

GREENHOUSE GASES EMISSIONS ENFORCEMENT CHALLENGES IN THE US: REIMAGINING REGULATION IN A TIME OF CLIMATE SCIENCE DENIAL AND UNCOOPERATIVE FEDERALISM

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Jonathan S. Leo

“When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.”

- Wingspread Conference statement on the Precautionary Principle, 1998¹

“The wisdom to recognize and halt follows the know-how to pollute past rescue. The treaty’s signed, but the cancer ticks in your bones. Until I’d murdered my father and fornicated my mother I wasn’t wise enough to see I was Oedipus. Too late now to keep the polar cap from melting. Venice subsides; South America explodes. Let’s stab out our eyes. Too late. Our resolve is sapped beyond the brooches.”

- John Barth, “Lake Erie,” from “Two Meditations,” Lost in the Funhouse, 1968²

“We shall exercise [our] responsibilities as an independent agency, an agency that has no obligation to promote commerce or agriculture, but rather the awesome obligation to protect and improve our environment.”

“No longer is the setting and enforcement of environmental quality standards in the hands of an agency which also has a promotional interest in the subject of regulation. EPA’s sole charge is to see that the standards it sets and enforces adequately protect the environment.”

- William Ruckelshaus, 1st and 5th Administrator of the U.S. EPA, in speeches to the Annual Conference of Cities and the Indiana State Bar Association, 1970 (a Republican serving in the Nixon and Reagan administrations)

Introduction

There is no U.S. federal law of climate change. Congress has not passed, nor any President signed, a *statutory scheme* that obligates one or more federal environmental agencies or departments to promulgate regulations that establish performance standards to limit the emission of greenhouse gases (GHGs) from any one or more stationary or mobile sources.

Instead, and as a result, climate change issues arise in a variety of contexts, forums, and causes of action that require this “new wine” of climate change-driven activity to be poured, often messily, into the “old bottles” of existing environmental laws and common law theories of trespass and nuisance.³

Until 2007, when the United States Supreme Court ruled in favor of the state of Massachusetts that the Environmental Protection Agency (EPA) had the authority under the Clean Air Act to

1 <https://www.sehn.org/ppfaqs.html>

2 Barth, Lost in the Funhouse, Doubleday & Co., 1968.

3 “Integrating Climate Change Considerations in Endangered Species Act Processes,” Murray Feldman, in *The Legal Aspect of Climate Change*, 2014 ed., Aspatore, at 76.

regulate carbon dioxide emissions from motor vehicles as “air pollutants,”⁴ the field of climate change litigation did not exist, yet public debate about anthropogenic climate change had already become so charged by partisan political animus that the prospect of meaningful federal legislation seemed unlikely.

The only serious effort to enact federal climate change legislation occurred during the first two years of President Barack Obama’s first term in office, when the Democratic Party controlled both houses of Congress as well as the White House. In 2009, the House of Representatives passed the Waxman-Markey bill to establish a national cap-and-trade system, but the bill stalled in the Senate, and any chance for its passage ended in 2010, when Republicans took control of the House. There has been no attempt at federal legislation on climate change since then. Now, with Republican President Donald Trump in the White House, the Republican Party in control of both houses of Congress, and a rock-solid 5-4 conservative majority on the U.S. Supreme Court for the foreseeable future after the contentious appointment of Judge Brett Kavanaugh in October 2018, the Congressional relationship to climate change and climate science will be characterized by, at best, neglect and, at worst, denial.⁵

The Cooperative Federalism of U.S. Environmental Protection Laws

The structure of laws in the United States is governed by the principle of federalism. Article VI, section 2 of the U.S. Constitution declares that the “Constitution, and the Laws of the United States...and all Treaties made...under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby....” States have plenary power to make policy through legislation, subject only to federal Constitutional limits. Federal courts resolve disputes between different states and between states and the federal government. If federal courts ultimately decide that a state law impermissibly conflicts with federal law, the state law is ruled unconstitutional and cannot be enforced.

The major federal environmental statutes of the late 1960s through 1981, notably including the Clean Air Act and the Clean Water Act, are described as examples of “cooperative federalism,” a Constitutional legislative regime wherein Congress explicitly authorizes a federal executive branch department or agency (typically, the EPA) to address a statutorily-determined need to protect public health and safety and the environment from specified dangers by controlling their sources. What makes that federalism “cooperative” is its reliance on supervised delegation by EPA to the states, which can or must develop corresponding statutory and regulatory regimes to assist EPA’s attainment of minimum national standards by enforcing compliance within their own borders. States have the discretion under most federal statutes to build up from this “floor” of cooperative federalism by enacting more stringent compliance requirements within their borders than those established under the enabling federal statutes.

