. 2d at 1028.
\item \textsuperscript{137} See Ctr. for Biological Diversity, 508 F.3d at 552–53.
\item \textsuperscript{138} See id. at 554; Border Power, 260 F. Supp. 2d at 1029.
\item \textsuperscript{139} Haroff & Moore, supra note 13, at 166.
\item \textsuperscript{140} See generally 912 F.2d 478 (D.C. Cir. 1990); Gerrard, supra note 88, at 20.
\item \textsuperscript{141} See Gerrard, supra note 88, at 20.
\item \textsuperscript{142} See id. This case is also important because the court found the plaintiffs had standing to bring the lawsuit. See id. The ease with which courts have found that citizens have had standing to sue agencies under NEPA for failing to consider climate change has surprised some commentators. See id. NEPA does not include a citizen suit provision, so claims must be brought under the Administrative Procedure Act (APA). Haroff & Moore, supra note 13, at 161. Citizen standing under NEPA is beyond the scope of this Note, as are the mechanics of the APA, but by way of cursory introduction, the plaintiff must show the following in order to have standing: (1) injury in fact; (2) the injury is fairly traceable to the challenged action of the defendants; and (3) it is likely that the injury will be redressed by a favorable decision. Id. at 163–64. For a discussion of citizen standing in the context of NEPA and climate change, see Haroff & Moore, supra note 13, at 172–77.
\item \textsuperscript{143} See Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 508 F.3d 508, 550 (9th Cir. 2007).
\item \textsuperscript{144} See id. at 520, 554.
\item \textsuperscript{145} See id. at 554.
\end{itemize}
numerous scientific studies regarding the relationship between climate change and greenhouse gas emissions from light trucks.\textsuperscript{146} The court noted that light trucks accounted for about eight percent of greenhouse emissions in the United States, and that CAFE standards set by NHTSA would directly affect the net volume emitted.\textsuperscript{147}

The court rejected the agency’s finding that the proposed standards would have no significant impact on the environment, and ruled that the agency’s decision to file a FONSI was arbitrary and capricious.\textsuperscript{148} The court focused on NEPA’s “cumulative impacts” requirement—that individually minor but collectively significant impacts must be considered along with singularly significant impacts.\textsuperscript{149} Specifically, the court held “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.”\textsuperscript{150} In light of this analysis, the court required the NHTSA to complete an EIS.\textsuperscript{151}

If a litigant succeeds in persuading a court that an agency’s failure to consider climate change constitutes a failure to comply with NEPA, the agency is not required to actually mitigate its impact on climate change.\textsuperscript{152} For instance, in \textit{Border Power Working Group v. Department of Energy} the District Court held that the Department of Energy failed to comply with NEPA because it did not consider the impacts of carbon dioxide emissions, among a number of other considerations.\textsuperscript{153} Once the Department prepared an EIS in which it discussed the impacts of carbon emissions, however, compliance with NEPA was satisfied.\textsuperscript{154} The agency was not required to, nor did it, reduce its carbon dioxide emissions.\textsuperscript{155}

\begin{footnotesize}
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\item \textsuperscript{146} See id. at 520–23.
\item \textsuperscript{147} See id. at 522, 547.
\item \textsuperscript{148} See id. at 554.
\item \textsuperscript{149} See Ctr. for Biological Diversity \textit{v. Nat’l Highway Traffic Safety Admin.}, 508 F.3d 508, 549 (9th Cir. 2007).
\item \textsuperscript{150} See id. at 550.
\item \textsuperscript{151} See id. at 558.
\item \textsuperscript{152} See Gerrard, \textit{supra} note 88, at 21; Haroff & Moore, \textit{supra} note 13, at 166–67.
\item \textsuperscript{153} 260 F. Supp. 2d 997, 1029 (S.D. Cal. 2006).
\item \textsuperscript{154} See id.; Gerrard, \textit{supra} note 88, at 21; Haroff & Moore, \textit{supra} note 13, at 166–67.
\item \textsuperscript{155} See Gerrard, \textit{supra} note 88, at 21; Haroff & Moore, \textit{supra} note 13, at 166–67.
\end{itemize}
\end{footnotesize}
III. The California Environmental Quality Act

