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# Blowing Hot Air: An Analysis of State Involvement in Greenhouse Gas Litigation

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# NOTES

# Blowing Hot Air: An Analysis of State Involvement in Greenhouse Gas Litigation

## INTRODUCTION

In *Massachusetts v. EPA* (2007), the U.S. Supreme Court interpreted the Clean Air Act ("CAA") to require the Environmental Protection Agency ("EPA") to regulate greenhouse gas emissions[1] from motor vehicles if the EPA Administrator finds that the emissions endanger public health and welfare ("Endangerment Finding").[2] In December 2009, the Administrator made such an Endangerment Finding,[3] obligating the EPA to work with the National Highway Traffic Safety Administration ("NHTSA") to develop average fuel economy and greenhouse gas emission standards for new light-duty vehicles. After issuing proposals and reviewing comments from the public, the two agencies announced their groundbreaking final regulation ("Tailpipe Rule") in May 2010.[4] The regulation of greenhouse gases from mobile sources under the CAA, however, triggered further greenhouse gas permit requirements for some stationary sources ("Triggering Interpretation").[5] This prompted the EPA to finalize permitting rules tailored to greenhouse gas emissions from stationary sources ("Tailoring Rule"),[6] spawning legal challenges. This Note, at its heart, untangles the motivations behind an important group involved in this litigation: the states.

Industry groups, environmental groups, and states filed more than seventy lawsuits challenging or supporting at least one of the

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1. By "greenhouse gas emissions," this Note refers to the emissions of the six well-mixed greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Greenhouse gas emissions are typically calculated on a carbon dioxide equivalent basis, which is why this Note sometimes refers to carbon dioxide emissions.

2. Massachusetts v. EPA, 549 U.S. 497, 533 (2007) ("If EPA makes a finding of endangerment, the CAA requires the agency to regulate emissions of the deleterious pollutant from new motor vehicles."); *see also* 42 U.S.C. § 7521(a)(1) (2006) (allowing the Administrator to regulate air pollutants from motor vehicles if, in his judgment, such pollutants "may reasonably be anticipated to endanger public health or welfare").

3. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009) [hereinafter Endangerment Finding] ("The Administrator finds that six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations.").

4. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010) (to be codified at 40 C.F.R. pts. 85–86, 600) [hereinafter Tailpipe Rule].

5. Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004 (Apr. 2, 2010) (to be codified 40 C.F.R. pts 50–51, 70–71) [hereinafter Triggering Interpretation].

6. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010) (to be codified at 40 C.F.R. pts. 51–52, 70–71) [hereinafter Tailoring Rule].

EPA's four actions, namely the Endangerment Finding, the Tailpipe Rule, the Triggering Interpretation, and the Tailoring Rule.[7] Significantly, thirty-seven states have either directly filed lawsuits or requested to intervene in support of or against at least one of the four actions.[8] These lawsuits have been consolidated into three cases before the U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit").[9] The litigation frenzy highlights a trend: states are increasingly using the legal system to advance environmental goals.[10]

State involvement in a lawsuit—whether as a party or as an intervenor—can have significant consequences for environmental litigation. Arguably, it can increase the resources available for the

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7. *See infra* notes 46–48 and accompanying text.

8. *See, e.g.*, Robin Bravender, *States Take Sides in Greenhouse Gas 'Endangerment' Brawl*, N.Y. TIMES, Mar. 19, 2010, http://www.nytimes.com/gwire/2010/03/19/19greenwire-states-take-sides-in-greenhouse-gas-endangerme-29019.html; Gabriel Nelson, *It's Red States vs. Blue in Legal War Over EPA Rules*, N.Y. TIMES, Oct. 12, 2010 http://www.nytimes.com/gwire/2010/10/12/12greenwire-its-red-states-vs-blue-in-legal-war-over-epa-g-99648.html?pagewanted=all. Nelson, *id.*, however, relies on a *Greenwire* tally, *available at* http://www.eenews.net/special_reports/climate_courts (last visited Oct. 12, 2011), that incorrectly categorizes Florida as requesting to intervene in support of the EPA when Florida has actually requested to intervene in opposition to the EPA. This Note focuses on the motivations behind states that joined as parties and states that joined as intervenors, and it does not explore any differences in motivations that stem from choosing one involvement procedure over the other.

9. Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Dec. 10, 2010) (cases on the Endangerment Finding); Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1092 (D.C. Cir. May 7, 2010) (cases on the Tailpipe Rule); Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1073 (D.C. Cir. Apr. 2, 2010) (consolidated cases on the Triggering Interpretation and the Tailoring Rule).

10. *See, e.g.*, Connecticut v. Am. Elec. Power Co., 582 F.3d 309, 315 (2d Cir. 2009) (deciding that plaintiff's claim seeking abatement of defendants' ongoing contributions to global warming is permissible under federal common law of public nuisance), *rev'd*, 131 S. Ct. 2527, 2540 (2011) (reversing the Second Circuit on account of preemption); *see also* David Markell & J.B. Ruhl, *An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?*, 64 FLA. L. REV. 15 (2012) (describing how climate change litigation frequently involves states on both sides of the battle); Michael E. Solimine, *State Amici, Collective Action, and the Development of Federalism Doctrine*, 46 GA. L. REV. (forthcoming 2012) (describing how state attorneys general are increasingly using the court system). Some administrative law scholars believe *Massachusetts v. EPA* gave states special standing ("special solicitude") in lawsuits, especially environmental lawsuits, which may explain the increased involvement. *See, e.g.*, Bradford Mank, *Should States Have Greater Standing Rights Than Ordinary Citizens?: Massachusetts v. EPA's New Standing Test for States*, 49 WM. & MARY L. REV. 1701, 1701 (2008) (arguing that the Supreme Court had given "greater standing rights to states than ordinary citizens"); Andrew P. Morriss, *Litigating to Regulate:* Massachusetts v. Environmental Protection Agency, 2007 CATO SUP. CT. REV. 193, 193 ("The Court rolled out the welcome mat for state governments unhappy with a federal agency's decision, creating from whole cloth a new rule of standing that allows states to gain a hearing in federal court with only the thinnest allegations of harm."); *see also* Massachusetts v. EPA, 549 U.S. 497, 520 (2007) ("Given that procedural right and Massachusetts' stake in protecting its quasi-sovereign interests, the Commonwealth is entitled to special solicitude in our standing analysis.").

litigation,[11] enhance political attention to the issue, and increase the likelihood of eventual Supreme Court involvement.[12] In the absence of state involvement, litigation usually pits environmental groups against industry groups, both of which have largely unsurprising and static stances on environmental issues. Environmental groups generally support more stringent environmental regulation, while industry groups generally challenge environmental regulation. In some cases, the involvement of states may be key to ensuring that an environmental lawsuit passes the threshold standing question and proceeds to the (sometimes very related) merits question.[13] In *Massachusetts v. EPA*, for example, the Supreme Court emphasized the "considerable relevance" to the standing decision that a sovereign state, and not a private individual, was seeking review.[14] Patrick A. Parenteau, an environmental law professor at Vermont Law School, put it this way: "If it had been the Sierra Club, I don't think you get [Justice Kennedy's key] vote [in *Massachusetts v. EPA*]."[15]

State involvement in a lawsuit indicates the state's willingness to funnel resources into defending or challenging an issue, thereby

11. Some scholars have noted that states actually have few resources with which to initiate lawsuits. *See, e.g.*, Margaret H. Lemos, *State Enforcement of Federal Law*, 86 N.Y.U. L. REV. 698, 703 (2011) (discussing how "[s]tate enforcers are limited in number and must ration their own scarce resources" when bringing enforcement actions against private parties"); Amy Widman, *Advancing Federalism Concerns in Administrative Law Through a Revitalization of State Enforcement Powers: A Case Study of the Consumer Product Safety and Improvement Act of 2008*, 29 YALE L. & POL'Y REV. 165, 213 (2010) ("Attorneys general explain that these arrangements with private counsel are necessary given limited public funding and resources."). If so, the state's willingness to use its limited resources in order to join a lawsuit underscores the state's belief in the importance of the suit, which should increase attention to the issue.

12. One of the purposes of the Supreme Court is to settle disputes among states. U.S. CONST. art. III, § 2 ("The judicial Power shall extend . . . to Controversies to which the United States shall be a Party . . . [and] to Controversies between two or more States . . . .").

13. I refer to Judge Randolph's majority opinion in *Massachusetts v. EPA* when the case was decided in the D.C. Circuit. Massachusetts v. EPA, 415 F.3d 50, 55 (D.C. Cir. 2005) (discussing the "factual overlap of the standing issues with EPA's justifications for not regulating greenhouse gases" and deciding to proceed to the decision on the merits), *rev'd*, 549 U.S. 497; *see also Massachusetts v. EPA*, 549 U.S. at 514 ("In his opinion announcing the court's judgment, Judge Randolph avoided a definitive ruling as to petitioners' standing, reasoning that it was permissible to proceed to the merits because the standing and the merits inquiries 'overlap[ped].' " (citations omitted)).

14. *Massachusetts v. EPA*, 549 U.S. at 518. *See generally* Mank, *supra* note 10, at 1727–29 (discussing the majority's decision on standing in *Massachusetts v. EPA*); Morriss, *supra* note 10 (criticizing the majority's potential expansion of standing).

15. Nelson, *supra* note 8.

ensuring that its specific interest is adequately represented.[16] But what is the state's interest? Writing for the Court, Justice Stevens characterized the litigating states as protecting their coastlines from degradation and acting *parens patriae*, "parents of the nation," to protect their citizens from the harm caused by climate change.[17] If states are litigating in response to the uneven distribution of the risks of climate change and the costs of climate change mitigation strategies, then their actions give prominence to these inequities and can meaningfully contribute to an evaluation of agency decisions.[18] Just as amicus briefs by those with valuable outside knowledge or perspectives provide information to a court, state involvement could help a court determine the appropriateness of agency action in light of federalism concerns.[19] Similarly, media attention to these state issues may prod Congress to alleviate the underlying equity concerns that pervade climate change mitigation strategies. But if the states are joining lawsuits blindly for political reasons, then these actions could provide no useful information or could indicate that the debate has prematurely moved out of the political sphere and into the courtroom.[20] In addition, the justification for state involvement in *Massachusetts v. EPA*—that states act as *parens patriae*—can itself be confusing. A parent state has many "sons" and "daughters" within its boundaries, including members of environmental *and* industry groups. Which voices do the states represent? And finally, what explains why some states choose not to get involved in the litigation?

16. This is true both when a state intervenes in a lawsuit and when a state joins as a party to a lawsuit. When intervening, a state has to show that it has a separate interest that needs adequate representation. FED. R. APP. P. 15(d).

17. *Massachusetts v. EPA*, 549 U.S. at 520–21.

18. *See* Morriss, *supra* note 10 (calculating that states litigating in *Massachusetts v. EPA* in support of federal greenhouse gas regulation typically would benefit from such regulation relative to other states).

19. Solimine, *supra* note 10; *see also* Markell & Ruhl, *supra* note 10, at 75–76 (anticipating "intergovernmental litigation to serve as the medium for resolving many of the federalism issues pervading climate change policies").

20. This concern is similar to the rationale behind the political question doctrine, but it is unlikely that the D.C. Circuit would rule that these cases present nonjusticiable political questions. For one appellate court's analysis of the relevance of the political question doctrine, see Connecticut v. Am. Elec. Power Co., 582 F.3d 309, 338 (2d. Cir. 2009), *rev'd*, 131 S. Ct. 2527 (2011). I note, however, that state representatives submitted numerous failed proposed legislation to curtail the EPA's regulation of greenhouse gases before many of those states decided to become involved in the litigation. See Robin Bravender, *State Legislators Ramp Up Campaigns Against EPA Rules*, N.Y. TIMES, Mar. 29, 2010, http://www.nytimes.com/gwire/2010/03/29/29greenwire-state-legislators-ramp-up-campaigns-against-ep-73429.html?pagewanted=all, for a discussion of some of the proposed legislation.

Because state involvement could have significant consequences on the litigation, the outcome of which, in turn, can affect the lives of all citizens, it is important to understand the reasons behind state involvement. Once scholars understand states' reasons, normative questions—such as whether that kind of involvement is appropriate and what, if any, jurisprudential weight the court should give the involvement—become easier to analyze and answer.

This Note explores empirically the motivations behind state involvement in the recent greenhouse gas litigation and finds that states are using the courts to promote political goals.[21] States are somewhat responsive to the costs of climate change mitigation, but they are not responsive to various measures of climate change risks or of public opinion within the state respecting climate change mitigation. This result is dismaying, especially because some scholars have found that individuals' climate change attitudes do tend to vary with climate change risk perceptions.[22]

Given states' political motivations, this Note also takes a stab at the resulting normative considerations. It argues that state differences are not adequately considered in the rulemaking process. One solution would require agencies such as the EPA to prepare brief state-specific regulatory impact analyses for major environmental regulations. Such state-by-state analyses would lessen the need for state involvement in lawsuits, where the state's influence might be misplaced; would promote transparency, giving constituents valuable information with which to hold their state representatives accountable; and would ensure congressional awareness of issues with disparate state impacts, allowing for timely consideration of other policy options in an appropriate forum.

Part I provides background information on the current greenhouse gas litigation in the D.C. Circuit, the theories of state intervention in lawsuits, and the literature on climate change

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21. Previously, scholars have descriptively analyzed state motivations behind state-level climate change policymaking, Vivian E. Thomson & Vicki Arroyo, *Upside-Down Cooperative Federalism: Climate Change Policymaking and the States*, 29 VA. ENVTL. L.J. 1, 1 (2011); empirically considered the potential role of costs in litigation decisions, Morriss, *supra* note 10; discussed the relevance of briefs submitted by state attorneys general, Solimine, *supra* note 10; and empirically analyzed state involvement in multistate consumer protection litigation, Colin Provost, *The Politics of Consumer Protection: Explaining State Attorney General Participation in Multi-State Lawsuits*, 59 POL. RES. Q. 609, 609 (2006). This Note adds to this literature by empirically analyzing many factors that may be relevant to the state involvement decision in the greenhouse gas litigation and discussing implications of the findings.

22. Political leanings also correlate with climate change attitudes. *See* discussion *infra* Part IV.A.2.

attitudes and climate geography. Part II briefly discusses the empirical specification and the construction of the dataset used in this Note's analysis. Part III presents the results of the empirical analysis, concluding that states decide whether to intervene primarily based on politics. Part IV discusses the implications of the results and proposes a solution that would require the EPA to consider state-specific differences in the costs and benefits of environmental regulations during the rulemaking process.[23] Part IV also responds to criticisms of this approach. Finally, the Note concludes by outlining the implications for international climate change treaties as well as for state involvement in other litigation.

## I. BACKGROUND

### *A. Brief Overview of the Greenhouse Gas Litigation*

The EPA has authority to prescribe emission standards for new motor vehicles under Title II, section 202(a)(1) of the CAA.[24] The CAA directs the EPA Administrator to prescribe motor vehicle standards "applicable to the emission of any air pollutant . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[25] Importantly, the statute defines welfare effects to include "effects on . . . weather, visibility, and climate."[26] The statute also defines an air pollutant broadly to include any "substance or matter which is emitted into or otherwise enters the ambient air."[27] Although the CAA categorizes some pollutants as criteria pollutants with predetermined baseline standards, it also requires the agency to consider new pollutants for national standards.[28]

Until recently, the EPA did not regulate greenhouse gas emissions as air pollutants. During President George W. Bush's Administration, the EPA's General Counsel Robert E. Fabricant concluded that the EPA's legislative mandate did not extend to these kinds of emissions largely because greenhouse gas emissions are a global problem, and the regulation of the emissions through the CAA

23. This would work similarly to Executive Order 12,866. *See* discussion *infra* Part IV.B.

24. Clean Air Act § 202(a)(1), 42 U.S.C. § 7521(a)(1) (2006).

25. *Id.*

26. *Id.* § 7602(h).

27. *Id.* § 7602(g).

28. *See id.* §§ 7409–12 (outlining procedures for maintaining and updating a list of air pollutants, control techniques and criteria, and air quality standards for each pollutant).

would have significant political ramifications.[29] The EPA, relying on these arguments, rejected a petition filed by several private organizations urging the agency to regulate greenhouse gases. The ensuing lawsuit made its way to the Supreme Court as *Massachusetts v. EPA*.[30]

In *Massachusetts v. EPA*, the Court rejected all of the EPA's arguments.[31] The Court determined that carbon dioxide[32] is clearly a "substance . . . which is emitted into . . . the ambient air" and, hence, the EPA has authority to regulate it.[33] Therefore, the Court concluded that short of the EPA determining that carbon dioxide from motor vehicles does not "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," the EPA must either regulate its emissions or give a reasonable explanation for why it will not regulate them.[34]

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29. Memorandum from Robert E. Fabricant, EPA General Counsel, to Marianne L. Horinko, Acting Administrator (Aug. 28, 2003) [hereinafter Fabricant Memo], *available at* http://www.icta.org/doc/FabricantMemoAug282003.pdf. Internally, the views of EPA's general counsels seemingly varied with the presidential administration. *Compare* Fabricant Memo, *id.*, *with* Memorandum from Jonathan Z. Cannon, EPA General Counsel, to Carol M. Browner, Administrator (Apr. 10, 1998), *available at* http://www.law.umaryland.edu/faculty/bpercival/casebook/documents/epaco2memo1.pdf (concluding that carbon dioxide emissions *are* in the scope of EPA's authority to regulate).