State laws, including but not limited to environmental ones, can conflict with federal statutes in any one of several ways:

⁴ *Massachusetts v. EPA*, 549 U.S. 497 (2007); see discussion *infra*.

⁵ On October 19, the Supreme Court, in an order signed by Chief Justice John Roberts (at *In re United States, et al.*, No. 18A410, Supreme Court of the U.S.), took the extraordinary step of freezing discovery and the pending October 29, 2018 trial in the equally extraordinary lawsuit of *Juliana v. U.S.* (D. Or., No. 6:15-cv-01517-TC). The case was filed in federal district court in Oregon in 2015 by 21 children across the U.S., under the auspices of the non-profit organization, Our Children’s Trust. It alleges, on Constitutional and public trust doctrine grounds, that the federal government has violated the children’s rights by failing to take necessary dramatic steps to control GHG emissions and address urgent climate change concerns. Chief Justice Roberts’ order cited no case law and stayed the proceedings pending an October 24 report from the plaintiffs in the case. Supreme Court Justice Anthony Kennedy, in a short July 30, 2018 order, had denied an identical request from the U.S. to intervene and halt the *Juliana* trial.

- by violating the U.S. Constitution’s Commerce Clause,⁶ either by discriminating explicitly or in effect against out-of-state firms or goods or by penalizing extraterritorial (out-of-state) conduct;
- by being “preempted,” in whole (“field preemption”) or in part, either by a federal statute that completely addresses the same subject matter or, where a state has entered into an agreement with a foreign jurisdiction, by presidential or congressional action that demonstrates a greater federal interest in the subject matter or requires exclusive federal involvement; or
- by violating the U.S. Constitution’s Compact Clause.⁷

One significant U.S. Supreme Court decision in 2007 has established a limited role for the Environmental Protection Agency (EPA) to regulate greenhouse gas (GHG) emissions under the Clean Air Act. This paper will briefly discuss that case and consequent EPA regulatory efforts, the opportunities for GHG emissions regulation under other federal environmental statutes, and state and local government climate actions to mitigate the impacts of climate change.

Massachusetts v. EPA and the Use of the Clean Air Act to Regulate GHG Emissions

In 1999, a group of 19 private organizations filed a rulemaking petition asking EPA to regulate greenhouse gas emissions from new motor vehicles under section 202 of the Clean Air Act. In 2003, the George W. Bush EPA denied the petition for several reasons, including that it lacked authorization under the Clean Air Act to issue regulations to address global climate change, that carbon dioxide was not an “air pollutant” subject to regulation under the Act, and that a causal link between increased GHG concentrations due to human activity and an increase in global surface air temperatures could not be “unequivocally established.”⁸ The Supreme Court heard the appeal after the District of Columbia Circuit Court of Appeals ruled 2-1 that the EPA Administrator had properly exercised his discretion in denying the petition.

The Supreme Court, by a 5-4 vote, ruled against the EPA and in favor of the petitioners. After noting that Massachusetts, like every other state upon entering the Union, surrendered certain sovereign prerogatives to the federal government, the Court noted that states still had “quasi-sovereign” rights that merited consideration in the calculus of “standing to sue” in federal court. “In sum – at least according to petitioners’ uncontested affidavits – the rise in sea levels associated with global warming has already harmed and will continue to harm Massachusetts. The risk of catastrophic harm, though remote, is nevertheless real. That risk would be reduced to some extent if petitioners received the relief they seek.” After ruling that Massachusetts had “satisfied the most demanding standards of the adversarial process” by demonstrating that EPA’s refusal to regulate carbon dioxide and other greenhouse gases under the Clean Air Act would create an “imminent” and “substantial” harm to Massachusetts, the Supreme Court held that EPA had the authority under the Clean Air Act to regulate greenhouse gases as “air pollutants.”⁹ The Court unequivocally rejected EPA’s argument that Congress had deliberately chosen not to give it the authority to regulate carbon dioxide from vehicle tailpipes under the Clean Air Act: “While the Congress that drafted section 202(a)(1) might not have appreciated the possibility

⁶ U.S. Constitution, Article I, sec. 8 (“The Congress shall have Power...To regulate Commerce with foreign Nations, and among the several States...”).

⁷ *Id.*, Article I, sec. 10 (“No State shall, without the Consent of Congress...enter into any Agreement or Compact with another State, or with a foreign Power...”).

⁸ *Massachusetts v. EPA*, 549 U.S. 497 (2007), at 513.