Because NEPA applies only to the federal government, numerous states have enacted similar statutes, aimed at curbing the environmental impact of agency activity on the state and local level. Some of these were drafted more ambitiously than their parent statute NEPA. The California Environmental Quality Act (CEQA)—enacted shortly after NEPA—is among these. Both NEPA and CEQA were designed in order to require public agencies to consider and disclose the environmental impacts of their actions. Their procedural mechanisms are also similar; CEQA, however, imposes substantive requirements on state and local agencies in addition to the procedural burdens. In particular, compliance with CEQA requires that an agency mitigate the environmental impacts of its activities whenever doing so is feasible. This being so, CEQA can be utilized to require an agency to adopt alternatives, or otherwise mitigate its impacts on climate change.

A. Overview of CEQA

Like NEPA, CEQA was drafted as a response to the perception that legislation was needed in order to curb the deterioration of the environment. And like NEPA, it begins by declaring its underlying policies. Whereas the inspiring policy language of NEPA is given
little effect, CEQA contains unique procedural requirements that ensure courts enforce its substantive mandates. These requirements are notably absent from NEPA.

1. CEQA’s Substantive Mandate

The policies underlying CEQA are established by chapter one of the statute. The chapter begins with section 21000, which “finds and declares” a litany of seven promising but abstract legislative intentions. In this regard, CEQA begins in a way similar to NEPA. CEQA distinguishes itself, however, in the section that follows. Section 21001, “Additional Legislative Intent,” provides more specific guidance regarding compliance with CEQA. For instance, section 21001(f) states that it is the policy of the state to “[r]equire governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.” Although this section might lack certainty sufficient to be useful in the context of judicial review, it indicates in no uncertain terms what is expected of California state and local agencies.

As the statute progresses, its language continues to build the framework upon which CEQA’s procedural mechanisms are able to

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167 See Cal. Pub. Res. Code § 21002 (“[P]ublic agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.”).
170 See id. § 21000.
171 Compare 42 U.S.C. § 4331(b)(2) (2000) (“[I]t is the continuing responsibility of the Federal Government to . . . assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.”), with Cal. Pub. Res. Code § 21000(b) (“It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.”).
175 See Houck, supra note 40, at 179.
176 See Cal. Pub. Res. Code § 21001(f); Ferester, supra note 9, at 232. Another illustration of this is in section 21001(c). This declares a state policy to, “[p]revent the elimination of fish or wildlife species due to man’s activities, [and] insure that fish and wildlife populations do not drop below self-perpetuating levels.” Cal. Pub. Res. Code § 21001(c) (internal footnotes omitted). Although this does not forbid specific activities, if an agency is responsible for the reckless depletion of wildlife populations, it would appear to violate this provision. See id.
enforce its substantive mandate. The legislature explicitly stated that, in enacting CEQA, it intended agencies to implement either feasible alternatives to projects that would significantly impact the environment, or feasible mitigation measures to lessen the impact of projects. In 1976, amendments to the statute made clear that if an agency could feasibly avoid significantly impacting the environment, the legislature expected it to do so.

2. CEQA’s Procedural Mechanisms

The specific legislative purpose behind enacting CEQA set the stage for uniquely effective procedural mechanisms. These procedures practically guarantee that an agency will fail to comply with CEQA if its project significantly and unnecessarily impacts the environment. In addition, CEQA retains the procedural requirements it inherited from NEPA; namely, that an agency must gather information and disclose it to the public.

a. The Agency’s Duty to Disclose

CEQA requires that state and local agencies disclose to the public the adverse environmental impacts of their activities. The required disclosure mechanisms are similar to those of NEPA. When an

177 See id. § 21002.
178 Id.
179 See id. § 21002.1(b) (“Each public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so.”) (emphasis added). This is an amendment to CEQA’s policy chapter, enacted in 1976, that codifies early judicial decisions interpreting the policy language as imposing substantive requirements on agencies. See Ferester, supra note 9, at 237–38. In Friends of Mammoth v. Board of Supervisors, the court relied on existing policy language to conclude that “if the adverse consequences to the environment can be mitigated, or if feasible alternatives are available, the proposed activity . . . should not be approved.” See 502 P.2d 1049, 1059 (Cal. 1972); Ferester, supra note 9, at 237–38.
181 See id.
182 See Ferester, supra note 9, at 231–32.
183 See Owen, supra note 25, at 76.
184 Compare 42 U.S.C. § 4332 (C)(i) (2000) (requiring that an EIS accompany “every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment”), with Cal. Pub. Res. Code § 21080(d) (requiring that an EIR be prepared “[i]f there is substantial evidence . . . that the project may have a significant effect on the environment”).