30. Massachusetts v. EPA, 549 U.S. 497 (2007).

31 In *Massachusetts v. EPA*, the EPA advanced several arguments. The agency argued that greenhouse gas emissions are different from the other air pollutants it regulated because they are not *local* air pollutants; their concentrations are somewhat consistent throughout the world. *Id.* at 512. The EPA also argued that if Congress had wanted the EPA to regulate carbon dioxide, it would have given the agency clear indication in the statute. *Id.* Furthermore, the EPA argued that even if it had the authority to regulate greenhouse gases, it would refuse to regulate them for a variety of reasons. For one, Congress already gave the Department of Transportation the authority to regulate fuel economy standards. Since EPA regulation of tailpipe greenhouse gas emissions would require setting fuel economy standards, its regulation would either be superfluous or render the Department of Transportation's regulations meaningless. *Id.* at 513. (Of course, the regulation rendered meaningless would be the less stringent one.) The EPA also argued that the scientific information about carbon dioxide's effect on climate change was still uncertain, making any regulation premature and potentially unwise. *Id.* Finally, the EPA argued that controlling carbon dioxide emissions in such a piecemeal way would conflict with the President's and Congress's comprehensive approaches to regulation. *Id.* at 513–14.

32. Because greenhouse gas emissions are typically calculated on a carbon dioxide equivalent basis, the Court frequently refers only to carbon dioxide emissions.

33. *Massachusetts v. EPA*, 549 U.S. at 528 ("We have little trouble concluding that [EPA] does [have authority to regulate greenhouse gases].").

34. *Id.* at 533 ("If EPA makes a finding of endangerment, the [CAA] requires the Agency to regulate emissions of the deleterious pollutant from new motor vehicles."). Presumably, the Court rejected the EPA's reasons for not regulating as unreasonable because the reasons were not grounded in the statutory language. In light of the new regulations, lawmakers in Congress have spent a lot of time discussing whether the Supreme Court's decision really gave the EPA any viable option to issuing an endangerment finding. *See, e.g.*, Lawrence Hurley & Elana Schor,

In response to the Court's decision, the EPA initiated a study on the contribution of greenhouse gas emissions from new motor vehicles to climate change. On December 15, 2009, the Administrator of the EPA issued a finding that "the combined emissions of these greenhouse gases from new motor vehicles . . . contribute to the greenhouse gas air pollution that endangers public health and welfare" of current and future generations.[35] These dangers ranged from the adverse public health effects from increases in food- and water-borne pathogens to the adverse public welfare effects from sea-level rise.[36] Given this Endangerment Finding, the EPA's legislative mandate required the agency to regulate greenhouse gas emissions. Hence, the EPA collaborated with the NHTSA to establish a coherent approach to setting national fuel economy standards.[37]

The imminent regulation of greenhouse gas emissions from mobile sources, in turn, triggered the CAA's permitting programs for stationary sources under the New Source Review Prevention of Significant Deterioration and Title V.[38] This is because the permitting programs cover pollutants that are "subject to regulation."[39] Since December 18, 2008, the EPA has interpreted the phrase "subject to regulation" to mean that the emissions of the pollutant are controlled either by a provision in the CAA itself or by an EPA regulation promulgated under the statute.[40] When the Tailpipe Rule for motor vehicles (mobile sources) took effect on January 2, 2011, it officially

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*Congress Emits Half-Truths in Spin War Over* Mass. v. EPA, N.Y. TIMES, Mar. 17, 2011, http://www.nytimes.com/gwire/2011/03/17/17greenwire-congress-emits-half-truths-in-spin-war-over-im-12380.html?pagewanted=all (explaining the effect of the Supreme Court's opinion in *Massachusetts v. EPA* on the debate concerning efforts to regulate greenhouse gases).

35. Endangerment Finding, *supra* note 3, at 66,496.

36. *Id.* at 66,497–98.

37. The agencies also ensured that the standards were consistent with the more stringent average fuel economy standards already in place under California's regulatory program. The EPA had previously granted California a waiver of CAA preemption, allowing the state to establish its own greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. California State Motor Vehicle Pollution Control Standards, 74 Fed. Reg. 32,744 (July 8, 2009) (notice).

38. *See* Triggering Interpretation, *supra* note 5, at 17,022 (explaining the policy and application process surrounding permitting programs for stationary sources).

39. *Id.*

40. Memorandum from Stephen L. Johnson, EPA Administrator, to EPA Regional Administrators, EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program (Dec. 18, 2008), *available at* http://www.epa.gov/NSR/documents/psd_interpretive_memo_12.18.08.pdf. On March 29, 2010, the EPA reconsidered and, eventually, reiterated that interpretation of the phrase. *See* Triggering Interpretation, *supra* note 5, at 17,004 (indicating that the final action interpreting the phrase "subject to regulation" was applicable as of March 29, 2010).

made greenhouse gases "subject to regulation," thereby triggering the permit requirements for major *stationary* sources of greenhouse gas emissions on that date.[41] Under the statutory requirements, eligible stationary sources would have to obtain permits to demonstrate that they are using the best practices and technologies to minimize greenhouse gas emissions.

In order to decrease administrative burdens on state implementation agencies, the EPA adjusted the statutory threshold level for carbon dioxide equivalent emissions that activate the permit requirements.[42] Specifically, the statutory language would have required permits for all stationary sources that emit more than 100 or 250 tons of greenhouse gases, which is a low bar for greenhouse gas emissions.[43] The EPA expressed concern that regulating greenhouse gases according to the statutory language would create "absurd results" and argued that it could "apply statutory requirements differently than a literal reading would indicate, as necessary to effectuate congressional intent."[44] Hence, the EPA promulgated a new rule, the Tailoring Rule, which increased the permit threshold level from 100 or 250 tons of carbon dioxide emissions per year to 75,000 or 100,000 tons per year, respectively.[45]

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41. Triggering Interpretation, *supra* note 5, at 17,004.

42. *See* Tailoring Rule, *supra* note 6, at 31,518 (explaining the adjustment in the statutory threshold). The EPA calculates a source's greenhouse gas emissions by determining the sum of the six greenhouse gases on a carbon dioxide equivalent basis.

43. *Id.* at 31,516–20. The applicable statutory threshold depends on whether or not the area is in air quality attainment. The CAA defines a major source as one that emits more than 250 tons per year of the pollutant in an attainment area and as one that emits more than 100 tons per year in a nonattainment area. 42 U.S.C. §§ 7491(g), 7602(j) (2006). An attainment area is "any area . . . that meets the national primary or secondary ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(ii).

44. Tailoring Rule, *supra* note 6, at 31,516. This argument is a little strange given that Congress admittedly did not intend for the CAA to cover greenhouse gas emissions when it enacted the statute. See Markell & Ruhl, *supra* note 10, at 53–54, for a concise description of the three legal doctrines on which the EPA supported its tailoring decision.

45. Tailoring Rule, *supra* note 6, at 31,514 ("EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters."). The requirement for obtaining a permit when in the 75,000 to 100,000 tons per year range went into effect on July 1, 2011. *See* Gabriel Nelson, *With Start of July, More Facilities Need CO2 Permits*, N.Y. TIMES, July 1, 2011, http://www.nytimes.com/gwire/2011/07/01/01greenwire-with-start-of-july-more-facilities-need-co2-pe-76189.html (explaining "Phase 2" of the EPA's regulations concerning carbon dioxide permits). Some scholars have pointed out, however, that requiring permits for major sources of greenhouse gas emissions is a limited step. Jonathan S. Masur & Eric A. Posner, *Climate Regulation and the Limits of Cost-Benefit Analysis*, 99 CALIF. L. REV. 1557, 1558 (2011).

This series of EPA rules and actions has generated significant controversy. The D.C. Circuit is reviewing seventeen challenges to the Endangerment Finding,[46] more than forty challenges to the Triggering Interpretation and the Tailoring Rule,[47] and seventeen challenges to the Tailpipe Rule regulating the emission of greenhouse gases from motor vehicles.[48]

Among the challengers and supporters of the EPA's actions are thirty-seven states.[49] By March 2010, eighteen states requested to intervene on behalf of the EPA ("pro-EPA") on at least one of the rules,[50] and nineteen states requested to intervene in opposition to the EPA ("con-EPA") on at least one of the rules.[51] Table 1 summarizes the

46. These challenges have been consolidated as *Coalition for Responsible Regulation, Inc. v. EPA*, No. 09-1322 (D.C. Cir. Feb. 18, 2010) (order for consolidation of cases). The Court has already received the con-EPA states' brief. Brief of Texas for State Petitioners and Supporting Intervenors, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. May 20, 2011) [hereinafter Brief of State Petitioners (Endangerment Finding)].

47. Eighteen challenges to the Triggering Interpretation, *supra* note 5, were consolidated as *Coalition for Responsible Regulation, Inc. v. EPA*, No. 10-1073 (D.C. Cir. Sept. 8, 2010) (order for consolidation of cases); twenty-six challenges to the Tailoring Rule, *supra* note 6, were consolidated as *Southeastern Legal Foundation, Inc. v. EPA*, No. 10-1131 (D.C. Cir. Sept. 3, 2010) (order for consolidation of cases). The Court has already received the con-EPA states' brief. Brief of State Petitioners and Supporting Intervenor, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-073 (D.C. Cir. June 20, 2011) [hereinafter Brief of State Petitioners (Triggering Interpretation and Tailoring Rule)].

48. These challenges have been consolidated as *Coalition for Responsible Regulation, Inc. v. EPA*, No. 10-1092 (D.C. Cir. Aug. 20, 2010) (order for consolidation of cases). The Court has already received the con-EPA states' brief. Brief of State Petitioners and Supporting Intervenor, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1092 (D.C. Cir. June 3, 2011) [hereinafter Brief of State Petitioners (Tailpipe Rule)]. Notably, the National Association of Manufacturers, though challenging EPA's stationary-source regulations, is not challenging the Tailpipe Rule because the main automobile manufacturers have already given EPA their support for the rule. *See* Gabriel Nelson, *3 Filings Offer Previews of Legal Attack on EPA Regs*, GREENWIRE, Sept. 16, 2010, *available at* http://www.eenews.net/gw/2010/09/16 (discussing the challengers' arguments against the EPA's finalized greenhouse gas regulations).

49. Bravender, *supra* note 8.

50. Motion for Leave to Intervene as Respondents, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Mar. 17, 2010) (filed by Pennsylvania and Minnesota); Motion for Leave to Intervene as Respondents, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Jan. 22, 2010) [hereinafter Petition of Massachusetts et al.] (filed by Arizona, California, Connecticut, Delaware, Iowa, Illinois, Maine, Maryland, Massachusetts, New Hampshire, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, and the City of New York). I do not include New York City in my analysis, and Arizona has since dropped out of the litigation. I could not locate North Carolina's Motion for Leave to Intervene (pro-EPA, Tailoring Rule only), but its involvement is clear in the con-EPA states' brief for the Tailoring Rule. *See* Brief of State Petitioners (Triggering Interpretation and Tailoring Rule), *supra* note 47.

51. *See* Petition for Review, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1039 (D.C. Cir. Feb. 16, 2010) (filed by Alabama); Petition for Review, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1041 (D.C. Cir. Feb. 16, 2010) (filed by Texas); Petition for Review of the Commonwealth of Virginia *ex rel.* Kenneth T. Cuccinelli, II, Coal. for Responsible Regulation,

states' positions. According to a petition that several pro-EPA states joined, the states requested to intervene because, among other reasons, "a negative outcome in terms of the validity of the Final Rule will delay or prevent the EPA from taking steps to reduce the direct risk to Massachusetts (and others)."[52] The con-EPA states, on the other hand, focused on the "harm [to their] citizens, businesses that operate within their borders, and their overall economies" in a petition several of them had joined.[53]

Most of the state challenges focus on the permit requirements for stationary sources and not the requirements for mobile sources. Those states that challenge the mobile-source Tailpipe Rule generally allege that it triggered the stationary-source permit requirements without appropriate analysis.[54] For example, Texas, a state that is suing the EPA directly, unsuccessfully moved for the D.C. Circuit to prevent the Tailpipe Rule from taking effect, arguing in part that "the agency did not consider the impact of the permit rule when it assessed the costs and benefits of the . . . tailpipe rule."[55] Despite the EPA's opposition, the D.C. Circuit granted a motion by the petitioners to

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Inc. v. EPA, No. 10-1036, (D.C. Cir. Feb. 16, 2010) (filed by Virginia); Motion for Leave to Intervene by the State of Alaska, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Mar. 13, 2010) (filed by Alaska); Motion for Leave to Intervene of the State of Michigan, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Mar. 18, 2010) (filed by Michigan); Motion for Leave to Intervene by the States of Nebraska, Florida, Hawaii, Indiana, Kentucky, Louisiana, Governor Haley Barbour for the State of Mississippi, North Dakota, Oklahoma, South Carolina, South Dakota, & Utah in Support of Petitioners the Commonwealth of Virginia & the States of Alabama & Texas, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Mar. 18, 2010) [hereinafter Petition of Nebraska et al.] (filed by Nebraska, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah). I could not locate Georgia's Motion for Leave to Intervene (con-EPA, Tailpipe Rule only), but its involvement is clear in the states' brief for the Tailpipe Rule. *See* Brief of State Petitioners (Tailpipe Rule), *supra* note 48.

52. Petition of Massachusetts et al., *supra* note 50, at 6.

53. Petition of Nebraska et al., *supra* note 51, at 7.

54. *See, e.g.*, Texas's Motion for Stay of EPA's Endangerment Finding, Timing Rule, and Tailpipe Rule, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1092 (D.C. Cir. Sept. 15, 2010) [hereinafter Texas's Motion for Stay] ("Not only does the Tailpipe Rule rest upon a legally flawed Endangerment Finding—and without a proper endangerment finding there is no legal basis for the regulation of motor vehicles under CAA § 202(a)—but it also suffers from . . . other, independent legal defects. . . . EPA should have considered the impact on stationary sources in the Tailpipe Rule because it had already concluded that GHG regulation of light-duty vehicle emissions would automatically trigger stationary-source regulation of GHG emissions."); *see also* Brief of State Petitioners (Tailpipe Rule), *supra* note 48, at 3–4 (alleging that the Tailpipe Rule triggered stationary-source permit requirements without sufficient analysis).

55. Texas's Motion for Stay, *supra* note 54, at 20. The court denied this motion on December 10, 2010. Court Order, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. Dec. 10, 2010) [hereinafter Court Order].

coordinate the challenges to the mobile-source rules (Endangerment Finding and Tailpipe Rule) with challenges to the stationary-source rules (Triggering Interpretation and Tailoring Rule[56]), meaning that the same three-judge panel—Chief Judge Sentelle, Judge Rogers, and Judge Tatel—will hear the cases at the same time.[57] Because the Tailpipe Rule took effect on January 2, 2011, the D.C. Circuit will decide the coordinated cases on their merits against the backdrop of the Tailpipe and Tailoring Rules' implementation.[58]

56. Again, these two challenges have been consolidated into one case, Coalition for Responsible Regulation, Inc. v. EPA, No. 10-1073 (D.C. Cir. Apr. 2, 2010) (consolidating cases).

57. *See* Court Order, *supra* note 55 (granting motion by petitioners to coordinate action in cases). *Compare* Petitioner's Motion for Coordination of Related Cases, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1131 (D.C. Cir. Aug. 26, 2010) ("[T]he Court should designate the aforementioned collections of pending cases 'complex'; coordinate (but not consolidate) briefing across these complex cases; and assign the management and resolution of the cases to a single, three-judge panel for all purposes."), *with* Respondent's Opposition to Motion for Coordination of Cases and Cross-Motion for Consolidation of Consolidated Case No. 10-1131 with Consolidated Case No. 10-1073, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1215 (D.C. Cir. Sept. 10, 2010) ("EPA *opposes* Movant Petitioners' request to coordinate the Stationary Source cases with the cases challenging the Mobile Source Rules."). The EPA did not want to increase the chances that the Court may decide to overturn the EPA regulations as a block. *See* Lawrence Hurley, *Court Order on Greenhouse Gas Rules Provides Comfort to Industry Challengers*, N.Y. TIMES, Dec. 14, 2010, http://www.nytimes.com/gwire/2010/12/14/14greenwire-court-order-on-greenhouse-gas-rules-provides-co-4226.html (explaining the EPA's concerns following the decision to coordinate the actions in these cases). The court revealed the three-judge panel in November 2011. *See* Lawrence Hurley, *Court Sets Aside 2 Days for Greenhouse Gas Rules Arguments, Reveals Panel*, ENV'T & ENERGY NEWS PM, Nov. 2, 2011, *available at* http://www.eenews.net/eenewspm/2011/11/02/2.