⁹ *Id.*, at 526.

that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete. ‘The fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth.’ Because greenhouse gases fit well within the Clean Air Act’s capacious definition of ‘air pollutant,’ we hold that EPA has the statutory authority to regulate the emission of such gases from motor vehicles.”¹⁰

The Replacement of Obama’s Proposed Clean Power Plan by Trump’s Proposed Affordable Clean Energy Rule

The Supreme Court’s instruction to EPA that it had the authority to regulate GHGs and that such regulation had to rely on scientific evidence rather than shifting and partisan public policies, resulted in EPA issuing a formal finding that GHG emissions endanger human health or welfare (known as the “endangerment finding”).¹¹ The most significant of EPA’s post-*Massachusetts v. EPA* GHG rulemakings was the Obama administration’s Clean Power Plan, designed to promulgate “standards of performance” governing emissions of air pollutants by “new” stationary sources constructed *or modified* after the effective date of pertinent regulations.¹² The term “modification,” under Clean Air Act section 111(b), means any physical change or change in the method of operation that significantly increases the net amount of any air pollutant. Further, the emission standard must reflect “the degree of emission reduction achievable through the application of the best system of continuous emission reduction [BSER] which...the Administrator [of EPA] determines has been adequately demonstrated.”

In its proposed Clean Power Plan regulations, the Obama EPA determined that BSER for *new* coal-fired plants was a “supercritical pulverized coal unit using carbon capture and storage (CCS) to eliminate about 20% of carbon emissions.” For *existing* coal-fired plants that couldn’t

¹⁰ Id, at 532 (internal citations omitted).

¹¹ Several years later, the Supreme Court decided to hear a case where the scientific basis for EPA’s “endangerment finding” was challenged (*Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.2d 102 (D.C. Cir. 2012)). However, the Court declined to review the endangerment finding, and reversed, in part, on a different EPA issue under review in the case of *Utility Air Regulatory Group v. EPA*, 134 S.Ct. 2427 (2014).

¹² See: 80 Federal Register (FR) 64510, October 23, 2015 (“Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units”). The Clean Power Plan was designed to implement the U.S.’s March 31, 2015 submission to the United Nations Framework Convention on Climate Change (UNFCCC) of its Intended Nationally Determined Contribution (INDC) to reduce its contribution to GHG emissions by 26-28% below 2005 levels by 2025 and to make best efforts to reduce them by 28%. On December 12, 2015, two months after EPA promulgated its proposed Clean Power Plan regulations, the U.S. signed the Paris Climate Agreement. Other actions referenced in the INDC as taken by the Obama administration in furtherance of its commitment to reduce U.S. GHG emissions were: the issuance of fuel-efficiency and GHG emission standards for medium- and heavy-duty engines and vehicles; energy conservation standards for 29 categories of appliances and equipment as well as a building code determination for commercial buildings; economy-wide measures to reduce methane emissions from landfills, coal mining, agriculture, and oil and gas systems; and various initiatives to reduce hydrofluorocarbon (HFC) emissions pursuant to the Montreal Protocol and EPA’s Significant New Alternatives Policy (SNAP) program. (See: “Fact Sheet: U.S. Reports Its 2025 Emissions Target to the UNFCCC,” Office of the White House Press Secretary, at: <https://obamawhitehouse.archives.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc>.)

be retrofitted to use an entirely new technology, EPA took a different and statutorily innovative approach to BSER: it decided to use three building blocks: (1) efficiency improvements in coal-fired plants; (2) substitution of natural gas generation for coal-fired generation when feasible; and (3) increased use of renewables. EPA determined nationally feasible emission reductions by applying each building block within each of the three, interconnected U.S. power grids (East, West, and Texas) and used a least common denominator for each building block to set a national emissions reduction standard. Then, EPA applied the building blocks to depending on each state's mix of existing power sources. Within their wide array of compliance options, states were required to achieve interim targets between 2022 and 2029 and the final target in 2030.¹³

According to EPA's estimates, the Clean Power Plan's public health and climate benefits would be worth \$34-\$54 billion in USD per year by 2030, whereas its costs would be \$8.4 billion in USD per year. Not surprisingly, the estimated public health co-benefits would come from reducing the use of coal and its attendant harmful particulate emissions; carbon emissions from power plants would be cut by one-third.¹⁴

Several lawsuits were filed to stop the Clean Power Plan even before the regulations were officially promulgated on October 23, 2015.¹⁵ On January 21, 2016, the D.C. Circuit Court of Appeals rejected a petition by 27 states to stay implementation of the Clean Power Plan while the appeal was being heard, citing the failure of the petitioner states to meet the stringent standards for staying proceedings pending review that had been established by the Supreme Court in 2008.¹⁶ Then, on February 9, 2016, by a 5-4 vote, the Supreme Court granted petitions from 5 parties to the D.C. Circuit lawsuit to stay implementation of all elements of the Clean Power Plan pending the disposition of the applicants' petitions for review before the D.C. Circuit.¹⁷ On February 14, 2016, Justice Antonin Scalia died suddenly of apparent natural causes, and the Republican-controlled Senate led by Mitch McConnell (R-KY) thereafter refused to hold hearings or allow a floor vote on President Obama's choice to appoint Scalia's successor until after the November election, when Donald Trump was elected President. True to his word on

¹³ See generally: *Climate Change Law*, Daniel A. Farber and Cinnamon P. Carlarne, Foundation Press, 2018, at 162-164.