Like NEPA, certain projects are statutorily exempt from CEQA analysis. Cal. Pub. Res. Code § 21080(b). Also like NEPA, non-discretionary actions are excluded. See id. In addition, section 21080(b) provides a litany of fifteen categorical exemptions. See id. These
agency proposes a project, it first performs an initial study to determine whether the project will have a significant impact on the environment.\textsuperscript{185} Agencies prepare an Environmental Impact Report (EIR) where there is “substantial evidence” that the project it intends to approve or carry out may have a significant effect on the environment.\textsuperscript{186} In addition to the impacts of the proposed project, it must identify alternatives to the proposal and measures capable of mitigating the adverse impacts.\textsuperscript{187}

An agency may file a Negative Declaration where the initial study indicates an EIR is unnecessary.\textsuperscript{188} The threshold determination is whether a proposed project will have a significant effect on the environment.\textsuperscript{189} A Negative Declaration shall include a description of the project and disclose the findings of the initial study as well as the agency’s grounds for determining that no EIR is necessary.\textsuperscript{190} A Negative Declaration may also include mitigation measures the agency will implement in order to avoid potentially significant effects.\textsuperscript{191} This option allows an agency to comply with CEQA without filing an EIR, even where an initial study suggests the project may have a significant effect on the environment.\textsuperscript{192} Whether an agency prepares an EIR or a Negative Declaration, the prepared document becomes a part of the public record.\textsuperscript{193}

CEQA does not require an agency to complete an EIR if the effect of its proposal is not “significant.”\textsuperscript{194} Likewise, an agency will not need to identify alternatives or mitigation measures absent a showing

\textsuperscript{188} \textit{See Cal. Pub. Res. Code} § 21080(c). “A public agency shall prepare . . . [a] negative declaration . . . for a project subject to CEQA when . . . [t]he initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment.” \textit{Cal. Code Regs.} tit. 14, § 15070(a).
\textsuperscript{189} \textit{See Cal. Code Regs.} tit. 14, § 15063.
\textsuperscript{190} \textit{See id.} § 15071.
\textsuperscript{192} \textit{See id.}
of significance in its Negative Declaration.\textsuperscript{195} Nor will it need to implement any mitigation measures.\textsuperscript{196} In other words, the proposal may proceed without the burden of preparing an EIR or altering its proposal.\textsuperscript{197} Such an outcome will often be unlikely, however, because the definition of “significant” is highly inclusive of speculative impacts.\textsuperscript{198} Significant impacts may be either “substantial,” or “potentially substantial, adverse changes.”\textsuperscript{199}

Furthermore, an environmental effect need not be direct to be considered “significant”; indirect physical changes in the environment may be significant as well.\textsuperscript{200} An agency must therefore consider those impacts that are not “immediately related to the project” as long as the impacts are “reasonably foreseeable.”\textsuperscript{201} Similarly, individually limited but “cumulatively considerable” effects are not exempt from a CEQA analysis either.\textsuperscript{202} These cumulative impacts can trigger the obligation to prepare an EIR or a Negative Declaration subject to mitigation measures.\textsuperscript{203} If the agency prepares an EIR, it must disclose the

\textsuperscript{195} See id.; Cal. Code Regs. tit. 14, § 15071.
\textsuperscript{198} See id. § 21068.
\textsuperscript{199} See id. (emphasis added). The regulations are equally inclusive of effects that are uncertain. “If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, the agency shall prepare a draft EIR.” Cal. Code Regs. tit. 14, § 15064.
\textsuperscript{200} See Cal. Code Regs. tit. 14, § 15358. The regulations provide an illustration of indirect physical changes to be considered. See id. § 15064(c).