58. On December 10, 2010, the D.C. Circuit denied the motions to stay the greenhouse gas emissions rules from taking effect on January 2, 2011. Court Order, *supra* note 55, at 3. Hence, there are now lawsuits stemming from the EPA's requirement for state implementation plans to accommodate the new greenhouse gas permit rules ("SIP Call"). *See, e.g.*, Wyoming v. EPA, No. 11-9504 (D.C. Cir. Aug. 15, 2011) (transferred from the U.S. Court of Appeals for the Tenth Circuit); Texas v. EPA, No. 10-1425 (D.C. Cir. Mar. 25, 2011). *See generally* Gabriel Nelson, *Wyo. Joins Texas in Suing EPA Over Regulatory Rollout*, N.Y. TIMES, Feb. 16, 2011, http://www.nytimes.com/gwire/2011/02/16/16greenwire-wyo-joins-texas-in-suing-epa-over-rollout-of-g-86597.html (explaining Wyoming's view that the EPA set unreasonable deadlines for the state to meet, thereby prompting Wyoming to commence litigation proceedings). Notably, Wyoming has remained neutral in the greenhouse gas litigation that I analyze.

**TABLE 1. SUMMARY OF THE STATES' POSITIONS IN THE GREENHOUSE GAS LITIGATION.**

| States Intervening in Support of the EPA (Pro-EPA) (19 states) | States Intervening to Challenge the EPA (Con-EPA) (18 states) | States Abstaining from the Litigation (Neutral) (13 states) |
|---|---|---|
| Arizona | Alabama† | Arkansas |
| California | Alaska | Colorado |
| Connecticut | Florida | Idaho |
| Delaware | Georgia | Kansas |
| Illinois | Hawaii | Missouri |
| Iowa | Indiana | Montana |
| Maine | Kentucky | New Jersey |
| Maryland | Louisiana | Nevada |
| Massachusetts | Michigan | Ohio |
| Minnesota | Mississippi | Tennessee |
| New Hampshire | Nebraska | West Virginia |
| New Mexico | North Dakota | Wisconsin |
| New York | Oklahoma | Wyoming |
| North Carolina | South Carolina | |
| Oregon | South Dakota | |
| Pennsylvania | Texas† | |
| Rhode Island | Utah | |
| Vermont | Virginia† | |
| Washington | | |

SOURCE. Court documents, as cited in notes 50–51. A † indicates that the state is suing the EPA directly. Arizona, Hawaii, and Pennsylvania have since dropped out of the court battle, but I include them in my analysis because I am analyzing the initial decision to enter the legal dispute in early 2010.[59]

59. *See* Gabriel Nelson, *Ariz. Pulls Support for EPA's Endangerment Finding*, N.Y. TIMES, Jan. 28, 2011, http://www.nytimes.com/gwire/2011/01/28/28greenwire-ariz-pulls-support-for-epas-greenhouse-gas-end-23584.html; Don Hopey, *Pa. Pulls Out of 5 Pollution Suits*, PITTSBURGH POST-GAZETTE.COM, Sept. 2, 2011, http://www.post-gazette.com/pg/11245/1171571-454-0.stm (discussing Hawaii's exit as well). I could not independently confirm Hawaii's exit. In Arizona, the new attorney general is a Republican, and in Pennsylvania, the new governor is a Republican, replacing Democrats that held those offices previously. To the extent that the conditions in which I am interested seem to have changed in these states, the states present an interesting case study. *See* Nelson, *supra* ("The reversal by Arizona follows a trend in which positions on the climate litigation have lined up with states' partisan leanings.").

### *B. Theories of State Involvement in Environmental Litigation*

Courts and political scientists have suggested several reasons for state involvement in litigation. Generally speaking, a state may initiate or join litigation (1) to protect its interests (which, in the case of environmental litigation, are environmental interests); (2) to protect the general welfare of its citizens; or (3) to reap political benefits from involvement through voter or political party approval. Pursuant to Federal Rule of Appellate Procedure 15(d), the intervening states must claim an interest that could be impaired by the resolution of the lawsuit and that is not already represented by other parties.[60] Meanwhile, the states directly suing the EPA must satisfy standing requirements, which are considered to be more stringent requirements than those for intervention.[61] In this Part, I briefly analyze how the possible motivations behind state involvement have been judicially scrutinized. Thereby, this discussion provides one lens through which to assess the normative implications of a state's particular motivation.[62]

#### 1. State Environmental Interests

Typically, a state or local government will sue the federal government if the federal government passes a law that preempts

60. Specifically, when considering a motion to intervene under Federal Rule of Appellate Procedure 15(d), courts often refer to the criteria of Federal Rule of Civil Procedure 24(a)(2) for intervention as of right. Sierra Club, Inc. v. EPA, 358 F.3d 516, 517–18 (7th Cir. 2004). These criteria are that: (1) the application for intervention must be timely; (2) the applicant must claim an interest relating to the subject of the action; (3) disposition of the action may, as a practical matter, impair or impede the applicant's ability to protect that interest; and (4) existing parties may not adequately represent the applicant's interest. FED. R. CIV. P. 24(a)(2). In order to satisfy these criteria, the states have put forth various unique interests, some relating to the states' general interests in the welfare of their citizens and some relating to concern for their borders. *See* Brief of State Petitioners (Triggering Interpretation and Tailoring Rule), *supra* note 47; Brief of State Petitioners (Tailpipe Rule), *supra* note 48.

61. Generally, a plaintiff satisfies the standing requirement if he can show that he has suffered an "injury in fact," that there is a causal connection between the plaintiff's injury and the defendant's conduct, and that a decision by the court will redress his injury. *See generally* KRISTIN E. HICKMAN & RICHARD J. PIERCE, JR., FEDERAL ADMINISTRATIVE LAW 784–844 (Robert C. Clark et al. eds., 2010) (discussing standing to obtain judicial review).

62. Interestingly, the Court of Appeals for the Second Circuit has listed three capacities under which states may sue in federal court: "(1) proprietary suits in which the State sues much like a private party suffering a direct, tangible injury; (2) sovereignty suits requesting adjudication of boundary disputes or water rights; or (3) *parens patriae* suits in which States litigate to protect 'quasi-sovereign' interests." Connecticut v. Cahill, 217 F.3d 93, 97 (2d Cir. 2000) (citations omitted). These enumerated motivations are similar to the ones this Note explores in this Section.

local law.[63] Then, if a state litigates, its interest is clear: the state enters the lawsuit to preserve its interests in its own state law. In the context of greenhouse gas emissions, where many states already participate in a market-based mitigation program on a regional level, the issue of preemption may arise, for example, if the federal government decides to regulate greenhouse gases using a national market-based mitigation program.[64]

In addition to preserving its legal interests, a state may intervene in a lawsuit to protect other tangible interests potentially affected by the resolution of the suit. In *Massachusetts v. EPA*, the Court's analysis of Massachusetts' standing[65] left the impression that states entered the lawsuit because of a concern for their borders and property.[66] Specifically, the Court reasoned that Massachusetts satisfied the injury component of standing because it "alleged a particularized injury in its capacity as a landowner"—the injury being the Commonwealth-owned coastal lands already affected by rising sea

63. *See, e.g.*, City of New York v. FCC, 486 U.S. 57, 66 (1988) ("[T]he Commission acted within the statutory authority conferred by Congress when it pre-empted state and local technical standards governing the quality of cable television signals.").

64. *See* REGIONAL GREENHOUSE GAS INITIATIVE, http://www.rggi.org/home (last visited Sept. 19, 2011) ("The Regional Greenhouse Gas Initiative (RGGI) is the first market-based regulatory program in the United States to reduce greenhouse gas emissions."); WESTERN CLIMATE INITIATIVE, http://www.westernclimateinitiative.org/ (last visited Sept. 19, 2011) ("The [Western Climate Initiative] is a collaboration of independent jurisdictions working together to . . . tackle climate change at a regional level."). In the D.C. Circuit cases, however, the national preemption of state greenhouse gas regulation is not an issue. Although I exclude this possible interest from my analysis explicitly, the factors that may have led to intervention in the litigation may have been similar to the factors that led to the participation (or nonparticipation) in a regional program. *See* Thomson & Arroyo, *supra* note 21, at 3–4 (categorizing states into groups based on whether they are involved in state-level climate change policy and descriptively discussing the economic and political factors that likely played a role in those decisions). Federal government preemption was an issue in other climate change litigation, however, such as when the EPA rejected California's petition to regulate tailpipe carbon dioxide emissions. *See* California State Motor Vehicle Pollution Control Standards, 73 Fed. Reg. 12,156 (Mar. 6, 2008) (notice) (denying California's petition for a waiver of CAA preemption). The Supreme Court has already found that the EPA's greenhouse gas regulations displace any state right to require power plants to lower carbon dioxide emissions. Am. Elec. Power Co. v. Connecticut, 131 S. Ct. 2527, 2537 (2011). For a discussion of preemption in the context of climate change, see William W. Buzbee, *State Greenhouse Gas Regulation, Federal Climate Change Legislation, and the Preemption Sword*, 1 SAN DIEGO J. CLIMATE & ENERGY L. 23, 35–52 (2009).

65. The Court focused its analysis on Massachusetts because only one of the petitioners needs to have standing in order to allow review. *See* Massachusetts v. EPA, 549 U.S. 497, 518 (2007) (citing Rumsfeld v. Forum for Academic & Institutional Rights, 547 U.S. 47, 52 n.2 (2006)).

66. Writing for the majority, Justice Stevens referred to a state's independent interest "in all the earth and air within its domain." *Massachusetts v. EPA*, 549 U.S. at 519 (quoting Georgia v. Tenn. Copper Co., 206 U.S. 230, 237 (1907)).

levels.[67] The Court also emphasized the potential for future injury to coastal property, which could result in remediation costs running "well into the hundreds of millions of dollars."[68] Because these interests satisfied the standing inquiry, presumably these interests are important enough for a state to also protect via intervention.

Tangible climate change risks, such as the border erosion that the Supreme Court legitimized as a relevant interest, should be even more salient for the states since the release of the EPA's December 2009 Endangerment Finding.[69] In the Endangerment Finding, the EPA named several risks of harm that could result from climate change. Specifically, the EPA found that increased greenhouse gas emissions and the associated climate change can affect public health through "changes in air quality, increases in temperatures, changes in extreme weather events, increases in food- and water-borne pathogens, and changes in aeroallergens."[70] The agency also found likely effects on public welfare through "risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife."[71] These risks would all have significant effects on the state's environmental interests as a landowner.

### 2. General Welfare of State Citizens

In *Massachusetts v. EPA*, the Court also suggested that a state could have standing to sue *parens patriae* if the alleged injury to the health and welfare of its citizens is "one that the State, if it could, would likely attempt to address through its sovereign lawmaking powers."[72] The Court argued that such standing gives the state "special solicitude" to protect its "quasi-sovereign interests" in the

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67. *Id.* at 522.

68. *Id.* at 522–23 ("The severity of that injury will only increase over the course of the next century: If sea levels continue to rise as predicted, one Massachusetts official believes that a significant fraction of coastal property will be 'either permanently lost through inundation or temporarily lost through periodic storm surge and flooding events.' Remediation costs alone, petitioners allege, could run well into the hundreds of millions of dollars.") (citations omitted).

69. Endangerment Finding, *supra* note 3, at 66,496. Some scholars have found that *perceived* risks are the ones that matter. *See* Sammy Zahran et al., *Climate Change Vulnerability and Policy Support*, 19 SOC'Y & NAT. RESOURCES 771 (2006) ("Numerous studies also show that perceived risk is a strong indic[a]tor of citizen willingness to pay the costs of climate change adaptation and mitigation.").

70. Endangerment Finding, *supra* note 3, at 66,497.

71. *Id.* at 66,498.

72. *Massachusetts v. EPA*, 549 U.S. at 519 (quoting Alfred L. Snapp & Son, Inc. v. Puerto Rico *ex rel.* Barez, 458 U.S. 592, 607 (1982)).

maintenance of its citizens' welfare against abuse from the federal government.[73]

With respect to the pro-EPA states, their showing under the *parens patriae* doctrine would track their showing under the previous theory that alleged state environmental interests. This is because the same interests that affect the state as a landowner would also affect the state's citizens. Several scholars have recently noted how states have invoked the *parens patriae* doctrine for authority to sue on behalf of their citizens in environmental litigation.[74] One example is *Connecticut v. American Electric Power Co.*, where the U.S. Court of Appeals for the Second Circuit ("Second Circuit") found that the states had alleged quasi-sovereign interests that satisfy standing requirements:

> [The States] are more than "nominal parties." Their interest in safeguarding the public health and their resources is an interest apart from any interest held by individual private entities. Their quasi-sovereign interests involving their concern for the "health and well-being—both physical and economic—of [their] residents in general" are classic examples of a state's quasi-sovereign interest. The States have alleged that the injuries resulting from carbon dioxide emissions will affect virtually their entire populations. Moreover, it is doubtful that individual plaintiffs filing a private suit could achieve complete relief.[75]

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73. *Massachusetts v. EPA*, 549 U.S. at 520. In his dissent, Chief Justice Roberts sharply criticized the majority for making up special standing requirements for states. *See id.* at 536–37 (Roberts, C.J., dissenting) ("Relaxing Article III standing requirements because asserted injuries are pressed by a State, however, has no basis in our jurisprudence . . . ."). He accused the majority of misunderstanding *Tennessee Copper*, 206 U.S. 230 (1907), which he believed upheld a state's right "to sue in a representative capacity as *parens patriae*," a right that is distinct from the requirements of standing. *Id.* at 538. He also rejected the suggestion that a state could show standing by suing on behalf of private parties in a situation where the private parties could not satisfy standing. *Id.* Justice Stevens defends his reliance on *Tennessee Copper* in a footnote, explaining how the decision "devotes an entire Part to chronicling the long development of cases permitting States 'to litigate as *parens patriae* to protect quasi-sovereign interests.' " *Id.* at 520 n.17 (majority opinion) (quoting RICHARD H. FALLON ET AL., HART AND WESCHSLER'S THE FEDERAL COURTS AND THE FEDERAL SYSTEM 290 (5th ed. 2003)). In a previous case, the Supreme Court seemed to explain that the state's promotion of quasi-sovereign interests as *parens patriae* would still need to satisfy standing requirements by being "sufficiently concrete to create an actual controversy between the State and the defendant." *Alfred L. Snapp & Son, Inc.*, 458 U.S. at 601–02. For the purposes of this discussion, this Note does not evaluate whether *parens patriae* requirements are, or should be, separate from standing requirements.

74. *See, e.g.*, Myrian Gilles & Gary Friedman, *After Class: Aggregate Litigation in the Wake of* ATT v. Concepcion, 79 U. CHI. L. REV. (forthcoming 2012) (pointing out the difficulty of maintaining environmental *parens patriae* litigation under stringent class-action jurisprudence); Gillian E. Metzger, *Federalism and Federal Agency Reform*, 111 COLUM. L. REV. 1, 63–64 (2011) (discussing the *parens patriae* holding in *Massachusetts v. EPA*).

75. Connecticut v. Am. Elec. Power Co., 582 F.3d 309, 338 (2d. Cir. 2009), *rev'd*, 131 S. Ct. 2527 (2011) (citations omitted).

The Supreme Court affirmed the Second Circuit's grant of standing by an equally divided court[76]—with four members holding that the states had satisfied standing and four holding that the states had not satisfied standing—and proceeded to discuss the case on its merits.[77] Hence, it is likely that these interests are sufficient to allow a pro-EPA state to sue in federal court, but it is still a disputed question.[78]

The con-EPA states may have a more difficult time justifying their presence in the litigation. In certain contexts, the Court has held that a state asserting an interest in the protection of the "health and welfare" of citizens cannot simply assert injury to its general economy.[79] This suggests that concern over industry costs, like concern over injury to the economy in general, might not pass muster if the state is hoping to satisfy standing by suing *parens patriae* for the general welfare of citizens. Whether such an interest alone should also qualify as an interest that "existing parties may not adequately represent" under the intervention inquiry is another question, especially given the involvement of well-organized parties, such as business or environmental groups.

### 3. Public Opinion and Politics

A third potential motivation for state intervention is based on the mechanics of entering a lawsuit. Generally, the state attorney general consults with the state governor to initiate a lawsuit or a motion to intervene.[80] Because these political actors are usually

76. Justice Sotomayor did not participate. Am. Elec. Power Co. v. Connecticut, 131 S. Ct. 2527, 2540 (2011).

77. *Id.* at 2535.

78. Justice Sotomayor was on the panel to hear *Connecticut v. Am. Elec. Power Co.* before she was elevated to the Supreme Court. Judges McLaughlin and Hall, who were in agreement, decided the case. Nonetheless, commentators expect that she would have sided with the affirming justices. *See* Lawrence Hurley, *Supreme Court Takes Up Climate 'Nuisance' Case*, N.Y. TIMES, Dec. 6, 2010, http://www.nytimes.com/gwire/2010/12/06/06greenwire-supreme-court-takes-up-climate-nuisance-case-71478.html ("Neither Sotomayor or Justice Elena Kagan was on the court then, but most experts would expect them to vote with the liberals.").

79. Milton Handler & Michael Blechmann, *Antitrust and the Consumer Interest: The Fallacy of* Parens Patriae *and a Suggested New Approach*, 85 YALE L.J. 626, 630–31 (1976); *see also* Hawaii v. Standard Oil Co. of Cal., 405 U.S. 251, 264 (1972). This rejected interest under the Clayton Act sounds strikingly similar to the interest that the con-EPA states allege in their petitions to intervene. *See* Petition of Nebraska et al., *supra* note 51, at 6–7. But, again, the standing requirement may be more difficult to satisfy than the requirement to intervene.