¹⁴ *Id.*, at 164.

¹⁵ See: *In re Murray Energy Corp. and State of West Virginia, et al. v. EPA and City of New York, et al.* (Nos. 14-1151 and 14-1146), D.C. Cir., Jun. 9, 2015. In an opinion authored by then-Circuit Judge Brett Kavanaugh, Kavanaugh began his written decision with these words: "Petitioners... want us to do something... they candidly acknowledge we have never done before: review the legality of a *proposed* rule... In justiciable cases, this Court has authority to review the legality of final agency rules. We do not have authority to review proposed agency rules."

¹⁶ *State of West Virginia v. EPA* (No. 15-1363 and consolidated cases), D.C. Cir., Document No. 1594951, Jan. 21, 2016, reported in John Cushman, "Court Refuses to Block President Obama's Clean Power Plan," *InsideClimate News*, Jan. 22, 2016, at: https://insideclimatenews.org/news/21012016/court-refuses-block-President-obama-clean-power-plan-epa-global-warming-carbon-pollution?utm_source=Inside+Climate+News&utm_campaign=ed9a4794d0-InsideClimate+News12_10_2014&utm_medium=email&utm_term=0_29c928ffb5-ed9a4794d0-327781417.

¹⁷ In *West Virginia et al. v. EPA, et al.* The five identical, one-page Supreme Court orders cited no case law in support of their order or provide any rationale for overruling the D.C. Circuit. The orders identified only the dissenters: Justices Ginsburg, Breyer, Sotomayor, and Kagan. See: Lyle Denniston, "Carbon pollution controls put on hold," Feb. 9, 2016, at <http://www.scotusblog.com/2016/02/carbon-pollution-controls-put-on-hold>.

campaign, now-President Trump issued an Executive Order directing EPA to reconsider the rule.¹⁸ The Department of Justice petitioned the D.C. Circuit Court to stay all proceedings while EPA began a new rulemaking process and, on April 28, 2017, the Court did so.¹⁹

EPA published its notice of intention to formally repeal the Clean Power Plan in its entirety on October 16, 2017,²⁰ published its advanced notice of proposed rulemaking for emission guidelines to limit GHG emissions from existing electricity generating units (EGUs) on December 28, 2017,²¹ and published on August 28, 2018, its proposed Affordable Clean Energy (ACE) rule to replace the Clean Power Plan with revised emissions guidelines “that inform the development, submittal, and implementation of state plans to reduce GHG emissions from certain EGUs.”²²

The proposed Affordable Clean Energy Rule challenges neither the finding that GHG pollution from coal-fired power plants causes global warming and endangers people and the planet, nor court rulings that the Clean Air Act requires the EPA regulate it. While it would give states the main responsibility to decide how, or even whether, to reduce emissions, it would allow them basically only one tool—encouraging power plants to make their use of coal more efficient, burning less fuel per kilowatt-hour of power sent to the grid. Any upgrades would be plant by plant and boiler by boiler. By contrast, the Clean Power Plant regulations would have comprehensively reshaped the power grid itself and steered it away from coal, while giving the states discretion to use flexible, system-wide approaches to achieve the transition to cleaner energy—a process that was already underway and will continue for many utilities.²³

That the proposed Affordable Clean Energy Rule is designed to prop up existing coal-fired power plants at the expense of all other and cleaner forms of energy generation is evident from the reactions of utilities to the ACE Rule, as well as from the fact that the phrase “climate change” appears less than 10 times in its hundreds of pages: those like Southern Company and American Electric Power (AEP) that rely on coal for energy generation regard Trump’s rule favorably; those like Pacific Gas & Electric and National Grid US that operate no coal-fired power plants expressed strong disapproval of the ACE Rule and equally strong support for decarbonization policies and strategies that promote low-carbon energy sources. Even the coal-fired power generating utilities continue to close their coal plants: both AEP and Southern Company have public strategies for dramatically reducing carbon emissions in the immediate future and First Energy Solutions greeted Trump’s ACE Rule by announcing the closure of 3

¹⁸ Executive Order 13783 (March 28, 2017), “Promoting Energy Independence and Economic Growth” (at Sec. 4) (at <https://www.whitehouse.gov/search/?s=Executive+Orders>)

¹⁹ Climate Change Law, *supra*, at 166.