If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment. For example, the construction of a new sewage treatment plant may facilitate population growth in the service area due to the increase in sewage treatment capacity and may lead to an increase in air pollution.

\textit{Id.}

\textsuperscript{201} See id.
\textsuperscript{202} See Cal. Pub. Res. Code § 21083(b)(2); Owen, supra note 25, at 77–78. A project will have a “significant” effect even if:

[t]he possible effects of a project are individually limited but cumulatively considerable. As used in this paragraph, “cumulatively considerable” means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

\textsuperscript{203} See Owen, supra note 25, at 77–78.
cumulative effects.\textsuperscript{204} If it opts to prepare a Negative Declaration, it must mitigate those effects.\textsuperscript{205}

b. The Duty to Pursue Alternatives or Mitigate Where Feasible

As section 21001.1 makes clear, the legislature intended compliance with CEQA to require that an agency do more than merely acknowledge the environmental impacts of its projects and disclose them to the public.\textsuperscript{206} Instead, the legislature intended that agencies “mitigate or avoid the significant effects on the environment of projects . . . whenever it is feasible to do so.”\textsuperscript{207} Where an initial study indicates that a project will significantly impact the environment, an agency may choose to prepare a Negative Declaration subject to mitigation measures.\textsuperscript{208} If it does not, CEQA’s procedures constrain the agency’s ability to proceed with the project as is.\textsuperscript{209}

An EIR must identify and discuss all reasonable alternatives and mitigation measures which will avoid the project’s significant environmental impact.\textsuperscript{210} This discussion is indispensable to CEQA compliance, and according to the California Supreme Court, it forms the “core” of an EIR.\textsuperscript{211} Only if these alternatives and mitigation measures are not “feasible” can an agency proceed with the project as is.\textsuperscript{212} “[E]conomic, environmental, social, and technological factors” determine the feasibility of a project.\textsuperscript{213}

If an agency has determined that an alternative or mitigation measure is not feasible, CEQA requires the agency to issue a finding statement in which the agency enunciates why it decided to proceed

\textsuperscript{204} See id.
\textsuperscript{205} See CAL. PUB. RES. CODE § 21080(c) (2).
\textsuperscript{206} See id. § 21002.1.
\textsuperscript{207} See id.
\textsuperscript{208} See id. § 21080(c) (2).
\textsuperscript{209} See id. § 21081.
\textsuperscript{210} See id. § 21002; Owen, supra note 25, at 80.
\textsuperscript{211} See Citizens of Goleta Valley v. Bd. of Supervisors, 801 P.2d 1161, 1167 (Cal. 1990); Owen, supra note 25, at 80.
\textsuperscript{212} See CAL. PUB. RES. CODE at § 21081(a) (3). In addition, CEQA allows an agency to carry out a project that identifies significant environmental effects if it also finds “[c]hanges or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects . . . [or] those changes or alterations are within the responsibility and jurisdiction of another public agency . . .” Id. at § 21081(a) (1)–(2).
\textsuperscript{213} Id. § 21061.1 (“‘Feasible’ means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.”).
with an unmitigated project in spite of the harm to the environment.\textsuperscript{214} The agency must provide justification for the project that outweighs the resulting environmental damage.\textsuperscript{215} California courts often overrule agency decisions to implement actions where the responsible agency did not avoid significant environmental effects.\textsuperscript{216} Thus, agencies frequently mitigate the significant impact of their activities, or implement environmentally sound alternatives in order to comply with CEQA.\textsuperscript{217}

B. CEQA and Climate Change

The procedures and policies above appear adequate to require agencies to adopt feasible alternatives or mitigation measures in order to avoid climate change.\textsuperscript{218} Indirect and cumulative environmental impacts must be considered in the initial study, and disclosed in either a negative report or an EIR.\textsuperscript{219} In Center for Biological Diversity v. National Highway Traffic Safety Administration, the Ninth Circuit commented 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.”\textsuperscript{220} Although this was not a comment on CEQA’s cumulative impact requirement, NEPA’s corollary is similar.\textsuperscript{221} CEQA requires, however, that significant cumulative impacts be mitigated wherever doing so is feasible.\textsuperscript{222}