80. Solimine, *supra* note 10 (manuscript at 22).

elected,[81] they have an incentive to respond to the preferences of their constituents and their political party; they generally need the support of both to achieve reelection. Below is a brief overview of the implications of this broad political science theory on potential motivations behind state intervention in lawsuits.[82]

Public choice theorists have modeled rational politicians as responsive to the preferences of the median voter.[83] Some political scientists argue that this general incentive to be responsive to the majority's will may vary in strength, depending on how salient the issue is and how likely the politician is to know his constituents' preferences.[84] Because climate change is a prominent and controversial issue, constituents may be more likely to care and hold a strong opinion about how to confront it. According to this theory, even if an attorney general believes that the probability of climate change is zero, he would still support regulation that would mitigate the impact of climate change if the median voter supports such action. This theory suggests that the attorney general's climate change beliefs should not be a strong predictor of the decision to litigate and of the

81. The attorney general is elected in forty-three states, appointed by the governor in five states (Alaska, Hawaii, New Hampshire, New Jersey, and Wyoming), appointed by the legislature in one state (Maine), and appointed by the supreme court in one state (Tennessee). Lemos, *supra* note 11, at 701 n.8 (citing William P. Marshall, *Break Up the Presidency? Governors, State Attorneys General, and Lessons from the Divided Executive*, 115 YALE L.J. 2446, 2448 n.3 (2006)).

82. In this Section, I leave open the possibility that some attorney general-initiated intervention may be appropriate. I note, however, that some scholars have argued that a lawsuit initiated by a state attorney general on behalf of the state's citizens could be inappropriate. *See* Solimine, *supra* note 10 (manuscript at 6); *see also* Timothy Meyer, *Federalism and Accountability: State Attorneys General, Regulatory Litigation, and the New Federalism*, 95 CALIF. L. REV. 885, 886 (2007) (discussing how state attorneys general have used litigation to inappropriately "become a regulatory force at the national level"); Gilles & Friedman, *supra* note 74 (manuscript at 5) (predicting that state attorneys general will make broader use of their *parens patriae* authority to represent the interests of their citizens in cases that used to be brought as class actions, given the Court's decisions in *Wal-Mart v. Dukes*, 131 S. Ct. 2541 (2011), and especially in *AT&T Mobility v. Concepcion*, 131 S. Ct. 1740 (2011)).

83. *See, e.g.*, Jason Bell et al., *Voter-Weighted Environmental Preferences*, 28 J. POL'Y ANALYSIS & MGMT. 655, 656 (2009) ("Overall societal preferences are pertinent for social welfare calculations, but it is the preferences of people who vote that influence the representatives who are elected and the policies they support."); Duncan Black, *On the Rationale of Group Decision-Making*, 56 J. POL. ECON. 23, 28 (1948) (calculating that preference for the "median optimum" results in at least a simple majority vote); Sam Peltzman, *Constituent Interest and Congressional Voting*, 27 J.L. & ECON. 181, 210 (1984) (concluding that constituents' interests may better explain a politician's position on certain issues than ideology).

84. See Jeffrey R. Lax & Justin H. Phillips, Explaining Democratic Performance in the States 7 (June 29, 2009) (unpublished meeting paper), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1450964, for a general discussion of how salience and other factors may affect a politician's incentive to be responsive.

position taken in the litigation. This theory instead suggests that if the median voter's preferences are (rationally) influenced by risk levels and increased costs, then the attorney general's decision to litigate would also be influenced by risk levels and costs.[85] The public choice theory lends support to the relevance of public opinion measures and climate change risk variables in the attorney general's decision to support or challenge the EPA's regulations.

In order to have a successful run for reelection, the state attorney general may also be sensitive to the preferences of his political party.[86] Affiliation with a major political party provides the politician with access to the party's fundraising and campaign resources, and when the preferences of the median voter are unknown, the stance of the political party may be especially influential. Many political scientists have found that individuals often hold inconsistent or poorly defined opinions on many issues, regardless of the salience of the issues.[87] These kinds of voters may use the politician's political affiliation as a shortcut for ascertaining whether the politician holds similar views—and when the politician runs afoul of the party, the voters may be more likely to know about it through the mouthpiece of the party. Either way, this aspect of the theory suggests that the attorney general's political affiliation may be an important driver behind the state's decision to support or to challenge the EPA's regulations.[88]

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85. As in, I think that the costs and benefits of mitigation policy could be relevant. Some scholars worry, however, that increased attention to these costs and benefits could entrench and mobilize beneficiaries of climate change itself. *See* J.B. Ruhl, *What Should We Do About the Climate Change Winners?* 12–13 (Vanderbilt Univ. Law Sch. Pub. Law & Legal Theory, Working Paper No. 11-30, 2012), *available at* http://ssrn.com/abstract=1953928 (summarizing the argument that policymakers should "focus principally on cost-effective measures to stabilize climate without regard to the impact . . . on the sub-national distribution of climate change benefits"). *See* discussion *infra* Part IV.B.

86. *See, e.g.*, Lemos, *supra* note 11, at 722 (citing Richard A. Posner, *Federalism and the Enforcement of Antitrust Laws by State Attorneys General*, *in* COMPETITION LAWS IN CONFLICT: ANTITRUST JURISDICTION IN THE GLOBAL ECONOMY 252, 257–60 (Richard A. Epstein & Michael S. Greve eds., 2004) for the argument that state attorneys general are focused primarily on promoting their political careers, but responding that "the critique is almost certainly overstated").

87. *See, e.g.*, Philip E. Converse, *Nonattitudes and American Public Opinion: Comment: The Status of Nonattitudes*, 68 AM. POL. SCI. REV. 650, 650–51 (1974) (finding that a percentage of respondents haphazardly answered questions on a variety of issues).

88. Potential support for this theory could come from the examples of Arizona and Pennsylvania. Both states are in my dataset as states that entered the litigation in support of the EPA. After a change in the attorney general (and his affiliation) in Arizona and a change in the governor (and his affiliation) in Pennsylvania, both states dropped out of the litigation. *See* discussion *supra* note 59.

Finally, attorneys general, like other politicians, may be influenced by interest groups such as big industry that provide substantial support to the politicians or the political party.[89] This theory suggests that industry preferences would be strongly associated with the state's decision to enter litigation, and, if so, its decision on what side to support. Industry preferences are unlikely to align with the EPA's actions because carbon dioxide regulations threaten an increase in industry costs. Under such regulations, industries would have to comply with permitting requirements and install specific technologies to minimize their greenhouse gas emissions. Hence, according to this theory, states with stronger industry interests would have a higher probability of entering the litigation to challenge the EPA.

### *C. Previous Work on Climate Attitudes and Geography*

Much of the analysis section of this Note builds on the work of two groups of researchers that have analyzed the connections between climate change vulnerability, the cost of controlling carbon dioxide emissions, and policy support. The first group, led by sociologist Sammy Zahran, found that the extent to which citizens feel personally threatened by climate change drives support for climate change mitigation policies.[90] Meanwhile, economists Michael I. Cragg and Matthew E. Kahn found that legislative representatives from conservative, poor areas with higher per-capita carbon emissions have much lower probabilities of voting in favor of climate change mitigation policies, which are likely to impose high costs on carbon emitters.[91] I describe this previous research below.

Zahran et al. investigated the motivations underlying the attitudes of individuals toward climate change mitigation policies.[92] Previous studies analyzed correlations between an individual's willingness to support climate change mitigation policies with his or

89. For example, numerous economists and political scientists have studied the relationship between campaign contributions and representative voting behavior. *See generally* Stephen Ansolabehere, John M. de Figueiredo & James M. Snyder Jr., *Why is There so Little Money in U.S. Politics*, 17 J. ECON. PERSP. 105 (2003) (surveying some of this literature).

90. Zahran et al., *supra* note 69, at 772.

91. Michael I. Cragg & Matthew E. Kahn, *Carbon Geography: The Political Economy of Congressional Support for Legislation Intended to Mitigate Greenhouse Gas Production* 13 (Nat'l Bureau of Econ. Research, Working Paper No. 14,963, 2009), *available at* http://www.nber.org/papers/w14963.

92. Zahran et al., *supra* note 69, at 772.

her socioeconomic characteristics.[93] Those studies have generally found that income and education are positively associated with climate change beliefs.[94] In their analysis, Zahran et al. also included data measuring the degree to which individuals are physically at risk from possible negative effects of climate change.[95] Specifically, they included variables capturing the individual's perceived and objective climate change risks and the individual's state's total carbon dioxide emissions.[96] The authors found that the higher an individual perceives the risk of climate change, the more likely he or she is to support climate change mitigation policies.[97] Similarly, individuals that live in areas with more salient climate change risks—areas undergoing temperature changes or facing extreme weather events—are also significantly more likely to support costly climate change mitigation efforts.[98]

The authors found that those living within a mile of a coastline, however, are actually *less likely* to support climate change mitigation policies—contra to the authors' predictions.[99] And, not surprisingly, individuals living in states with high carbon dioxide emissions are less likely to support costly climate change mitigation policies.[100] This research demonstrated the importance of local geography and also suggested that the political and socioeconomic characteristics of the region at large are influential on a person's attitudes.

Economists Cragg and Kahn, in contrast, analyzed the motivations underlying the voting behavior of policymakers on carbon

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93. *Id.*

94. *See, e.g.*, ANTHONY LEISEROWITZ ET AL., GLOBAL WARMING'S SIX AMERICAS IN MAY 2011, at 52 (2011), *available at* http://environment.yale.edu/climate/files/SixAmericasMay2011.pdf (finding the greater the household income the more likely a participant was to be concerned about the effects of climate change); Joni Hersch & W. Kip Viscusi, *Allocating Responsibility for the Failure of Global Warming Policies*, 155 U. PA. L. REV. 1657, 1675 (2007) (empirically evaluating individual beliefs about climate change and policy preferences in Europe).

95. Zahran et al., *supra* note 69, at 772.

96. For example, the authors included variables that indicated whether an individual is within a mile of a coastline, whether an individual lives in an area undergoing statistically significant changes in temperature, and whether an individual lives in an area with higher frequencies of natural disasters and extreme weather events. *Id.* at 780.

97. *Id.* at 781.

98. *Id.* at 782.

99. *Id.* at 783 ("This finding does not bode well for policy advocates of climate change mitigation because individuals at greatest risk of inundation are among the least willing to absorb the costs of reform."). Similarly, this Note finds that states with a seacoast are less likely to support greenhouse gas regulation. *See* discussion *infra* Part III.

100. *Id.*

dioxide regulation.[101] They found that the anticipated costs of climate change mitigation policies, which seem to disproportionally affect conservative and poor areas of the United States, are statistically significantly related to congressional voting patterns.[102] Representatives from carbon dioxide-intensive areas are less likely to vote for climate change mitigation legislation.[103] The authors predict that the "existing carbon geography, voting preferences, and the distribution of income" will result in political deadlock, unless policymakers design a legislation in which "winners compensate losers," for example.[104]

This Note explores similar motivations behind states' "attitudes" on climate change. Our system of government is far from a direct democracy, and the connection between state policy choices and citizens' preferences can be tenuous. One of the goals of this Note is to empirically separate a few of the theoretically supported, but potentially conflicting, motivations for state intervention, as previously described, and to determine which of them are actually associated with the states' positions in the ongoing greenhouse gas litigation.

## II. DATASET AND EMPIRICAL SPECIFICATION

### *A. Constructing the Dataset*

To analyze state motivations, I compiled data from multiple sources, including reports, surveys, and government datasets, to generate relevant variables. My outcome (or dependent) variables are whether the state decided to intervene in the greenhouse gas litigation and, if so, whether it intervened in support of or in opposition to the EPA. This Section describes the independent variables that I use in the main analysis. I also created a series of other variables to use in sensitivity analyses to ensure that the main qualitative results are robust. In order to make this Section clear and accessible, I describe only the main variables in the text and leave the descriptions of other

101. Cragg & Kahn, *supra* note 91, at 3.
102. *Id.*
103. *Id.* at 13.
104. *Id.* at 18–19.

variables—and their effects on my conclusions—for the footnotes and the Appendix.[105]

### 1. Climate Change Risk Measures

I account for the different state climate change risks with three variables in the main analysis: (1) an indicator for whether the state has a seacoast; (2) a variable representing the contribution of the "crop and animal production" (farming) industry to state gross domestic product ("GDP"); and (3) a variable that indicates the average latitude for each state.[106] The first variable is equal to 1 if the state has a seacoast and equal to 0 if otherwise.[107] The risks of climate change on coastal areas are well documented,[108] and "[o]bserved sea level rise is already increasing the risk of storm surge and flooding in some coastal areas."[109] Therefore, of all risks, I predict the risks to seacoast property from climate change to be most salient to state policymakers. I also create a variable that denotes the contribution of the farming industry to state GDP, using 2008 data from the Bureau of Economic Analysis.[110] While acknowledging that the data on risks to the agricultural sector is more probabilistic, the EPA concluded that "[t]he body of evidence points towards [an] increasing risk of net adverse impacts on U.S. food production and agriculture over time, with the potential for significant disruptions and crop failure in the future."[111] While the other two variables pick up objective risks, the third variable—average state latitude—may pick up perceived risks of climate change. Some studies have shown that residents of colder and

105. *See* Lee Epstein et al., *On the Effective Communication of the Results of Empirical Studies, Part I*, 59 VAND. L. REV. 1811, 1851 (2006) (encouraging researchers to eliminate irrelevant or distracting numbers from their displays).

106. In robustness checks, I create other variables that capture the risk of climate change. Inclusion of these other variables does not change my qualitative conclusions. *See* the Appendix.

107. In all specifications, I include regional dummies for the South, West, Northeast, and Midwest to ensure that the seacoast variable is not driven by the southern states. The coefficients for the regional variables are generally insignificant and do not otherwise affect my qualitative conclusions.

108. Endangerment Finding, *supra* note 3, at 66,498 ("The evidence concerning adverse impacts in the areas of water resources and sea level rise and coastal areas provides the clearest and strongest support for an endangerment finding, both for current and future generations.").

109. *Id.*

110. *Gross Domestic Product By State*, BUREAU OF ECON. ANALYSIS, U.S. DEP'T OF COMMERCE, http://www.bea.gov/regional/gsp/ (last updated Sept. 29, 2011).

111. Endangerment Finding, *supra* note 3, at 66,498. In robustness checks, I use another measure of agricultural risks that takes into account variable impacts in different states. *See* the Appendix.

wetter areas do not perceive the risks of climate change to be as bad as do residents of warmer and drier areas.[112] The average latitude could proxy for these perceived differences because temperatures tend to decrease as latitude increases.[113] According to summary statistics, reported in Table 2, the states supporting the EPA are more likely to have a seacoast, are farther north, and derive less of their state GDP from farming as compared to both states challenging the EPA and states abstaining from the litigation.

### 2. Carbon Dioxide Emissions

A state's carbon dioxide emissions represent the direct costs of the permit regulation, because the more carbon dioxide-emitting major sources a state has, the more permits the state must issue.[114] In addition, the states will eventually have to determine best-available control technologies for greenhouse gas emissions for new sources and modified emissions units under the Title V program.[115] Once the states implement the carbon dioxide permitting plans and determine best-available control technologies, carbon-emitting industries will also face compliance costs.[116] Hence, carbon dioxide emissions represent the perceived present and future costs of the EPA stationary-source regulation for the states and industries within the states. To capture these perceived costs, I use the 2007 emission rate by state in the main analysis.[117] According to Table 2, states supporting the EPA

112. *See, e.g.*, Jean P. Palutikof, Maureen D. Agnew & Mark R. Hoar, *Public Perceptions of Unusually Warm Weather in the UK: Impacts, Responses and Adaptations*, 26 CLIMATE RES. 43, 57 (2004).

113. But note that this perception is not necessarily true, as some studies have predicted negative climate change impacts in some northern latitudes. *See, e.g.*, Tiffany Stecker, *Climate Change May Impair the Food Production of High-Latitude Countries*, CLIMATEWIRE, Dec. 6, 2011, *available at* http://www.eenews.net/climatewire/2011/12/06/3.

114. It is possible that more permits might not translate to increased costs; one complex permit might equal a few simpler ones. Nonetheless, the state implementation agencies perceive such costs to be linear in the amount of permits. *See* Tailoring Rule, *supra* note 6 (discussing the average expense per permit issued).

115. The EPA has already released a guidance document with its policies and recommendations for state implementation agencies issuing permits to new stationary sources under the Title V program. *See* AIR QUALITY POLICY DIV., U.S. ENVTL. PROT. AGENCY, EPA-457/B-11-001, PSD AND TITLE V PERMITTING GUIDANCE FOR GREENHOUSE GASES 17–46 (2011), *available at* http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf.

116. It is possible that future best-available control technology requirements may produce net cost savings to the regulated firms; nonetheless, I do not think that this is the common perception among these industries, especially if they were not subject to regulation before.

117. *eGRID2010 Version 1.1 Year 2007 Summary Tables*, U.S. ENVTL. PROT. AGENCY (May 2011),

have the lowest carbon dioxide emission rate, while states abstaining from the litigation have an emission rate that is slightly higher than the emission rate of states challenging the EPA.