²⁰ 82 FR 48035-48049

²¹ 82 FR 61507-61519

²² 83 FR 44746-44813

²³ See: John Cushman, “5 Ways Trump’s Clean Power Rollback Strips Away Health, Climate Protections,” *InsideClimate News*, August 21, 2018

coal-fired plants in Pennsylvania and Ohio. Coal's share of U.S. electricity generation has dropped from 50% in 2003 to 30% in 2017 and continues to fall.²⁴

The bottom line for Trump's Affordable Clean Energy Rule is its impact on human health. Here, the EPA's own analysis concludes that the Rule will: lead to 1400 premature deaths; cause 15,000 cases of new respiratory ailments; and cost billions of dollars in increased sick days, missed school days, higher medical expenses, lost wages and other harms. EPA's maps clearly show that the highest rates of these additional deaths, increased medical expenses, and social costs attributable to the Affordable Clean Energy Rule will occur in a band starting in the Midwest and running east into West Virginia and southwestern Pennsylvania.²⁵ The public comment period for the Trump Rule closes on October 31, 2018. It is widely expected that litigation to stop the Rule will be filed within the month.

Climate Change Regulation in Other Federal Environmental Statutes

The National Environmental Policy Act (NEPA)

The key operative section of NEPA is section 102(2)(C), which states that "all agencies of the Federal Government shall...include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented."²⁶

The decision-making federal agency has the obligation to consult with other federal agencies with either jurisdiction or special expertise (or both) relevant to the environmental impact at issue. Copies of the resulting draft Environmental Impact Statement (EIS) must be circulated among federal, state, and local agencies, the President, the Council on Environmental Quality

²⁴ See: Dan Gearino, "Trump's Power Plant Plan Can't Save Coal From Market Forces," *InsideClimate News*, August 30, 2018

²⁵ See: Ann Carlson, "When Republicans Fought for a Clean Environment," *Legal Planet*, Aug. 23, 2018 (www.legal-planet.org); and Sean Hecht, "The Costs, Benefits, and Health Impacts of EPA's Proposed Replacement for the Clean Power Plan," *Legal Planet*, Aug. 21, 2018, at: <http://legal-planet.org/2018/08/21/the-costs-benefits-and-health-impacts-of-epas-proposed-replacement-for-the-clean-power-plan/>. For the EPA's data, see: "Regulatory Impact Analysis for the Proposed Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program," EPA-452/R-18-006, Office of Air Quality Planning and Standards, Health and Environmental Impact Division, August, 2018 (in particular: Table ES-12 (at p. ES-16), Table ES-13 (at p. ES-17); Figure 4.4 (at p. 4-30) of a U.S. map showing increases in annual concentrations of PM_{2.5} and summer season average daily 8hr maximum ozone in 2025; and Figure 4.5 (at p. 4-39) of a U.S. map color-shaded to show the locations of Estimated Foregone Avoided PM_{2.5} and Ozone Deaths for Each Illustrative Scenario in 2025, Relative to Base Case (CPP) (Deaths per 100k People), at <https://nepis.epa.gov>.

²⁶ National Environmental Policy Act (NEPA), 42 U.S.C. sec. 4332(2)(C). (1969)

(CEQ), and to the public. The proposed final EIS comprises both the original draft and all comments received from any institution or person on the draft. The White House's CEQ has promulgated procedures for determining when a full EIS must be prepared. An initial Environmental Assessment (EA) must determine whether a full EIS will be required, must consider all reasonable alternatives to the proposed action even if environmental impacts are not "significant," and whether otherwise "significant" adverse environmental impacts from the project can be mitigated to a level of "insignificance" that will avoid the need for preparation of an EIS (in which case, a "Finding of No Significant Impact" (FONSI) will be prepared.

The first federal court to consider climate change in the context of compliance with NEPA's environmental analytical procedures was the 2008 case of *Center for Biological Diversity v. National Highway Traffic Safety Administration*.²⁷ In that case, the court rejected the George W. Bush administration's NHTSA for promulgating a rule setting fuel efficiency (Corporate Average Fuel Economy or "CAFE") standards for small trucks and SUVs without considering alternatives to its proposed rule that would reduce GHG emissions. The 9th Circuit held that such rules are collectively significant over a period of time, even though any particular fuel efficiency rule by itself might have only a minor effect. Therefore, the NHTSA was required to "provide the necessary contextual information about the cumulative and incremental impacts of the Final Rule in light of other CAFE rulemakings and other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such future actions."²⁸

Subsequent federal court decisions in NEPA cases have required consideration of climate impacts for large transportation, utility, and other major infrastructure projects, as well as for any associated administrative rulemaking proceedings. The CEQ has tried to answer the question of when the quantity of a project's estimated GHG emissions crosses the threshold of "significance" and requires an EIS. The CEQ's "Final Guidance rejected the view that a proposed project's GHG emissions could be ignored if the total projected amount is small, because it adopted the view that the enormity of the consequences of climate change are the result of countless relatively small actions. The Guidance acknowledged that the extent of a project EIS's discussion of climate change should be proportional to the projected amount of its GHG emissions and it decided that a quantitative analysis of climate change impacts was unnecessary if the projected GHG emissions were less than 25,000 metric tons (roughly 27,000 U.S. tons). The Guidance also stated clearly that agencies were required to consider the ways in which a project's other environmental impacts could be amplified by climate change.