\textsuperscript{215} See Cal. Pub. Res. Code at § 21081(b); Owen, supra note 25, at 82.
\textsuperscript{216} See Owen, supra note 25, at 83.
\textsuperscript{217} See id.
\textsuperscript{218} See Owen, supra note 25, at 84. But see Gerrard, supra note 88, at 21–22 (noting that the only two challenges to projects’ exclusion of climate change impacts were rejected by the court, but also noting that the “court took pains to explain the narrowness of its ruling”).
\textsuperscript{219} See Cal. Pub. Res. Code § 21083(b)(2)–(3); Cal. Code Regs. tit. 14, § 15064(d) (2007); Owen, supra note 25, at 84. In addition, CEQA requires, “If there is . . . evidence . . . that the project may have a significant effect on the environment, an environmental impact report shall be prepared.” See Cal. Pub. Res. Code § 21080(d). This should dissuade courts from rejecting a CEQA argument on the grounds that global warming might not be real, or might not have anthropocentric causes. See id.
\textsuperscript{220} See 508 F.3d 508, 550 (9th Cir. 2007).
\textsuperscript{221} Compare 40 C.F.R § 1508.7 (2007) (“Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.”) (emphasis added), with Cal. Pub. Res. Code § 21083 (“[C]umulatively considerable’ means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”).
\textsuperscript{222} See Owen, supra note 25, at 83.
There are promising signs that the California courts would echo the stance taken in *Center for Biological Diversity*. The Global Warming Solutions Act of 2006, passed in September of that year, is among the most ambitious legislative efforts to address climate change in the country. It requires that the state reduce its greenhouse gas emissions to 1990 levels by 2020. Emissions in 1990 were approximately twenty-five percent less than they were in 2006. Even more ambitiously, the governor stated in the Global Warming Solutions Act’s press release that he expected greenhouse gas emissions to be reduced to levels eighty percent below those of 1990 by the year 2050.

To achieve this goal, the legislature subsequently passed Senate Bill 97 (S.B. 97), which confirms that climate change is a subject for CEQA analysis. In addition, S.B. 97 requires the Governor’s Office of Planning and Research (OPR) to prepare “guidelines for the feasible mitigation of greenhouse gas emissions . . . .” These guidelines will provide agencies with clarity as to what CEQA requires when their proposals impact climate change. Failure to consider climate change in a CEQA analysis will create a cause of action for violating the statute. Passage of S.B. 97 was well timed. In 2007, California courts

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226 See id.
227 Press Release, supra note 224.
228 See 2008 Could Be the Year, supra note 225, at 8.
229 S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007); see 2008 Could Be the Year, supra note 225, at 8. Additionally, S.B. 97 requires the OPR to periodically update the guidelines to incorporate new information as it becomes available. S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007). This is relevant as scientists’ understanding of climate change continues to develop.
231 See S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007). The bill includes two exceptions where failure to consider climate change in a CEQA analysis will not create a cause of action for violating the statute. See id. These are: (1) transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006; and (2) projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006. Id.
232 See Gerrard, supra note 88, at 21–22.
rejected two challenges to proposals where the responsible agencies neglected to consider the projected effects of climate change.\textsuperscript{233}

Because these regulations will not go into effect until January 1, 2010, the practical effect of S.B. 97 remains to be seen.\textsuperscript{234} A key question for these standards will be determining the point at which a project's contribution to climate change becomes “significant” under CEQA.\textsuperscript{235} Nonetheless, by passing S.B. 97, the California Legislature signaled that CEQA can effectively be used to address climate change.\textsuperscript{236}

IV. CEQA AND GUIDELINES FOR AMENDING NEPA

CEQA, by way of legislative mandate, imposes two important obligations on agencies: (1) they must not ignore climate change when considering the environmental impacts of their activities;\textsuperscript{237} and (2) they must avoid activities with significant environmental impacts if doing so is feasible.\textsuperscript{238} Therefore, CEQA can be used to effectively address climate change.\textsuperscript{239} NEPA, because it lacks similar requirements, is limited in its ability to do so.\textsuperscript{240} By comparing the two statutes, it is possible to identify possible modifications to NEPA that may allow it to effectively address climate change.\textsuperscript{241} Part A, below, advocates for an explicit legislative mandate that NEPA compliance requires consideration of the impacts of climate change. Part B argues that NEPA will not effectively address climate change until agencies heed the substantive policy language of section 101. This will require amending either NEPA itself, or the CEQA regulations, so that agencies are required to pursue feasible alternatives or mitigation measures where a proposed project contributes significantly to climate change.\textsuperscript{242}