### 3. Public Opinion

Because no reliable survey data on residents' attitudes toward climate change by state is available,[118] I use an indicator of general support for environmental policy goals in the main analysis.[119] Specifically, I use the proportion of self-described environmentalists in each state, as measured by a representative national survey of 5,213 respondents.[120] This measure is meant to capture whether the state is environmentalist friendly in general.[121] I also create a variable that reports how often "climate change" appears in local newspapers in 2001, using the Factiva database in order to identify states that devote greater attention to this issue. According to Table 2, states supporting the EPA have the highest proportion of self-described environmentalists and the greatest mention of climate change in local newspapers.

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http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2010V1_1_year07_SummaryTables.pdf. Using a different measure for the state carbon dioxide emissions does not change the qualitative results. See the Appendix for sensitivity analyses.

118. There is a lot of information about national climate change attitudes, however. *See, e.g.*, Thomas E. Curry & Howard Herzog, *A Survey of Public Attitudes towards Climate Change and Climate* (Mass. Inst. Tech. Lab. for Energy & the Env't, Working Paper No. 2007-01, 2007), *available at* http://sequestration.mit.edu/pdf/LFEE_2007_01_WP.pdf.

119. In fact, I create alternative measures for public support for the greenhouse gas permit requirements in order to convince the reader that my results are robust regardless of my choice of public opinion indicator. The coefficients on these public opinion proxies are never significant in the regressions. See the Appendix for a discussion of all of these variables.

120. W. Kip Viscusi et al., *National Drinking Water Survey of Households*, KNOWLEDGE NETWORKS (2008). The Knowledge Networks ("KN") panel is based on probability sampling of both online and offline populations, providing the necessary hardware and Internet access if a respondent does not have access to a computer or the Internet. For more information about the KN National Drinking Water Survey, *supra*, see W. Kip Viscusi et al., *Discontinuous Behavioral Responses to Recycling Laws and Plastic Water Bottle Deposits*, 14 AM. L. & ECON. REV. (forthcoming 2012).

121. Of course, the preferences of the voting population within the state are the truly influential preferences, but as long as the proportion of environmentalists that vote is similar across states, the variable will pick up relevant state differences in environmental preferences. On the national level, scholars have found that those who vote tend to have higher environmental valuations than those who do not vote. *See* Bell et al., *supra* note 83, at 667 (finding this result with respect to public valuation of national water quality levels).

### 4. Demographic Variables

Scholars have identified the existence of a Kuznets curve for environmental quality tastes.[122] Essentially, the curve represents the hypothesis that as citizens' incomes increase, they care more about environmental quality.[123] To control for this effect, I include GDP by state from the Bureau of Economic Analysis in the main analysis.[124] According to Table 2, states supporting the EPA have the highest GDP per capita.

In addition, to ensure that the seacoast variable is not driven by regional preferences associated with the South, I control for region (Northeast, South, West, and Midwest) in all specifications. The region variable picks up the unobserved characteristics of states that vary by region. According to Table 2, a plurality of states supporting the EPA are from the Northeast, while a majority of states challenging the EPA are from the South.

### 5. Political Measures

Because the state attorney general, in consultation with the governor, typically decides whether to intervene in litigation,[125] I use the state attorney general's political affiliation at the start of 2010 (when states submitted petitions for intervention).[126] I also indicate whether the state was a "blue" state or a "red" state in the 2008 presidential election in my main analysis. Blue states went to the

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122. *See, e.g.*, WORLD BANK, WORLD DEVELOPMENT REPORT 1992: DEVELOPMENT AND THE ENVIRONMENT (1992), *available at* http://wdronline.worldbank.org//worldbank/a/c.html/world_development_report_1992/chapter_1_development_environment_false_dichotomy ("As incomes rise, the demand for improvements in environmental quality will increase, as will the resources available for investment."); Sjak Smulders et al., *Economic Growth and the Diffusion of Clean Technologies: Explaining Environmental Kuznets Curves*, 49 ENVTL. & RESOURCE ECON. 79, 80 (2011) ("Literature . . . has generated a wealth of insights, providing evidence for the existence of the [environmental Kuznets curve], in particular for short-lived regional air and water pollutants.").

123. But there is dispute about whether the Kuznets curve exists for carbon dioxide. For example, the United States, one of the richest countries in the world, has not passed comprehensive greenhouse gas regulations by statute.

124. *Gross Domestic Product By State*, *supra* note 110. In sensitivity analyses, I also account for state education; the inclusion of this variable does not change the qualitative results of interest. *See* the Appendix.

125. Accordingly, the state attorney general is listed as bringing the lawsuit on most of the petitions in this litigation. *See, e.g.*, Petition of Massachusetts et al., *supra* note 50; Petition of Nebraska et al., *supra* note 51.

126. As a robustness check, I also include a variable for the governor's political affiliation. *See* the Appendix.

Democratic candidate for President, then-Senator Barack Obama, and red states went to the Republican candidate, Senator John McCain, in the 2008 presidential election.[127] According to Table 2, the vast majority of states supporting the EPA are blue states and many have a Democratic attorney general, while states challenging the EPA are predominantly red states and have a Republican attorney general.

127. In sensitivity analyses, I also use the Democrat-minus-Republican voting gap in the 2008 election, which represents the strength of the state's political preference toward the Democratic Party. It allows me to distinguish states that just barely went blue, for example, in the 2008 election. *See* the Appendix.

**TABLE 2. SUMMARY STATISTICS FOR VARIABLE CONSTRUCTS.**

| Independent Variables | Pro-EPA States (19 states) Mean (Std. dev.) | Con-EPA States (18 states) Mean (Std. dev.) | Neutral States (13 states) Mean (Std. dev.) |
|---|---|---|---|
| *Carbon Dioxide Emissions* | | | |
| Carbon dioxide output emission rate (lb/MWh) (2007) | 1,003 (530) | 1,463 (381) | 1,476 (566) |
| *Public Opinion* | | | |
| Proportion self-described environmentalists | 0.46 (0.05) | 0.37 (0.08) | 0.40 (0.06) |
| News visibility | 152 (218) | 112 (124) | 103 (105) |
| *Climate Change Risk Measures* | | | |
| State has a seacoast | 0.63 (0.50) | 0.56 (0.51) | 0.08 (0.28) |
| Average state latitude | 41.01 (3.79) | 37.34 (8.75) | 40.19 (3.48) |
| Proportion state GDP from farming (2008) | 0.01 (0.01) | 0.02 (0.03) | 0.02 (0.02) |
| *Demographic Variables* | | | |
| GDP per capita (2008) | 39,920 (6,942) | 34,087 (4,997) | 34,489 (5,862) |
| Northeast | 0.42 | 0.00 | 0.08 |
| South | 0.16 | 0.56 | 0.31 |
| West | 0.26 | 0.17 | 0.23 |
| Midwest | 0.16 | 0.28 | 0.38 |
| *Political Measures* | | | |
| Democratic attorney general (2008) | 0.84 (0.37) | 0.28 (0.46) | 0.77 (0.44) |
| Obama won state in 2008 (blue state) | 0.95 (0.23) | 0.28 (0.46) | 0.43 (0.51) |

### B. Empirical Specifications

I split my analysis into two sections. First, I analyze which factors correlate with states joining the litigation as opposed to remaining neutral. Then, I analyze the factors that correlate with the states' decisions of whether to be pro-EPA or con-EPA, suggesting the motivations behind picking sides in the litigation.

In the first analysis, I use a probit regression—that is, a binary dependent variable model that produces maximum likelihood estimates for the coefficients on independent variables—where all the coefficients have been transformed to reflect the marginal effects on the probability of entering the litigation.[128] In this model, the dependent variable is equal to 1 if the state joined the litigation (on either side of the dispute) and equal to 0 if otherwise. The independent variables are those variables that are likely to influence the state's decision to join the litigation.

The media has discussed one possible motivation for state involvement: politics.[129] If the disputes over the EPA's regulations come down to politics alone, then the attorney general with the most to gain from entering the litigation is the one whose own political affiliation matches the state's political affiliation. Meanwhile, the states in which the two affiliations do not match are likely to stay out of the controversy. To test this hypothesis, I interact a binary variable that indicates when the state attorney general is a Democrat (*AG Dem*) with the blue-state indicator (*Blue State*). If the coefficient on the interaction term, $\beta_4$, is positive and statistically significant, then matching attorney general and state affiliation is associated with a higher probability of entering the litigation.

Alternatively, the decision could be a mixture of both politics and cost concerns. Here, I assume that Democrats are more likely to support climate change mitigation regulations but that industry constituents are not likely to support the regulations.[130] Hence, as industry constituents are more important (represented by the intensity of greenhouse gas emissions in the state), the conflicting influences make it more difficult to enter the litigation on one side. Accordingly, states with a Democrat as the attorney general and with

128. Coefficient estimates were calculated using the command "dprobit" in the econometric software Stata. I could have used a linear probability model instead without any difference in qualitative results.

129. Nelson, *supra* note 8.

130. This is not a strong assumption. *See* discussion *infra* Part IV.

a high carbon dioxide emission rate would be especially likely to stay out of the litigation, and vice versa. Hence, I interact the variable that indicates that the state attorney general is a Democrat with a variable that indicates that the carbon dioxide emission rate is below the national average (*Low EMR*). I also interact the blue-state indicator with the low emission rate variable for similar reasons. If the coefficients on these interaction terms, $\beta_5$ and $\beta_6$, are positive and significant, then matching political affiliations and cost incentives are associated with a higher probability of entering the litigation.

As a third possibility, I hypothesize that states whose local newspapers publish more news articles about climate change are more likely to enter the litigation (*News Visibility*). The greater attention to climate change issues might indicate public salience of the regulations and possible public demand for state action. Finally, I include a vector of other controls (*Other Controls*), such as the state's GDP per capita and the region. Below, I present this empirical specification:

$$\begin{aligned}\Pr(Enter\ Litigation = 1) &= \Phi[\beta_0 + \beta_1(AG\ Dem) + \beta_2(Blue\ State) + \beta_3(Low\ EMR) \\ &+ \beta_4(AG\ Dem * Blue\ State) + \beta_5(AG\ Dem * Low\ EMR) \\ &+ \beta_6(Blue\ State * Low\ EMR) + \beta_7(News\ Visibility) + (Other\ Controls)\gamma + \varepsilon]\end{aligned}$$

In the second step of the analysis, I employ a linear probability model using ordinary least squares ("OLS") regressions to demonstrate the contribution of various factors on the state's decision to enter the litigation on a particular side.[131] I model the decisions to intervene in the lawsuit on a particular side using three different dependent variables. The first variable (*Pro-EPA*) is equal to 1 if the state entered the litigation in support of the EPA's regulations and equal to 0 if otherwise. The second variable (*Con-EPA*) is equal to 1 if the state entered the litigation to challenge the EPA's regulations and equal to 0 if otherwise. Finally, the *Adjusted Pro-EPA* variable is equal to 1 if the state entered the litigation in support of the EPA's regulations and equal to 0 if the state entered the litigation to challenge the EPA's regulations, omitting the neutral states. This allows me to analyze the decision to pick a side conditional on entering the dispute in the first place. I split the data in three ways to give

131. I use a linear probability model in order to keep independent variables that predict the outcome variable perfectly under certain groupings. For the variables that remain, the results using probit regression are qualitatively the same.

readers a better sense of how the states divided in their decisions.[132] The independent variables of interest are the political affiliation of the state attorney general (*AG Dem*), an indicator of the state's overall political affiliation (*Blue State*), the carbon dioxide emission rate (*CO2 EMR*), an indicator for whether the state has a seacoast (*Seacoast*), the proportion of the state's GDP that is attributed to farming (*Farming GDP*), the state's average latitude (*Latitude*), the proportion of self-described environmentalists in the state (*Environmentalists*), and a vector of other controls (*Other Controls*), such as the state's GDP per capita and the region. As a representative example, I present the Pro-EPA empirical specification:

$$Pro-EPA = \beta_0 + \beta_1(AG\ Dem) + \beta_2(Blue\ State) + \beta_3(CO2\ EMR) + \beta_4(Seacoast) + \beta_5(Farming\ GDP) + \beta_6(Latitude) + \beta_7(Environmentalists) + (Other\ Controls)\gamma + \varepsilon$$

## III. RESULTS

### *A. Choice to Intervene*

Table 3 presents the results for the factors that correlate with a state's initial decision to intervene in the litigation. The results show that states with a Democratic attorney general are less likely to enter the greenhouse gas litigation, statistically significant at the one percent level. Nonetheless, a Democratic attorney general in a blue state is more likely to enter the litigation, statistically significant at the ten percent level. Furthermore, states with matching political and cost incentives are somewhat more likely to enter the litigation, but this result is not statistically significant. Finally, news visibility is not associated with an increased likelihood of entering the litigation.

132. Generally, a multinomial logit model is preferred when there are three outcomes (pro-EPA, con-EPA, and neutral), but the coefficients on such a model are not intuitive and more difficult to interpret. I use OLS regressions in order to make the analysis more accessible to readers. *See* Epstein et al., *supra* note 105, at 1814–15 (discussing the importance of presenting empirical data in a way that is easy for readers to understand). The use of OLS regressions does not change the qualitative results of the Note.

**TABLE 3. PROBIT INTERVENTION REGRESSION.**

| Independent Variables | Entered GHG Litigation |
|---|---|
| Democratic attorney general | -0.497*** |
| | (0.162) |
| Blue state in 2008 | -0.135 |
| | (0.193) |
| Low carbon dioxide emission rate | -0.039 |
| | (0.235) |
| News visibility, divided by 1,000 | -0.065 |
| | (0.365) |
| Interaction: Democratic attorney general * Blue state | 0.393* |
| | (0.213) |
| Interaction: Democratic attorney general * Low carbon dioxide emission rate | 0.177 |
| | (0.223) |
| Interaction: Blue state * Low carbon dioxide emission rate | 0.085 |
| | (0.299) |
| Observations | 50 |

NOTES. Robust standard errors are in parenthesis. Probit coefficients have been transformed to reflect the marginal effects on the probability of intervention. See Table 2 for definitions of variables. Demographic variables included in the equations but not reported are state GDP per capita and regional controls for Northeast, South, and West (with Midwest as the omitted category). The coefficients on these variables are not statistically significant.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

This brief analysis, focusing on the commonalities between states that enter the litigation regardless of the side, suggests that politics might be an important factor in the states' decisions to litigate. In the next Section, I explore this hypothesis while controlling for various other potential determinants of a state's decision to pick a side in the litigation.

### *B. Picking Sides*

In this Section, I analyze the states' decisions to enter the litigation either in support of or against the EPA's regulations. The dependent variables, discussed in Part II, are whether the state entered pro-EPA, whether the state entered con-EPA, and whether the state entered pro-EPA excluding the neutral states.

TABLE 4. PICKING SIDES OLS REGRESSION.

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Democratic attorney general | 0.327*** | -0.500*** | 0.404*** |
| | (0.118) | (0.097) | (0.123) |
| Blue state in 2008 | 0.529*** | -0.257 | 0.590*** |
| | (0.169) | (0.161) | (0.193) |
| Carbon dioxide emission rate, divided by 1,000 | -0.165 | 0.164 | -0.207* |
| | (0.117) | (0.135) | (0.116) |
| State has a seacoast | 0.029 | 0.417** | -0.240 |
| | (0.151) | (0.170) | (0.177) |
| Proportion state GDP from farming, multiplied by 10 | 0.410 | 0.167 | 0.317 |
| | (0.248) | (0.296) | (0.317) |
| Average state latitude | 0.009 | -0.008 | 0.009 |
| | (0.010) | (0.010) | (0.010) |
| Proportion self-described environmentalists | -0.298 | -0.793 | -0.802 |
| | (0.739) | (0.909) | (0.863) |
| GDP per capita, divided by 10,000 | 0.069 | -0.093 | 0.152* |
| | (0.092) | (0.070) | (0.076) |
| Constant | -0.588 | 1.456** | -0.531 |
| | (0.520) | (0.563) | (0.475) |
| Observations | 50 | 50 | 37 |
| R-squared | 0.589 | 0.652 | 0.792 |

NOTES. Robust standard errors are in parenthesis. See Table 2 for definitions of variables. Regional controls for Northeast, South, and West are included but not reported, with Midwest as the omitted category. The coefficients on the regional controls are not statistically significant.

* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

The results indicate that state political affiliation matters. States with a Democratic attorney general are statistically significantly more likely to enter the litigation in support of the EPA, while states with a Republican attorney general are less likely to support the EPA.[133] In addition, in specifications (1) and (3), I find

133. This follows because the indicator for a Republican attorney general is essentially the inverse of the indicator for a Democratic attorney general. Hence, the coefficient is exactly the same, but negative, when I instead use the Republican attorney general indicator in the analysis. See the Appendix for sensitivity analyses using the state governor's political affiliation.

that states that voted for President Obama in the 2008 presidential election are also more likely to enter the litigation in support of the EPA, even when controlling for the affiliation of the state attorney general.[134] Despite the strong influence of politics, the coefficient on the carbon dioxide emission rate is also statistically significant at the ten percent level in specification (3). That is, among the states that entered the litigation, those with a higher carbon dioxide emission rate are significantly less likely to enter the litigation in support of the EPA, even controlling for the state attorney general's political affiliation and the state's vote in the 2008 presidential election.[135] It seems that the carbon dioxide emission rate exerts a separate, but less robust, influence on top of the political affiliation variables.