On March 27, 2017, President Trump signed Executive Order 13783 ("Promoting Energy Independence and Economic Growth"). Section 3 of that Order explicitly directed the CEQ to rescind its "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews." That Order also explicitly revoked: President Obama's November, 2013 Executive Order ("Preparing the United States for the Impacts of Climate Change"); three

²⁷ *Center for Biological Diversity v. National Highway Transportation Safety Administration*, 538 F.3d 1172 (9th Cir. 2008).

²⁸ *Id.*, at 1216.

Obama Presidential Memoranda: “Power Sector Carbon Pollution Standards” (June 25, 2013); “Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment” (November 3, 2015); and “Climate Change and National Security” (September 21, 2016). It also explicitly rescinded two Reports of the Executive Office of the President: “The President’s Climate Action Plan,” from June, 2013, and the “Climate Action Plan Strategy to Reduce Methane Emissions,” from March, 2014. Finally, it directed all federal agency heads to identify all agency actions that depend or rely on those revoked documents, and proceed to “suspend, revoke, or rescind” those actions. Trump’s rescission of these documents only affects the conduct of federal agencies and employees in their work for those agencies; it does not change the substantive law of NEPA (no Executive Order on any subject can change any law or affect any right or obligation conferred by any law).²⁹ Most federal courts have accepted the requirement that NEPA-change impacts from proposed major federal actions. What has become less certain since Brett Kavanaugh’s confirmation as the newest Supreme Court Justice on October 6 is how the Court’s newly-constituted Conservative majority will address federal agencies’ and lower federal courts’ actions and decisions related to climate change.

The Endangered Species Act (ESA)

The adverse environmental impacts of incremental climate change are perhaps nowhere more insidious than in their effect on ecosystems, where climate scientists as well as entomologists, zoologists, and botanists have described observable and, in some cases, irreversible consequences they attribute to climate change. The challenge for lawyers and policy makers, no less than for scientists, is how to predict or measure the specific effects that climate change has or will have on the awesome complexity of particular ecosystems. The central legal authority in the U.S. for the protection of biodiversity is the Endangered Species Act.³⁰

²⁹ See, for example, the Montana federal district court’s recent decision in *Western Organization of Research Councils, et al. v. U.S. Bureau of Land Management, et al.* (Docket No. 4:2016cv00021; D. Mt., Mar. 26, 2018; see text of decision at <https://law.justia.com>). The case involved challenges to the Bureau of Land Management’s (BLM) adoption of revised and updated Resource Management Plans (RMP) and associated Environmental Impact Statements (EIS) for two regions in Montana and Wyoming designated for coal leasing. The court held that BLM’s revised RMPs violated the National Environmental Policy Act (NEPA) in three separate ways: first, by failing to recognize that reasonable and acknowledged climate change concerns required BLM to analyze reasonable, reduced coal-screening alternatives; second, by failing to consider the indirect and downstream impacts of increased greenhouse gas emissions from the combustion of coal, oil, and gas to generate electricity, despite the foreseeability of those impacts and specificity of information about them that were available to BLM while it was preparing the environmental review documents; and third, by failing to justify its use of 100-year, rather than 20-year, time horizons within which to calculate the global warming potentials (“GWPs”) of several greenhouse gases, despite the submission of critical comments to the draft EIS and public protests over its choice of the longer time horizons. Although the court’s decision deferred formulation of a final remedy for sixty (60) days, it stated explicitly that any such remedy would have to include the BLM’s preparation of supplemental EISs for both RMPs that comply with both NEPA and the Administrative Procedure Act (APA) and, thereby, more honestly address adverse climate change impacts.