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\textsuperscript{233} See id.
\textsuperscript{234} See 2008 Could Be the Year, supra note 225, at 8; Greenhouse Gas Guidelines, supra note 230, at 3; Kahn, supra note 4.
\textsuperscript{235} 2008 Could Be the Year, supra note 225, at 8; Greenhouse Gas Guidelines, supra note 230, at 3.
\textsuperscript{236} See S. 97, 2007 Leg., 2007–08 Sess. (Cal. 2007).
\textsuperscript{237} See supra Parts III.A.2.a, III.B.
\textsuperscript{238} See supra Part III.A.2.b.
\textsuperscript{239} See Owen, supra note 25, at 84.
\textsuperscript{240} See Haroff & Moore, supra note 13, at 182.
\textsuperscript{241} See infra Part IV.A–B.
\textsuperscript{242} See infra Part IV.B.
A. Precisely the Kind of Analysis NEPA Requires Agencies to Conduct

Without legislation insisting otherwise, the impacts of climate change may elude NEPA analysis altogether. Efforts to use NEPA to litigate the causes of climate change are rising, but remain relatively untested.\textsuperscript{243} Neither Congress nor the CEQ has explicitly mandated that NEPA compliance requires agencies to consider the extent to which a proposed project will contribute to climate change.\textsuperscript{244}

This may not be a problem, for climate change may be appropriate for NEPA as the statute stands now.\textsuperscript{245} Currently, its procedures require that an agency prepare an EIS wherever a major federal action would have a significant effect on the human environment.\textsuperscript{246} Particularly relevant is the language that the Ninth Circuit seized on in \textit{Center for Biological Diversity v. National Highway Traffic Safety Administration}—that agencies not ignore “individually minor but collectively significant actions taking place over a period of time.”\textsuperscript{247}

Nonetheless, this interpretation should be codified, either by amending NEPA itself, or by amending CEQ regulations. It is true that the Ninth Circuit sounded unequivocal in its statement 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.”\textsuperscript{248} In \textit{Calvert Cliffs’ Coordinating Committee v. Atomic Energy Commission}, however, another appellate court spoke in similarly certain terms about the need for courts to enforce the substantive language of section 101.\textsuperscript{249} There, Judge Wright declared courts had a “duty” to “see that important legislative purposes, heralded in the halls of Congress, are not lost or misdirected in the vast hallways of the Federal bureaucracy.”\textsuperscript{250} Without clear legislative language insisting otherwise, the Supreme Court disagreed with this interpretation and effectively stripped NEPA down to its barest procedural mechanisms.\textsuperscript{251} What is to stop \textit{Center for Biological Diversity} from suffering the same fate?

\textsuperscript{243} See Haroff & Moore, \textit{supra} note 13, at 160.
\textsuperscript{245} See \textit{Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.}, 508 F.3d 508, 550 (9th Cir. 2007).
\textsuperscript{246} 42 U.S.C. § 4332(C).
\textsuperscript{247} 40 C.F.R § 1508.7; see 508 F.3d at 550.
\textsuperscript{248} See \textit{Ctr. for Biological Diversity}, 508 F.3d at 550.
\textsuperscript{249} See 449 F.2d 1109, 1111, 1115 (D.C. Cir. 1971); Houck, \textit{supra} note 40, at 182–83.
\textsuperscript{250} \textit{Calvert Cliffs’}, 449 F.2d at 1111; see Houck, \textit{supra} note 40, at 182–83.
\textsuperscript{251} See Strycker’s Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) (“[O]nce an agency has made a decision subject to NEPA’s procedural requirements, the
By enacting S.B. 97, the California Legislature, on the other hand, left no doubt as to whether the effects of climate change should be considered in a CEQA analysis. This amendment to CEQA assures both agencies and courts that, in most circumstances, failure to consider climate change will create a cause of action for violating the statute. S.B. 97 also shows the timeliness of enacting such a mandate: 2007 saw California courts reject two challenges to proposals where the responsible agencies neglected to consider the projected effects of climate change. The fact that this occurred under a statute that is considered more ambitious than its federal counterpart underscores the importance of enacting a similar mandate applicable to NEPA.