Perhaps surprisingly, the proxy for the strength of the state's citizens' tendency to support environmental policy goals is largely insignificant.[136] Similarly, indicators of the level of risk that the state might face should climate change occur are largely insignificant. In the one instance when the coefficient on a risk indicator is statistically significant (specification (2)), it is significant in the direction *opposite* my predictions. The results show that a state with a seacoast is associated with about a 0.42 higher probability of challenging the EPA's greenhouse gas regulations, even when controlling for region (Northeast, South, Midwest, and West). Zahran et al. find a similar counterintuitive result for seacoasts.[137]

Finally, according to Table 4, among the states that entered the litigation, those with higher GDP per capita are statistically significantly more likely to enter the litigation to support the EPA.[138]

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134. This also means that states that went to Senator McCain in the 2008 election (red states) were less likely to enter the litigation in support of the EPA. This is because the indicator for blue states is the inverse of the indicator for red states. Hence, the coefficient is exactly the same, but negative, when I use the red-state indicator in the analysis.

135. I also use the average emissions rate per capita. The results are largely the same, albeit not statistically significant in some specifications. *See* the Appendix.

136. This result holds even when I use a variable for the response to a survey question specifically on support for carbon dioxide regulation, an index that averages polling questions on environmental policies, the local news visibility of climate change articles, the percent of the public voting for Ralph Nader in 2000, and the proportion of the residents that are members of environmental organizations; the result is not sensitive to my choice of variable for my main analysis. *See* the Appendix. Nonetheless, to the extent that climate change attitudes are correlated with political affiliation, the politics variables could pick up some of the influence of public opinion. I discuss this possibility *infra* in Part IV.A.2.

137. Zahran et al., supra 69, at 783; *see also* discussion *supra* note 99.

138. As income increases, individuals can invest more attention to issues such as the environment. *See, e.g.*, Hersch & Viscusi, *supra* note 94, at 1680 (noting that individuals' willingness to contribute financially to environmental efforts tracks income level).

This result is consistent with studies on individual environmental attitudes.[139]

## IV. DISCUSSION

### *A. Politics as Usual: Now What?*

Politics matter. A state attorney general's political affiliation—as well as the state's political affiliation—primarily drives the state's decision to enter the greenhouse gas litigation.[140] The coefficients on these variables are statistically significant in all specifications. In contrast, the other coefficients either are not consistently statistically significant or are statistically significant in the direction opposite of my predictions. Potential future costs do not seem to have an effect separate from that of politics. Measures of risks due to climate change—whether the state has a seacoast and the proportion of state GDP attributed to farming—have no consistent effect on a state's decision to intervene. In fact, in a few specifications, a higher risk of damages from climate change is associated with a higher likelihood to enter the litigation against the EPA's position, even after controlling for politics and potential future costs, among other things.

The results are certainly unexpected given the Supreme Court's representation of the states' reasons for involvement in *Massachusetts v. EPA*.[141] Those stated reasons may have been sufficient to establish standing, but the implications of actual political motivations are normatively relevant because state intervention may influence the progression of the greenhouse gas cases.[142] Two questions guide this analysis: (1) What does the influence of politics mean; and (2) what jurisprudential weight should courts place on

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139. *Id.*

140. The results of this analysis could also hold when states intervene in other litigation, not just in greenhouse gas litigation. Interestingly, one empirical analysis of participation rates in multistate consumer protection litigation found that the attorneys general "do not regulate strictly along party lines." Provost, *supra* note 21, at 615. I leave open the question of how the importance of politics varies along different types of litigation for future analysis and focus on the implications for greenhouse gas litigation.

141. *See* discussion *supra* Part I.

142. *See supra* notes 11–15 and accompanying text. Some scholars, such as Professor Hari Osofsky, believe that—because climate change presents a governance-scale challenge—intergovernmental litigation is appropriate and necessary. Hari M. Osofsky, *The Continuing Importance of Climate Change Litigation*, 1 CLIMATE L. 3, 15 (2010). There is room for disagreement as to the utility of state involvement based on this Note's findings regarding the states' underlying motivations.

state involvement in greenhouse gas litigation? Of course, the answer to the first question affects how we think about the second question. In this Part, I argue that the answers to these questions raise concerns about the political motivations behind state decisions to intervene.

### 1. Politics as . . . Politics

The analysis shows that political reasons drive the states' decisions to intervene in the greenhouse gas litigation, a result that some might find unsurprising.[143] The robust influence of politics could stem from the nature of climate change risks—characterized by some low probability catastrophic events and much uncertainty—that make the issue conducive for political takeover.[144] To some, the result might also suggest that political battles—instead of legal ones—will play out in the courtroom.[145] If states' involvement affects the course of the litigation, then it is worthwhile to consider whether the involvement is appropriate. If the underlying issues necessitate more political balancing than legal interpretation, then the resolution of these issues in the courtroom may be undesirable. The Supreme Court has consistently held that political battles do not belong in a judicial forum. The Court has reasoned that "[t]he responsibilities for assessing the wisdom of such policy choices and resolving the struggle between competing views of the public interest are not judicial ones:

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143. *See* discussion *supra* note 86. This result does suggest, however, that determining the side a state will take given its politics is not that unpredictable. *Cf.* Lemos, *supra* note 11, at n.102 (arguing that "every case has two sides, and state politics can be unpredictable").

144. Economists W. Kip Viscusi and James T. Hamilton have previously found that the EPA's decisions regarding the management of hazardous waste sites appeared to be influenced by politics. *See* W. Kip Viscusi & James T. Hamilton, *Are Risk Regulators Rational? Evidence from Hazardous Waste Cleanup Decisions*, 89 AM. ECON. REV. 1010, 1024 (1999). They argued that when risks are "low," politics really seem to matter. *Id.* at 1020.

145. The Supreme Court has consistently held that political battles do not belong in a judicial forum. *See, e.g.*, Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 864–65 (1984) ("The arguments over policy that are advanced in the parties' briefs create the impression that respondents are now waging in a judicial forum a specific policy battle . . . . Such policy arguments are more properly addressed to legislators or administrators, not to judges. . . . Perhaps that body consciously desired the Administrator to strike the balance at this level, thinking that those with great expertise and charged with responsibility for administering the provision would be in a better position to do so; perhaps it simply did not consider the question at this level; and perhaps Congress was unable to forge a coalition on either side of the question, and those on each side decided to take their chances with the scheme devised by the agency. For judicial purposes, it matters not which of these things occurred.").

Our Constitution vests such responsibilities in the political branches."[146]

In the climate change discussion, the "political branches" have come to a standstill. In fact, the EPA's recent activity in regulating greenhouse gases under the CAA is partly a response to Congress's ineffectiveness in developing a coherent, national system for regulating greenhouse gases.[147] Although there is a growing consensus in the scientific community that the continuing intensity of carbon dioxide emissions can cause potentially catastrophic effects by way of climate change,[148] the issue continues to be politically divisive—and consequently immobilizing—in Congress.[149] But unavoidably, the sensible regulation of greenhouse gases will require many political decisions.[150] One view is that courts especially should not invite these discussions into the courtroom, but rather should force Congress's hand. This close-minded view, however, fails to consider the potential benefits a state can bring to litigation matters of this type. A state can enter litigation for political reasons, but nevertheless sufficiently

146. *Id.* at 866 (internal quotation marks omitted) (citing Tenn. Valley Auth. v. Hill, 437 U.S. 153, 195 (1978)).

147. If Congress does create such a system, it would likely preempt EPA regulation—either explicitly or implicitly.

148. *See, e.g.*, Rajendra Pachauri, Chairman, Intergovernmental Panel on Climate Change, Opening of the 16th Session of the Conference of the Parties at Cancun, Mexico (Nov. 29, 2010), *available at* http://www.ipcc.ch/news_and_events/docs/COP16/StatementCancunDrPachauri.pdf (discussing the dangers posed by ongoing climate change). *But see* Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, Coal. for Responsible Regulation, Inc. v. EPA, No. 09-1322 (D.C. Cir. May 27, 2011) (arguing that the "primary drivers of the Earth's climate system have been, and will continue to be, natural (non-anthropogenic) forces").

149. Jean Chemnick, *Increased Partisanship Hurts Future Chances for Consensus on Energy, Climate Policy*, ENV'T & ENERGY DAILY, June 28, 2011, *available at* http://www.eenews.net/EEDaily/print/2011/06/28/1; *see also* LEISEROWITZ ET AL., *supra* note 94, at 12 (finding widely diverging beliefs among the public about the amount of attention that Congress and the President should give to environmental issues). There has been a host of failed climate change regulation. For a discussion of how a 2010 bipartisan-proposed legislation was put together, and how it ultimately failed, see Ryan Lizza, *As the World Burns: How the Senate and the White House Missed Their Best Chance to Deal with Climate Change*, THE NEW YORKER, Oct. 11, 2010, at 70, *available at* http://www.newyorker.com/reporting/2010/10/11/101011fa_fact_lizza. Even now, multiple groups in the House and the Senate have been trying to delay the EPA rules or to completely strip the EPA of power to regulate greenhouse gases. These measures have so far failed as well. *See, e.g.*, Jean Chemnick, *With Stand-Alone Bills at a Standstill, Riders Take Center Stage*, ENV'T & ENERGY DAILY, Apr. 8, 2011, *available at* http://www.eenews.net/EEDaily/print/2011/04/08/2 (discussing measures to stall EPA regulation).

150. For example, what social cost of carbon should we use to determine the stringency of future regulations? Should we consider the effects on international populations? *See generally* Masur & Posner, *supra* note 45, at 1563 (discussing some of the limits of cost-benefit analysis resulting from the political decisions that need to be made).

argue legal intricacies—and perhaps this is a role that the Constitution welcomes. Because the states are up against the federal government—represented by the EPA—state involvement could alert courts to federalism concerns that are appropriate for the courts to resolve.[151] The CAA in particular was enacted with an aim for "cooperative federalism" between the states and the federal government.[152] A legal battle pitting states against states against the federal government could illustrate the failure of cooperative federalism to minimize these disputes. Furthermore, as long as good reasons exist for state involvement, the actual motivation may not matter.

Alternatively, politically motivated involvement by states may act as a check on the courts. If politics are already an elephant in the courtroom when controversial issues relating to climate change are litigated, then state intervention could serve an important function—ensuring that politics are not settled in the courtroom without the involvement of democratically accountable bodies and without the appropriate level of media attention and scrutiny. Even if politics serve such a function, in Part IV.B, I present a solution to the potential federalism, accountability, and transparency problems that I believe would better aid both the courts and state residents.

### 2. Politics as Public Opinion

On the other hand, political factors, such as the state attorney general's political affiliation and whether President Obama won the state in the 2008 presidential election, may serve as more than just obvious proxies for the political position of a state. These factors may also be proxies for state public opinion on the regulation of greenhouse gases. State involvement on behalf of its citizens' interests is a Supreme Court-sanctioned state interest in litigation under the doctrine of *parens patriae*. In this Section, I discuss whether this explanation holds any water.

In order for this explanation to survive, the political affiliation variables would have to be better proxies for such public opinion than the indicator of support for environmental policy goals that I use in

151. Few scholars discuss the normative issue of what jurisprudential weight courts should give to state attorney general filings, with the exception of Solimine, *supra* note 10, who discusses this issue with regard to amicus brief filings to the Supreme Court.

152. 42 U.S.C.A. § 7401(a)(4) ("Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.").

my main analysis or the five other variables that I consider in my sensitivity analyses.[153] Those proxies do not produce any significant—or even consistent—results in my regressions, while the political variables are statistically robust in all specifications. At first glance, this is possible. Researchers at the Yale Project on Climate Change Communication found differences in climate change beliefs that follow partisan lines.[154] Nationally, eighty-one percent of Democrats think that global warming is happening, as compared to forty-seven percent of Republicans; and seventy-eight percent of Democrats are at least somewhat worried about global warming, as compared to thirty-two percent of Republicans.[155] Supporting this relationship, the correlation between the proportion of self-described environmentalists per state and whether President Obama won the state in the 2008 presidential election is 0.65 in my dataset.[156]

However, even if politics is a proxy for public opinion, the state's reliance on public opinion may still raise concerns for several reasons. First, the state's reliance on public opinion may be problematic because many citizens are drastically uninformed about climate change issues.[157] For example, the Yale researchers found that only nineteen percent of Americans know that carbon dioxide stays in the atmosphere hundreds to thousands of years after it has been emitted, and twelve percent believe that beneficial global warming is happening. Perhaps even more disturbing, the researchers also found that forty-three percent of Americans incorrectly believe that if we stopped punching holes in the ozone layer with rockets, then we would reduce global warming.[158] These are dramatic misconceptions; if

153. *See* the Appendix. Also, I note that the justification possibility described in this Section fits better with the general state political affiliation variables (such as the state votes in the 2008 presidential election) than with the political affiliation of the state attorney general because the attorney general's political affiliation is less likely to be representative of the public's overall political sentiment.

154. *Climate Note: Partisan Views of Climate Change*, YALE PROJECT ON CLIMATE CHANGE COMM. (Oct. 27, 2010), http://environment.yale.edu/climate/news/the-climate-note-climate-change-by-political-party/.

155. *Id.*

156. This was the highest correlation among my many state public opinion proxies, none of which had statistically significant coefficients. The correlations between my other public opinion proxies and the state's vote ranged from 0.0721 (the response to the single polling question regarding the regulation of carbon dioxide) to 0.5085 (the proportion that are members in environmental organizations).

157. *See* LEISEROWITZ ET AL., *supra* note 94, at 3 (concluding generally that "many Americans lack some of the knowledge needed for informed decision-making in a democratic society").

158. *Id.* at 11–12.

properly informed, or with the appropriate motivation to acquire knowledge, individuals' attitudes about climate change presumably would be different. Specifically, if individuals believed that climate change is a real threat to future wellbeing, then they would be more likely to support climate change mitigation.[159] Hence, the states' reliance on largely *uninformed* opinions would be troubling.

Second, even if political affiliation variables represent average, *informed* public preferences, reliance on these political variables may still be inaccurate. This is because politicians respond to the median voter's preferences as opposed to mean societal environmental preferences, which tend to be higher.[160] As Jason Bell, Joel Huber, and W. Kip Viscusi explain, "Political processes based on median preferences of the public undervalue the environment. This shortfall is mitigated in part by the higher environmental valuations of people who vote, as compared to those who do not. But this influence is not sufficiently great to fully offset the mean–median disparity."[161] Hence, even if we think the state is using politics in order to act on behalf of public opinion, there is reason for concern relating to uninformed opinions and the inaccurate measurement of those opinions.

Nonetheless, the other results suggest that the state is probably not acting on behalf of public opinion. For one, the results show that states' positions are sensitive to the state carbon dioxide emission rate. A higher carbon dioxide emission rate could proxy for the influence of industry positions on the states' politicians. Industry groups have already filed lawsuits against the EPA on their own behalf.[162] While states acting on behalf of general public opinion might be justifiable, states acting on behalf of industry might be improper.

On the other hand, industries often transfer higher costs of production to consumers in the form of higher utility costs, for example. It is possible that states could be worried about these costs

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159. *See* Zahran et al., *supra* note 69, at 772 (noting that there is an "ecological assumption that a person's physical vulnerability to climate change may be a pertinent factor in explaining his or her support for government climate change policies"). The research group led by Sammy Zahran found that individuals' risk perceptions were strongly associated with climate policy support. *Id.* at 784.

160. Bell et al., *supra* note 83, at 667.

161. *Id.*

162. For example, the National Association of Manufacturers, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, National Association of Home Builders, National Oilseed Processors Association, National Petrochemical and Refiners Association, and Western States Petroleum Association have filed lawsuits against the EPA. *See* Brief of Non-State Petitioners and Supporting Intervenors, Coal. for Responsible Regulation, Inc. v. EPA, No. 10-1073 (D.C. Cir. June 20, 2011).

on behalf of their citizens. Such reasoning would suggest that the sensitivity to industry costs is just another way the state is concerned about its citizens' welfare. Consistent with this view, poorer states are more likely to challenge the EPA greenhouse gas regulations.[163] Nonetheless, without some assessment of the benefits of the regulations to these states, such considerations could still be misguided. They may represent a myopic focus on short-term costs, instead of the balancing of the costs against the likely discounted benefits.

Hence, seen in the best light, the states' use of politics as a proxy for public opinion or likely welfare under climate change mitigation regulation seems one sided. This problem is underscored in the results because, when the coefficients on risk perceptions are statistically significant in the regression, the signs of the risk coefficients are in the wrong direction.[164] Clearly, states are not paying attention to these risk factors in a consistent way. The results suggest that at least some of the states with more to lose from climate change are the most willing to risk climate change. In some cases, this seems to be due to the high short-term costs, while in others, it suggests the result of pure politics.

### 3. Courts: Tread Carefully

For the above reasons, courts should tread carefully before putting jurisprudential weight in their decisions on state involvement in the greenhouse gas litigation. If instead states were litigating because of the differential impacts of climate change that were obscured by a national-level cost-benefit analysis, then their decisions could provide information for the court regarding potential failings in the EPA's procedure.[165] However, the empirical results show that the worthwhile information relating to public opinion or regarding the incidence of climate change risks and the costs of mitigation strategies

163. *See* Cragg & Kahn, *supra* note 91, at 18 (finding that representatives from poorer states were more likely to oppose climate change mitigation legislation).