³⁰ Endangered Species Act, 16 U.S.C. section 1531, et seq. (1973)

The heart of the ESA is section 4, which requires the Secretary of Interior (for land-based species) and the Secretary of Commerce (for marine species) to designate a species as “endangered” or “threatened” because of any one of five factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.³¹ Climate change falls under both subsections (A) and (E). An “endangered” species is one that “is in danger of extinction throughout all or a significant portion of its range” and a “threatened” species is one that “is likely to become...endangered...within the foreseeable future throughout all or a significant portion of its range.”³²

The basis for determination whether a species is “endangered” or “threatened” shall be made “*solely* on the basis of the best scientific and commercial data available to [the Secretary]” after taking account of any other protection measures being taken by any states or foreign nations.³³ This provision has been held to prohibit *any* consideration of the economics of a listing decision.³⁴ (However, in the process for designation of an endangered or threatened species’ “critical habitat,” the Secretary must use the “best scientific and commercial data available” to “tak[e] into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.”)³⁵ Among the consequences of an “endangered” or “threatened” listing is every federal agency’s obligation “to insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of [critical] habitat of such species.”³⁶

The most controversial part of the ESA is its broad prohibition against the “taking” of any endangered species. Section 9 of the Act makes it unlawful for “any person subject to the jurisdiction of the United States” to “take” any such species within the U.S. or its territorial seas.³⁷ The Supreme Court has held that this prohibition not only applies to direct killing but also to habitat modification that proximately causes the death of a member of the species.³⁸

The Polar Bear

The treatment accorded the polar bear under the ESA is illustrative of some of the ways that emerging climate science impacts listing and subsequent critical habitat rulemaking decisions.

³¹ Id, at section 1533 (a)(1)(A-E).

³² Id, at sections 1532 (6) and (20).

³³ Id, at section 1533 (b)(1)(A); italics added.

³⁴ See: *New Mexico Cattle Growers Ass’n v. United States Fish & Wildlife Service*, 248 F.3d. 1277 (10th Cir. 2001).

³⁵ Endangered Species Act, *supra*, 16 U.S.C., section 1533 (b)(2).

³⁶ Id, at section 1536 (a)(2).

³⁷ Id, at section 1538 (a)(2)

³⁸ See: *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995).

In *Alaska Oil & Gas Association, et al. v. Jewell, et al.*,³⁹ a decision reinstating the US Fish & Wildlife Service's (FWS) designation of Alaskan critical habitat for the polar bear, the 9th Circuit Court of Appeals noted that “[b]ecause of global climate change, the extent and quality of Arctic sea ice is declining, and the polar bear population is declining with it. On May 15, 2008, FWS listed the polar bear as a threatened species under the ESA. FWS highlighted concerns over climate change and discussed the major negative impacts that declines in sea ice would have on the species, including nutritional stress caused by diminished numbers of ice-dependent prey, decreased access to the prey that remain, shorter hunting seasons and longer periods of fasting onshore, higher energetic demands for travel and obtaining food, and more negative interactions with humans. See *In re Polar Bear*, 709 F.3d at 4–6. FWS found that such factors would likely result in the decline in the physical condition and reproductive success of polar bears, which would ultimately lead to population level declines. *Id.* FWS did not designate polar bear critical habitat at the same time it listed the species as threatened, citing the difficulty of determining at that time which areas within the polar bear's extraordinarily large and dynamic range were essential for conservation. Instead, FWS undertook a thorough evaluation of the available science and consulted with polar bear experts. FWS issued a proposed rule on October 29, 2009, designating polar bear critical habitat, and on May 5, 2010, the agency issued a draft analysis of the probable economic impacts of the designation. This was within the one-year period permitted for designation of the areas containing features termed ‘primary constituent elements’ necessary for a threatened species’ conservation.”⁴⁰

The 9th Circuit rejected plaintiffs’ contentions: that FWS can only designate habitat that contains essential features at the time the species is listed, not habitat that may become critical in the future because of climate change or other reasons; that there was no evidence in the record to explain how the proposed critical habitat is eroding due to climate change; and that FWS relied on “mere speculation” that climate change would cause land with PCEs (primary constituent elements) to erode in the future. It is noteworthy that the Court not only approved FWS’s use of established and best climate science, but also that it approved FWS’s critical habitat designation that took account of the uncertainty of future climate change impacts.⁴¹

The Yellowstone Grizzlies

In *Greater Yellowstone Coalition, Inc. v. Servheen*, the 9th Circuit Court of Appeals reversed a FWS decision to delist the Yellowstone grizzly bear from the threatened list. The Court found that FWS had failed to articulate a rational basis for its conclusion that the loss of whitebark pine trees would not threaten the survival of the Yellowstone grizzlies. Whitebark pine is one of the critical sources of food for Yellowstone grizzlies in the autumn as they prepare for hibernation, and whitebark pine forests are at serious risk of declines or “epidemic” threats caused by infestations of mountain pine beetles and European blister rust along with loss of habitat

³⁹ *Alaska Oil & Gas Ass’n, et al. v. Jewell, et al.*, 13-35619, (9th Cir. 29 Feb. 2016).

⁴⁰ *Id.*, at 15-16.