In sum, whereas CEQA offers guidance as to what is expected of those forced to comply with it, NEPA fails to state explicitly that compliance requires analyzing the impact of an agency’s activities on climate change. Likewise, CEQ regulations do not currently address the matter. The Ninth Circuit spoke forcefully in favor of applying NEPA to climate change, but in the absence of a legislative mandate, the Supreme Court could decide otherwise. By explicitly declaring that NEPA will not permit agencies to ignore climate change, it can begin to effectively address the problem.

B. Requiring Agencies to Avoid Climate Change

Unlike CEQA, a federal agency may comply with NEPA without avoiding the significant environmental impacts of its activity. If NEPA is to effectively address global warming, this must change. Where an EA indicates that a major federal action will significantly impact the environment, there is only one circumstance under which NEPA would require an agency to avoid the impact: if an agency chooses to prepare a FONSI subject to mitigation measures in lieu of completing

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254 See Gerrard, supra note 88, at 21–22.
255 See Ferester, supra note 9, at 209–10.
260 See supra Part II.A.2.b.iii.
an EIS, it must implement these measures. Otherwise, if the agency, after completing an EA, determines the project will result in a significant impact, NEPA requires it to complete an EIS. The EIS must identify and discuss alternatives to the proposed action, but the agency is under no obligation to pursue an alternative, even if it is more environmentally sound.

This is a far cry from CEQA, which requires agencies to avoid significant environmental impacts if doing so is feasible. If an initial study indicates to an agency that its project will have a significant effect on the environment, the agency can either prepare an EIR, or a Negative Declaration subject to mitigation. If it chooses the former, it must identify and implement feasible alternatives or mitigation measures. Either way, CEQA makes it extremely difficult for an agency to implement a project that will significantly impact the environment. It must demonstrate that there are specific economic, social, technological, or environmental factors that make avoiding the significant impact infeasible, and that the project is justified in spite of the environmental costs.

For NEPA to effectively address climate change, it would need to adopt a similar approach to feasible alternatives and mitigation measures. As NEPA stands now, a federal agency could, subsequent to finding that its project significantly impacted climate change, avoid mitigating the impact simply by opting to prepare an EIS instead of a FONSI subject to mitigation. CEQA’s approach, on the other hand, limits the ability of an agency to significantly impact climate change wherever it is feasible to avoid doing so.

With NEPA there is another twist, because an agency is under no obligation to even consider alternatives that would avoid climate change unless it prepares an EIS. The decision of whether to complete an EIS lies with the responsible agency, the threshold determin
nation being whether the project is a major federal action that will significantly impact the environment.\textsuperscript{272} It has wide discretion to choose to file a FONSI instead.\textsuperscript{273} If the agency chooses not to file an EIS, a reviewing court may overturn the agency’s decision to prepare a FONSI only if it determines it was arbitrary and capricious.\textsuperscript{274}

An agency could avoid preparing an EIS by demonstrating that no “significant effect” would result from the project.\textsuperscript{275} This may be particularly tempting in the context of greenhouse gas emissions because, as the regulations make clear, determining whether environmental impacts are significant is a question of both “context” and “intensity.”\textsuperscript{276} As the court in \textit{Hanly v. Kleindienst} stated “one more highway in an area honeycombed with roads usually has less of an adverse impact than if it were constructed through a roadless public park.”\textsuperscript{277} Highways, however, contribute to climate change wherever they are located.\textsuperscript{278} Unlike other types of pollution, the location of greenhouse gas emissions matters little.\textsuperscript{279} The “roadless public park” will not be spared the consequences of climate change simply because it is not the source of greenhouse gas emissions.\textsuperscript{280} Imagine the impact on climate change if a location were deemed to be the appropriate “context” in which to operate several coal-burning power plants.