164. I refer to the results on state seacoasts.

165. We can analogize this to how administrative law has balanced the need for some judicial oversight of agency action without having courts set policy. *See generally* Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 843 (1984) ("[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute."). In this case, a policy can be net-good for the whole country, but not necessarily net-good for each state individually—and this information could be useful to courts in deciding whether the federal government has crossed any federalism lines.

is *not* significantly correlated with the decisions to intervene in the litigation on behalf of one of the sides. This suggests that courts should tread carefully before giving the states' arguments heavy jurisprudential weight. Below, I propose a change that could make useful state involvement easier to spot.

### *B. State-Specific Analysis by the EPA*

Regardless of whether one believes that political motivations make state intervention inappropriate[166] or whether one more narrowly believes that state intervention could be meaningful but only if motivations are properly disclosed,[167] the courtroom should not be the first place where federalism and state-specific cost and benefit differences are taken up. The CAA was meant to strike the appropriate balance between federal and state power. Therefore, state-level implications should first be analyzed at the agency level.

To prevent this omission in the future, the President, through an executive order, should require executive agencies, such as the EPA, to prepare state-specific (mini) cost-benefit analyses of major environmental regulations.[168] This solution has two main benefits: (1) it reveals any uneven distributions of the costs and benefits of policies; and (2) it promotes transparency—with respect to decisions by both agency regulators and state policymakers.

An analysis of state distributional concerns would point out whether the costs of a nationally cost-justified regulation fall disproportionally on some states or whether the benefits disproportionally accrue to other states. Analyses emphasizing differences in costs and benefits would promote the development of cooperative and honest solutions, such as state offset programs,[169] in

166. That is, if one roughly believes that the court is not the appropriate forum for political battles when more democratic means (such as deliberations in Congress) fail.

167. For example, if one believes that such motivations appropriately express federalism concerns.

168. This requirement would be similar to the requirement to prepare a regulatory impact analysis for major regulations. *See* Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Sept. 30, 1993) (requiring agencies to conduct a cost-benefit assessment for any matter identified to be a "significant regulatory action").

169. *See* Cragg & Kahn, *supra* note 91, at 19 (suggesting an offset-system solution after analyzing representatives' voting patterns). A cap-and-trade program could also promote a more efficient cost and benefit allocation. Some states are already requesting that the EPA allow them to implement their own regional programs to meet any EPA carbon dioxide standards. *See* Gabriel Nelson, *States, Utilities Ask EPA to Boost Regional Cap-and-Trade Plans*, N.Y. TIMES, Apr. 19, 2011, http://www.nytimes.com/gwire/2011/04/19/19greenwire-states-utilities-ask-epa-to-boost-regional-cap-98267.html (noting that California, New York, and Minnesota are requesting

which states that disproportionally benefit from a regulation could subsidize states that disproportionally bear the regulation's cost. By systematically disclosing these important considerations, the proposed analyses could mobilize politicians to keep political decisions out of courts and pass legislation that is better suited to respond to these concerns. Further, state-specific cost-benefit analyses for major environmental regulations may bring better regulatory alternatives to light by explicitly considering more equitable state-level results.[170]

Even if disagreements still end up in the courtroom, the reasons behind states' intervention would be clearer to courts. With state costs and benefits revealed, political ploys by state leaders would be more transparent, and courts could either block intervention in those cases or at least determine the appropriate jurisprudential weight to give to those states. The increased transparency would also allow the public to hold state decisionmakers accountable for their reasons for participating in environmental litigation.

This solution also has the benefit of being implementable. There is already a "federalism" executive order[171] and a regulatory impact analysis executive order;[172] either could be amended to include a state-specific cost-benefit requirement. In addition, the EPA already does separate impact analyses for small businesses,[173] for example, so there is institutional familiarity with such an approach.

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to meet federal climate change rules by crafting cap-and-trade plans like those adopted by California and a handful of northeastern states). Forcing the EPA to consider impacts at the state level could also encourage the agency to learn from states' experiences with greenhouse gas regulation. *See* Jared Snyder & Jonathan Binder, *The Changing Climate of Cooperative Federalism: The Dynamic Role of the States in a National Strategy to Combat Climate Change*, 27 UCLA J. ENVTL. L. & POL'Y 231, 233 (2009).

170. For example, even within the CAA, some scholars have advocated regulation of greenhouse gases under other provisions of the Act. *See, e.g.*, Jonas Monast, Tim Profeta & David Cooley, Avoiding the Glorious Mess: A Sensible Approach to Climate Change and the Clean Air Act 2 (Oct. 2010) (unpublished working paper), *available at* http://nicholasinstitute.duke.edu/climate/policydesign/avoiding-the-glorious-mess (summarizing why the authors recommend regulation under section 111 of the CAA).

171. Exec. Order No. 13,132, 64 Fed. Reg. 43,255 (Aug. 4, 1999). This executive order actually relates to federal laws that will preempt state laws. *See generally* Catherine M. Sharkey, *Federalism Accountability: "Agency-Forcing" Measures*, 58 DUKE L.J. 2125, 2156 (2009) ("The Executive Order requires that federal agencies, to the extent possible, refrain from limiting state policy options, consult with states before taking action that might restrict states' policy options, and take such actions only when clear constitutional authority exists and the problem is of national scope.").

172. Exec. Order No. 12,866, *supra* note 168.

173. See the requirements of Exec. Order No. 13,272, mandated by the Regulatory Flexibility Act. 67 Fed. Reg. 53,461 (Aug. 13, 2002) ("Agencies shall thoroughly review draft rules to assess and take appropriate account of the impact on small business . . . .").

State-level analysis for major environmental regulations could also be in the interests of the states. Many of the con-EPA states could face disastrous consequences if climate change proceeds. Of course, climate change mitigation strategies face opposition precisely because, while the costs of regulating carbon dioxide are large and relatively certain, both the size and the certainty of benefits resulting from mitigation are less understood. Further, states may weigh the probability of climate change impacts very differently such that agency state-specific analyses could engender controversy and disagreement.[174] To the extent that the agency relies on homogeneous assumptions regarding many of the uncertainties, however, the *relative* impacts between states could provide meaningful information to state decisionmakers.

To the extent that there are uncertainties inherent in assessing the impact of climate change, there is a disadvantage to implementing this solution. In fact, some scholars have argued that cost-benefit analysis is too limited to be a useful tool in climate change policy.[175] While I agree that cost-benefit analysis has its limitations, it still provides a rational framework for making scientific, political, and economic decisions transparent. The transparency itself has benefits—transparency in cost-benefit analysis has previously benefitted environmental goals.[176]

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174. I note, however, that the irreversibility of climate change damage and observed societal risk aversion should play a large role in these determinations. *See* David Archer & Victor Brovkin, *The Millennial Atmospheric Lifetime of Anthropogenic CO2*, 90 CLIMATE CHANGE 283, 294 (2008) ("[T]he substantial fraction of projected CO2 emissions will stay in the atmosphere for millennia, and a part of fossil fuel CO2 will remain in atmosphere for many thousands of years."); Kenneth J. Arrow & Anthony C. Fisher, *Environmental Preservation, Uncertainty, and Irreversibility*, 88 Q.J. ECON. 312, 312 (1974) ("Any discussion of public policy in the face of uncertainty must come to grips with the problem of determining an appropriate attitude toward risk on the part of the policy maker."); Susan Solomon et al., *Irreversible Climate Change Due to Carbon Dioxide Emissions*, 106 PROC. NAT'L ACAD. SCI. 1704, 1709 (2009) ("[W]e have quantified how societal decisions regarding carbon dioxide concentrations that have already occurred or could occur in the coming century imply irreversible dangers relating to climate change for some illustrative populations and regions."); Michael Gerst, Research Assistant Professor, Dartmouth Coll., Agent-Based Integrated Assessment Modeling (Feb. 18, 2011), http://engineering.vanderbilt.edu/News/CalendarEventItem/11-02-15/CEE_Seminar_-_AGENT-BASED_INTEGRATED_ASSESSMENT_MODELING.aspx (accounting for societal risk aversion implies that "climate change policy should focus primarily on the avoidance of climate-induced economic catastrophes through precautionary mitigation").

175. Masur & Posner, *supra* note 45, at 1563 (framing the inability to avoid political questions as a limitation of cost-benefit analysis for climate change policymaking).

176. *See, e.g.*, Ctr. for Biological Diversity v. NHTSA, 538 F.3d 1172, 1201 (9th Cir. 2008) (holding that NHTSA's failure to monetize benefits of greenhouse gas emissions reductions was arbitrary and capricious).

Others worry that because the use of cost-benefit analysis in climate change *mitigation* policy would inevitably involve an account of *climate change benefits*, it could potentially entrench and mobilize a group of climate change beneficiaries that could further complicate policymaking.[177] This concern is with the transparency of cost-benefit analysis itself. Nonetheless, I still argue that there are positive effects of disclosure that outweigh potential negative effects. For one, people may mistakenly perceive themselves to be climate change winners when they are not, which unnecessarily holds up mitigation policy.[178] More fundamentally, however, the results of my analysis suggest that states currently fall along party lines in terms of support of or opposition to climate change mitigation policy. If, instead, states were to fall along cost and benefit lines, then the contentious political alliances that typically do not lead to productive solutions could break apart, potentially opening up conversations about solutions, such as offset systems.

Finally, some may argue that this solution would unnecessarily increase costs for the agency. As it stands, the regulatory impact analyses required by Executive Order 12,866 can be expensive.[179] However, the state-specific analyses for major environmental regulations need not be as detailed as the national-level cost-benefit analysis and could include qualitative—as opposed to quantitative—considerations. For example, the impact assessments in the European Union could serve as a model. These are frequently significantly shorter than the regulatory impact analyses in the United States and focus on qualitative impacts.[180]

177. *See* Ruhl, *supra* note 85.

178. *See* Stecker, *supra* note 113.

179. *See* Robert W. Hahn & Paul C. Tetlock, *Has Economic Analysis Improved Regulatory Decisions?*, 22 J. ECON. PERSP. 67, 80 (2008) (estimating that regulatory impact analysis costs about $72 million annually).

180. *See generally* Caroline Cecot et al., *An Evaluation of the Quality of Impact Assessment in the European Union with Lessons for the US and the EU*, 2 REG. & GOVERNANCE 405, 407 (2008) ("The [European Union] makes far-reaching assessment manageable through the standard of proportionate analysis, where the depth of the analysis is proportional to the likely impact of the initiative."). Meanwhile, the U.S. regulatory impact analyses require monetization of impacts whenever possible. Exec. Order No. 12,866, *supra* note 168.

## CONCLUSION

States' decisions on whether to join the greenhouse gas litigation are strongly associated with state political affiliations and have little relationship with various measures of public opinion or of the costs and benefits of climate change mitigation. State motivations underlying intervention are relevant because state involvement can change the progression of the litigation. Given the likely political motivations, courts should tread carefully before placing too much jurisprudential weight on the states' intervention decisions and arguments.

A potential solution that allows distributional, economic, and political concerns to be aired while providing transparency is for the EPA to prepare brief state-specific analyses of the costs and benefits of proposed major environmental regulations. Battles over climate change mitigation, in particular, are often over intersections between scientific and political questions. To the extent that these questions arise, the state-specific analyses will ensure that the resulting decisions are transparent.

The problems that the United States faces with respect to setting climate policy—disparate incidence of costs and benefits and different perceptions of risk or risk aversion—are suggestive of the international problems that prevent agreement on climate change mitigation.[181] Untangling the meaningful disagreements can pave the way for honest discussion of these issues in the United States. Such discussion could help shed light on workable solutions for the world.

In addition, this Note's findings that the state positions in the greenhouse gas litigation are largely determined by the political affiliation of the state attorney general could be relevant when state attorneys general litigate in other areas. Some scholars have argued that, in light of the Supreme Court's decisions limiting class actions in *Dukes v. Walmart* and in *ATT v. Concepcion*, state attorneys general could become the primary protectors of citizens' rights, a role formerly

181. Economists have already proposed solutions to some of these problems in the international arena. *See, e.g.*, Scott Barrett & Robert Stavins, *Increasing Participation and Compliance in International Climate Change Agreements*, 3 INT'L ENVTL. AGREEMENTS: POL., L. & ECON. 349, 360 (2003), *available at* http://www.hks.harvard.edu/m-rcbg/eephu/barrett_stavins.pdf ("One form of positive incentive for participation and compliance is a side payment—a direct money transfer made by one party or set of parties to another. Under such arrangements, the countries that gain most from an agreement compensate those who would lose or gain least (in the absence of side payments).").

played by large class-action lawsuits.[182] Their ability to perform such a role could be undermined if, as appears to be the case in greenhouse gas litigation, the state attorneys general are just blowing hot air.[183]

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182. *See, e.g.*, Gilles & Friedman, *supra* note 74 (manuscript at 5) (predicting that state attorneys general will make broader use of their *parens patriae* authority to represent the interests of their citizens in cases that used to be brought as class actions).

183. The results of this Note would advise scrutiny of the motivations behind the positions of state attorneys general for other types of litigation as well. *See* discussion *supra* notes 82, 140.

* Vanderbilt University Law School, Doctor of Philosophy student in Law and Economics and Candidate for Doctor of Jurisprudence, May 2014. I am indebted to Professor Joni Hersch, Professor J.B. Ruhl, Dr. Sharon Shewmake, and Professor Michael Vandenbergh for reading early drafts of my Note and providing invaluable feedback; to Dean Lisa Bressman and Professor Kevin Stack for helping me frame my analysis; and to Jinghui Lim and Jennifer Shinall for providing helpful comments early in the process. I am also grateful to the members of VANDERBILT LAW REVIEW, especially Mike Dreyfuss, Stephanie Kostiuk, Rachael McClure, Lexi Menish, Nate Pysno, and Geraldine Young, for excellent editorial help. Finally, special thanks go to my husband, Piotr Pilarski, and to my family for their love, support, and constant encouragement (*Kocham Was!*). Of course, all errors and opinions are my own.

## APPENDIX

### *A. Sensitivity Analysis*

This Section presents the results of various sensitivity analyses using alternate variables to demonstrate the robustness of the qualitative results.

#### 1. Climate Change Risk Measures

For sensitivity analyses, I create a variable that denotes the contribution of the "agriculture, forestry, fishing, and hunting" (agriculture) industry to state GDP using 2008 data from the Bureau of Economic Analysis.[184] The agriculture variable is highly correlated with the farming variable (99.51 percent), so I use only the farming variable in my main analysis. The qualitative results do not change when I use the agriculture variable instead; the coefficient on the risk measure is still statistically insignificant. Finally, when I include both variables in the regression, the coefficients remain insignificant, and the qualitative results remain the same.

I also model agricultural outcome risks using a measure of lost agricultural profits by state from an empirical study by economists Olivier Deschênes and Michael Greenstone.[185] I do not use this measure in my main analysis because the study does not provide lost profits for Alaska and Hawaii, and it groups the results for some smaller states. Nonetheless, when I include the variable with a missing variable indicator for Alaska and Hawaii, its coefficient is not statistically significant, but the missing variable indicator is statistically significant. The main results stay qualitatively the same, except that the coefficient on the regional indicator for the West becomes statistically significant in two specifications, implying that western states are somewhat less likely to enter the litigation to challenge the EPA as compared to midwestern states (the omitted category).

Finally, I include a variable that indicates the changes in GDP from estimated precipitation impacts based on a scientific study of expected precipitation changes associated with catastrophic climate

184. *Gross Domestic Product By State*, *supra* note 110.

185. Oliver Deschênes & Michael Greenstone, *The Economic Impacts of Climate Change: Evidence from Agricultural Output and Random Fluctuations in Weather*, 97 AM. ECON. REV. 354 (2007).

change, done by the Sandia National Laboratories.[186] These risks are important; the EPA found that "[i]ncreases in the frequency of heavy precipitation events are associated with increased risk of deaths and injuries as well as infectious, respiratory, and skin diseases."[187] I exclude this variable from my main analysis because the study did not create GDP-change estimates for Alaska and Hawaii, and the modeled expected precipitation changes are unlikely to be very salient for policymakers and residents. In addition, a discussion of the reasonableness, appropriateness, or result sensitivity of the various assumptions (such as the weight given to tail risks of catastrophic climate change events) in the model used by Sandia Laboratories is beyond the scope of this study.[188] Nonetheless, excluding this variable does not significantly alter my main qualitative results. When I include the variable with a missing variable indicator for Alaska and Hawaii, its coefficient is not statistically significant, but the missing variable indicator is statistically significant. Notably, the inclusion of this variable results in a statistically significant (at the five percent level) public opinion variable in one specification. In this case, a higher percent of environmentalists is associated with a lower probability of entering the litigation to challenge the EPA. This is the only specification that results in a statistically significant coefficient on any public opinion variable. The coefficients on the political variables remain similar in magnitude and statistically significant regardless of the climate change risk measure used in the analysis.

Table 5 below presents the results when I include all of the alternate specifications.

186. GEORGE BACKUS ET AL., SANDIA NAT'L LABS., ASSESSING THE NEAR-TERM RISK OF CLIMATE UNCERTAINTY: INTERDEPENDENCIES AMONG THE U.S. STATES (2010), *available at* https://cfwebprod.sandia.gov/cfdocs/CCIM/docs/Climate_Risk_Assessment.pdf; *see also* Robert Adler, *National Lab Calculates State-by-State Climate Change Risks* (July 24, 2010), http://www.suite101.com/content/national-lab-calculates-state-by-state-climate-change-risks-a265507#ixzz14Kvu1L5C.