⁴¹ *Id.*, at 29-30.

resulting from climate change. Nonetheless, FWS concluded that loss of this food source would not threaten the species.⁴²

However, despite the 9th Circuit's decision, and after its remand to the FWS, the FWS again decided to remove the Yellowstone grizzlies from the "threatened" species list. It published a new, final, delisting rule on June 30, 2017. After a momentary period of reconsideration, following publication of the D.C. Circuit's opinion in *Humane Society v. Zinke*,⁴³ the FWS decided that no modification of its new delisting decision was necessary. That announcement produced two new lawsuits resolved, *again*, against the FWS, in the consolidated case of *Crow Indian Tribe, et al. v. U.S., et al.*⁴⁴

There are also examples of FWS decisions not to list certain species as threatened that have withstood litigation challenges that included climate change considerations.⁴⁵

Conclusion

The foregoing discussion of ways that climate change considerations are being integrated into the jurisprudence of NEPA, Endangered Species Act, and Clean Air Act administrative rulemaking and attendant litigation illustrates the serious limitations of these statutes as vehicles for the enforcement of climate change mitigation measures. In the absence of an overarching, comprehensive federal statutory law of climate change, the U.S. is stuck trying to fit climate change mitigation policies into the frameworks of nearly 50-year-old federal environmental laws that were not designed to accommodate them.

The federal government rejects and opposes climate change and climate science. The Trump administration and its regulatory agency chiefs systematically "deconstruct" the network of established federal environmental laws by abandoning meaningful enforcement oversight authority and actively encouraging states to "go it alone" in managing their "authorized" federal environmental programs. The "cooperative federalism" essential to the successful operation of those laws has become "uncooperative" and, in some cases, non-existent. The Trump administration is writing its own version of the "Tragedy of the Commons."

About 20 years ago, California⁴⁶ and a few other states began to address climate change, first by requiring inventories of GHG emissions and, gradually, enacting cap-and-trade programs. Many cities are now integrating climate change mitigation strategies into their various land use

⁴² *Greater Yellowstone Coalition, Inc. v. Servheen*, 665 F.3d 1015, at 1025 (9th Cir. 2011).

⁴³ *Humane Society v. Zinke*, 865 F.3d 585 (D.C. Cir. 2017).

⁴⁴ *Crow Indian Tribe, et al. v. U.S., et al. and State of Wyoming, et al.*, CV 17-89-M-DLC (D. Mt., 24 Sep. 2018)

⁴⁵ See discussion of the FWS decision not to list the American pica and the ribbon seal in "*Integrating Climate Change Considerations in Endangered Species Act Processes*, *supra*, n.3, at 82-84.

⁴⁶ See: California Health & Safety Code sections 38500 *et seq.* ("Global Warming Solutions Act," commonly referred to as "AB 32," after the Assembly Bill number that introduced the law).

planning regimes, including new code requirements for energy efficient buildings and smarter public transportation planning systems. States and cities see clear benefits from diversifying their power sources and from such new job opportunities as the promotion of solar installation and other clean energy industries. They have also discovered that laws and ordinances that facilitate the reduction of carbon emissions also provide “co-benefits” by reducing other airborne pollutants.

Regional organizations and compacts have also been created to maximize GHG emission reductions. The Regional Greenhouse Gas Initiative (RGGI)⁴⁷ is a federal tax-exempt, non-profit cooperative effort among the northeastern U.S. states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to cap and reduce power sector carbon dioxide emissions. The Western Climate Initiative, Inc. is a non-profit corporation created in 2011 to “provide technical and scientific advisory services to States of the United States and Provinces and Territories of Canada in the development and collaborative implementation of their respective greenhouse gas emissions trading programs; (2) to perform any other charitable or scientific function related to the reduction of greenhouse gas emissions or the increase in carbon sequestration; and (3) to perform any other charitable or scientific function related to emissions trading programs or other programs with the purpose of improving environmental quality.”⁴⁸ It is administered by a Board of Directors of two officials each from the state of California and the province of Quebec. Until July, 2018, it also included the province of Ontario, until Doug Ford was elected premier and announced that Ontario would pull out of the agreement.

In the U.S., the environmental and public health and safety policies of states like California continue to drive the progress of meaningful climate change mitigation and adaptation action. There are new conflicts brewing between California and the Trump administration over the renewal of California’s historic waiver from federal vehicle emission standards that may rise to a serious federal supremacy vs. “states’ rights” battle. The jurisdictional, ideological, economic, and political lines that divide and border climate change law in the U.S. are being drawn with increasing starkness. This is not a textbook way to conduct public policy, but it appears to be the default way in the United States for the foreseeable future.

⁴⁷ See: www.rggi.org. RGGI was the first mandatory, market-based carbon dioxide emissions reduction program in the U.S.

⁴⁸ See: www.wci-inc.org.