\textsuperscript{272} See Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 1274 (10th Cir. 2004); Dubois v. U.S. Dep’t of Agric., 102 F.3d 1273, 1284 (1st Cir. 1996).
\textsuperscript{273} See Greater Yellowstone Coal., 359 F.3d at 1274; Dubois, 102 F.3d at 1284.
\textsuperscript{274} See Dubois, 102 F.3d at 1284.
\textsuperscript{275} See supra Part II.A.2.b.ii. Another way an agency may be able to avoid preparing an EIS is by demonstrating that the proposal prompting the NEPA inquiry would not constitute a “Major Federal action.” See Save Barton Creek Ass’n v. Fed. Highway Admin., 950 F.2d 1129, 1136 (5th Cir. 1992); 40 C.F.R. § 1508.18 (2007). In terms of climate change, an agency may finance the construction of a coal-burning power plant or a highway without filing an EIS simply by showing that it has subsequently no control over the funds. See Save Barton Creek, 950, F.2d at 1136. Likewise, nondiscretionary actions are not considered federal actions. See South Dakota v. Andrus, 614 F.2d 1190, 1194 (8th Cir. 1980). If the agency cannot control the outcome of the project in material respects or has no discretion to exercise judgment regarding the outcome, the project is not a federal action, and no EIS is required. See id.
\textsuperscript{276} See 40 C.F.R. § 1508.27.
\textsuperscript{277} See 471 F.2d 823, 831 (2d Cir. 1972).
\textsuperscript{279} See Owen, supra note 25, at 66–67.
\textsuperscript{280} See id.
Again, S.B. 97 may provide an answer. Pursuant to this legislation, the OPR must prepare “guidelines for the feasible mitigation of greenhouse gas emissions.” When these go into effect in 2010, this will create certainty for agencies required to comply with CEQA, and for courts reviewing their decisions. Time will tell just how effectively these guidelines address climate change, and how successfully the OPR determines the line between a “significant effect” on climate change and an “insignificant” one. Regardless, some indication of the point where greenhouse gas emissions become intolerable would provide better guidance to agencies than none.

Congress should follow California’s lead and require the CEQ to promulgate similar guidelines. In so doing, it will ensure that—at some point decided on by Congress and the CEQ—an agency’s contribution to climate change will require an EIS. By further amending the statute to require agencies to avoid contributing to climate change where doing so is feasible, the country will have an effective weapon at its disposal to fight the human causes of global warming.

Conclusion

As research continues to confirm the severe, detrimental effects of climate change, as well as the human causes of this phenomenon, the need for regulation is increasingly being accepted as a foregone conclusion. Such regulation is relatively new, and the consensus among many appears to be that it is lacking on the federal level. As a result, numerous states have attempted to fill in this regulatory vacuum. California is among these states, and has been a leader in enacting progressive policies that can be utilized effectively to combat climate change. The proposal of Assembly Bill 32 to reduce greenhouse gas emissions to below 1990 levels is among the most ambitious in the country.

However, climate change is a unique environmental predicament that may be more effectively addressed on the federal level than on the state level. NEPA has the potential to be one statutory tool in the fight against global warming. Unfortunately, as it now stands, a federal agency can comply with NEPA while at the same time contributing adversely to climate change. Though an agency’s impact on climate change appears to be ripe for NEPA analysis, there is no confirming this. As such, the appropriateness of climate change as a subject for

282 See Greenhouse Gas Guidelines, supra note 230, at 3.
283 See id.
NEPA analysis may be left to the very agencies whose environmental impacts NEPA was intended to curb. Furthermore, NEPA requires only that an agency be fully informed about, and disclose, the environmental impacts of its actions. NEPA leaves unchecked the ability of agencies to disregard climate change impacts, even where an agency is aware of them.

CEQA, on the other hand, may prove to be an effective tool in regulating human contributions to climate change. It is bolstered by both a clear legislative mandate to mitigate whenever doing so is feasible, and by legislative confirmation that compliance with CEQA requires consideration of a project’s impact on climate change. In order for NEPA to effectively address climate change, legislators should examine one of the statute’s most ambitious protégés—CEQA. By insisting that NEPA compliance requires agencies to consider climate change, and by requiring them to avoid activities which significantly contribute to it, NEPA will bear a striking resemblance to CEQA and will be a more effective tool in combating this critical environmental crisis.