187. Endangerment Finding, *supra* note 3, at 66,525.

188. *But see, e.g.*, Masur & Posner, *supra* note 45, at 1577–87 (claiming some inappropriate use of climate change models by the Interagency Working Group).

**TABLE 5. CLIMATE CHANGE RISK MEASURES SENSITIVITY ANALYSIS.**

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Democratic attorney general | 0.294* | -0.389*** | 0.381** |
| | (0.155) | (0.107) | (0.144) |
| Blue state in 2008 | 0.459** | -0.045 | 0.476* |
| | (0.205) | (0.162) | (0.249) |
| Carbon dioxide emission rate, divided by 1,000 | -0.115 | -0.006 | -0.135 |
| | (0.160) | (0.161) | (0.137) |
| State has a seacoast | 0.061 | 0.427** | -0.102 |
| | (0.183) | (0.199) | (0.198) |
| Proportion state GDP from agriculture, multiplied by 100 | 0.074 | -0.449 | -0.126 |
| | (0.439) | (0.473) | (0.383) |
| Proportion state GDP from farming, multiplied by 100 | -0.045 | 0.509 | 0.144 |
| | (0.457) | (0.492) | (0.403) |
| Lost agricultural profits, in billions | -0.034 | 0.171 | -0.032 |
| | (0.209) | (0.152) | (0.164) |
| Average state latitude | 0.007 | 0.006 | 0.012 |
| | (0.011) | (0.013) | (0.012) |
| Water risk, divided by 10 | 0.002 | -0.030 | -0.009 |
| | (0.039) | (0.026) | (0.034) |
| Proportion self-described environmentalists | 0.140 | -2.088** | -0.129 |
| | (1.035) | (0.990) | (1.240) |
| GDP per capita, divided by 10,000 | 0.081 | -0.184* | 0.112 |
| | (0.122) | (0.107) | (0.110) |
| Constant | -0.703 | 1.748*** | -0.725* |
| | (0.519) | (0.452) | (0.408) |
| Observations | 50 | 50 | 37 |
| R-squared | 0.598 | 0.713 | 0.818 |

NOTES. Robust standard errors are in parenthesis. See Table 2 and discussion in this Section for definitions of variables. Regional controls for Northeast, South, and West are included, but not reported, with Midwest as the omitted category. The coefficients on the regional controls are not statistically significant. Missing variable indicators for lost agricultural profits and water risk are also included in the regressions and are statistically significant in specifications (2) and (3).

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

2. Carbon Dioxide Emissions

I replace the emissions rate variable with total carbon dioxide equivalent emissions per capita for each state. I create this variable by dividing the EPA's measure by Census population data. Its effect is in the same direction as the emissions rate variable, but its coefficient is never statistically significant. My main qualitative results do not change, but the coefficient on the agricultural risk variable becomes statistically significant at the ten percent level in specification (1), suggesting that states with a higher proportion of GDP from farming are more likely to enter to support the EPA.

**TABLE 6. CARBON DIOXIDE EMISSIONS SENSITIVITY ANALYSIS.**

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Democratic attorney general | 0.337*** | -0.500*** | 0.421*** |
| | (0.121) | (0.099) | (0.127) |
| Blue state in 2008 | 0.513*** | -0.254 | 0.543** |
| | (0.173) | (0.167) | (0.210) |
| Carbon dioxide emissions (tons) per capita, divided by 100 | -0.314 | 0.014 | -0.382 |
| | (0.228) | (0.330) | (0.440) |
| State has a seacoast | 0.073 | 0.345** | -0.156 |
| | (0.147) | (0.153) | (0.153) |
| Proportion state GDP from farming, multiplied by 10 | 0.467* | 0.126 | 0.299 |
| | (0.236) | (0.328) | (0.352) |
| Average state latitude | 0.011 | -0.009 | 0.011 |
| | (0.011) | (0.012) | (0.012) |
| Proportion self-described environmentalists | -0.113 | -1.177 | -0.237 |
| | (0.729) | (0.897) | (0.868) |
| Constant | -0.893* | 1.802*** | -0.860 |
| | (0.469) | (0.533) | (0.513) |
| Observations | 50 | 50 | 37 |
| R-squared | 0.581 | 0.637 | 0.775 |

NOTES. Robust standard errors are in parenthesis. See Table 2 and discussion in this Section for definitions of variables. State GDP per capita and regional controls for Northeast, South, and West (with Midwest as the omitted category) are included but not reported; the coefficients are statistically insignificant.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

### 3. Public Opinion

Because there is no reliable state-by-state measure of public opinion on climate change mitigation strategies, I create multiple proxies for state public opinion. In this Section, I describe the proxies for public opinion that I did not report in my main analysis. I also show how the choice of public opinion proxy does not change my qualitative results regarding the robust effect of politics.

My first alternative measure of state public opinion on climate change mitigation is a state average of individuals' responses to a question from a national survey specifically asking about support for climate change mitigation policies.[189] The disadvantage of using this variable is that some states—Alaska, Delaware, and Hawaii—have no responses, requiring me to use a missing variable indicator. Furthermore, some states have only a few responses making the public opinion proxy potentially unrepresentative despite the random selection of respondents. This is because the survey's goal was to select a nationally representative sample using the least amount of survey respondents and not necessarily to select a representative sample of residents from each state.

In order to decrease the effects of unrepresentative samples for some states, I also generate an average state public support index based on multiple polling data on climate change attitudes, which is a method used by the research group led by Sammy Zahran.[190] This attitude index is the average of the results from five questions relating to climate change mitigation from three different national polls.[191]

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189. *ABC News/Washington Post Monthly Poll, December 2009*, INTER-UNIVERSITY CONSORTIUM FOR POL. & SOC. RESEARCH, at question 25 [hereinafter *ABC News December 2009*] ("On another subject, do you think the federal government should or should not regulate the release of greenhouse gases from sources like power plants, cars and factories in an effort to reduce global warming? [GET ANSWER THEN ASK] Do you feel that way STRONGLY or SOMEWHAT?"). I grouped "strongly should" and "somewhat should" responses together as indicators of support for mitigation strategies and then collapsed the results by state.

190. Zahran et al., *supra* note 69.

191. *See ABC News December 2009*, *supra* note 189; *NBC News/Wall Street Journal Poll, December 2009, Past Decade/Economy/Afghanistan/Health*, ROPER CTR. FOR PUB. OP. RESEARCH, at question 40 ("From what you know about global climate change or global warming, which one of the following statements comes closest to your opinion? (1) Global climate change has been established as a serious problem, and immediate action is necessary; (2) there is enough evidence that climate change is taking place and some action should be taken; (3) we don't know enough about global climate change, and more research is necessary before we take any actions; or (4) concern about global climate change is unwarranted."); *id.* at question 41 ("I'm going to read you two statements. Please tell me whether the first statement or the second statement comes closer to your own view, even if neither is exactly right. Statement A: Global

Despite drawing information from more polls and questions, average public opinion for Hawaii and Alaska is still based on only two polls, so the attitude score is still potentially unrepresentative of public opinion in those states.

My third alternative proxy for public support is the news visibility variable described in Part II.A.3. The assumption behind this variable as a proxy for climate change support is that "all news is good news," which is an arguable assumption.

Finally, I generate two other variables: the proportion of environmental organization members from a representative national survey of 5,213 respondents and the percent who voted for Ralph Nader in the 2000 election. I create the first variable from the same survey as the self-described environmentalist variable that I use in the main analysis.[192] The second variable uses the fact that Ralph Nader ran as a Green Party candidate in the 2000 election. This variable, however, is missing data from North Carolina, Oklahoma, and South Dakota, which did not have Ralph Nader on the ballot.[193]

I create these alternative measures of public opinion in order to convince the reader that my results are robust to my choice of public opinion measure. The coefficients on public opinion proxies are never significant in the regressions, excepting the one instance in Table 5. Table 7 summarizes the coefficients on the public opinion variables after separate regressions using the main specifications. Hence, Table 7 summarizes eighteen separate regressions. The qualitative results do not change, regardless of which public opinion measure I use. I chose to use the proportion of self-described environmentalists in my main analysis.

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warming is caused more by human actions than by naturally occurring forces. Statement B: Global warming is caused more by naturally occurring forces than by human actions. (IF RESPONDENT CHOOSES, ASK:) Do you feel that way very strongly or not strongly?"); *USA Today/Gallup Poll: December 2009 Wave 1*, ROPER CTR. FOR PUB. OP. RESEARCH, at question 21 ("As you may know, representatives from around the world are gathering for a United Nations conference on global climate change in Copenhagen. Do you favor or oppose the U.S. signing a binding global treaty at the Copenhagen meeting that would require the U.S. to significantly reduce greenhouse gas emissions? (1) Favor; or (2) oppose."); *id.* at question 23 ("Which worries you more? (1) That the U.S. will NOT take the actions necessary to prevent the catastrophic effects of global warming because of fears those actions would harm the economy; or (2) that the U.S. WILL take actions to protect against global warming and those actions will cripple the U.S. economy."). Where relevant, I grouped "strongly" and "somewhat strongly" pro and against responses together to create binary indicators of support and opposition.

192. *See supra* note 120.

193. *Presidential Election of 2000, Electoral and Popular Vote Summary*, INFOPLEASE, http://www.infoplease.com/ipa/A0876793.html (last visited Jan. 19, 2012).

**TABLE 7. PUBLIC OPINION SENSITIVITY ANALYSIS.**

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Survey support for climate change mitigation | -0.133 | 0.051 | -0.011 |
| | (0.188) | (0.224) | (0.171) |
| Survey attitude index | -0.181 | 0.532 | -0.105 |
| | (0.530) | (0.397) | (0.414) |
| News visibility | 0.118 | -0.013 | -0.106 |
| | (0.274) | (0.216) | (0.248) |
| Proportion self-described environmentalists | -0.298 | -0.793 | -0.802 |
| | (0.739) | (0.909) | (0.863) |
| Proportion members in an environmental organization | 0.775 | -1.611 | 0.880 |
| | (1.274) | (1.004) | (0.996) |
| Percent voting for Nader in 2000 | 0.024 | 0.024 | -0.042 |
| | (0.045) | (0.040) | (0.044) |
| Observations | 50 | 50 | 37 |

NOTES. Robust standard errors are in parenthesis. See Table 2 and discussion in this Section for definitions of variables. Each alternative public opinion proxy is included in a separate regression that also includes all variables in regressions summarized in Table 4. Missing variable indicators for climate change mitigation support and percent voting for Nader are included and statistically insignificant. The qualitative results for the other variables do not change with the public opinion measure.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

### 4. Demographic Variables

I create a variable indicating the percent of persons twenty-five years old and older that had a bachelor's degree or more in 2008, as reported in Census data.[194] This state education variable is correlated with state GDP per capita (69.49 percent), and its inclusion does not affect the qualitative results.

In addition, in all specifications, I include regional dummies for the South, West, Northeast, and Midwest to ensure that the seacoast variable is not driven by regional preferences in the southern states. The regional controls are not statistically significant and do not affect

194. *The 2012 Statistical Abstract: State Rankings*, U.S. CENSUS BUREAU, http://www.census.gov/compendia/statab/rankings.html (last visited Oct. 20, 2011).

the coefficient of the seacoast variable. The inclusion of the regional variables in the main analysis does, however, decrease the magnitude and increase the standard errors of the emission rate variable; its coefficient becomes insignificant in specification (1). The carbon dioxide emission rate may be correlated with region (carbon dioxide heavy industries tend to locate near each other).[195] Table 8 reports the main results when I exclude the regional controls.

TABLE 8. REGIONAL CONTROL SENSITIVITY ANALYSIS.

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Democratic attorney general | 0.348*** | -0.493*** | 0.430*** |
| | (0.103) | (0.100) | (0.115) |
| Blue state in 2008 | 0.514*** | -0.240* | 0.502*** |
| | (0.136) | (0.142) | (0.173) |
| Carbon dioxide emission rate, | -0.220** | 0.218 | -0.253** |
| divided by 1,000 | (0.107) | (0.138) | (0.115) |
| State has a seacoast | 0.048 | 0.442*** | -0.214 |
| | (0.158) | (0.137) | (0.166) |
| Proportion state GDP from | 0.281 | 0.293 | 0.020 |
| farming, multiplied by 10 | (0.203) | (0.234) | (0.216) |
| Average state latitude | 0.010 | -0.009 | 0.008 |
| | (0.008) | (0.008) | (0.007) |
| Proportion self-described | -0.370 | -0.675 | -0.336 |
| environmentalists | (0.690) | (0.869) | (0.790) |
| GDP per capita, divided by | 0.081 | -0.114 | 0.148** |
| 10,000 | (0.089) | (0.073) | (0.072) |
| Constant | -0.430 | 1.337*** | -0.342 |
| | (0.417) | (0.493) | (0.379) |
| Observations | 50 | 50 | 37 |
| R-squared | 0.580 | 0.632 | 0.764 |

NOTES. Robust standard errors are in parenthesis. See Table 2 for definitions of variables. These regressions exclude regional controls.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

195. *See* Cragg & Kahn, *supra* note 91, at 4–7 (discussing the uneven distribution of carbon dioxide-heavy regions in the United States).

5. Political Measures

In Table 9, I replace the binary variable indicating the state's position in the 2008 presidential election with a variable reporting the difference between the Democratic and Republican votes in the same election to account for the strength of the state's political preferences. This change diminishes the coefficient of the carbon dioxide emission rate, which becomes insignificant in specification (3).[196]

**TABLE 9. DEMOCRATIC-REPUBLICAN GAP SENSITIVITY ANALYSIS.**

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Democratic attorney general | 0.263* | -0.479*** | 0.419*** |
| | (0.134) | (0.104) | (0.144) |
| Democrat-minus-Republican percent votes in 2008 election | 0.014** | -0.004 | 0.009 |
| | (0.005) | (0.006) | (0.006) |
| Carbon dioxide emission rate, divided by 1,000 | -0.157 | 0.161 | -0.140 |
| | (0.129) | (0.144) | (0.151) |
| State has a seacoast | -0.026 | 0.429** | -0.216 |
| | (0.168) | (0.191) | (0.228) |
| Proportion state GDP from farming, multiplied by 10 | 0.193 | 0.327 | -0.149 |
| | (0.260) | (0.280) | (0.298) |
| Average state latitude | 0.015 | -0.007 | 0.009 |
| | (0.014) | (0.012) | (0.013) |
| Proportion self-described environmentalists | -0.401 | -1.152 | 0.552 |
| | (1.109) | (0.926) | (0.959) |
| GDP per capita, divided by 10,000 | 0.078 | -0.107 | 0.107 |
| | (0.095) | (0.073) | (0.080) |
| Constant | -0.430 | 1.337*** | -0.342 |
| | (0.417) | (0.493) | (0.379) |
| Observations | 50 | 50 | 37 |
| R-squared | 0.580 | 0.632 | 0.764 |

NOTES. Robust standard errors are in parenthesis. See Table 2 and discussion in this Section for variable definitions. Regional controls are included but not reported.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

196. The carbon dioxide emission rate is somewhat correlated with the Democrat-Republican gap (-0.3493) and being a blue state in the 2008 election (-0.2856).

As a final robustness check, I replace the variable indicating the attorney general's affiliation with a variable for the governor's political affiliation. The coefficient on the governor's affiliation is smaller in magnitude and insignificant in specifications (1) and (3), as compared to the attorney general's affiliation. In specification (3), the regional controls for the Northeast and West and the seacoast variable become statistically significant at the ten percent level;[197] otherwise, all of the results are qualitatively the same. When I include both in the regression, however, the coefficient on governor affiliation becomes statistically significant and negative in specification (1). This means that controlling for a Democratic attorney general and being a blue state, a Democratic governor is associated with a decreased likelihood of a state entering the litigation in support of the EPA. This anomalous result suggests that the governor's affiliation does not determine the decision to enter litigation on behalf of the state.[198] In addition, the coefficient on the carbon dioxide emission rate loses statistical significance, the coefficient on the regional control for the West becomes significant in specification (3), and the coefficient on the agricultural risk variable gains significance in specification (1). Otherwise, the inclusion of the governor's affiliation does not change the main qualitative results.

197. The magnitude of the coefficient on the seacoast variable is still in the direction opposite to predictions.

198. The governor's affiliation might affect the decision to terminate litigation on behalf of the state, however. I base this idea on the experience of Pennsylvania, which terminated its involvement in the greenhouse gas litigation after its new governor, a Republican, took office. *See* discussion *supra* notes 59, 88.

**TABLE 10. GOVERNOR AFFILIATION SENSITIVITY ANALYSIS.**

| Independent Variables | (1) 1 if Pro-EPA, 0 otherwise | (2) 1 if Con-EPA, 0 otherwise | (3) 1 if Pro-EPA, 0 if Con-EPA |
|---|---|---|---|
| Democratic attorney general | 0.437*** | -0.484*** | 0.437*** |
| | (0.113) | (0.107) | (0.126) |
| Governor is a Democrat | -0.276** | -0.039 | -0.124 |
| | (0.130) | (0.131) | (0.122) |
| Blue state in 2008 | 0.617*** | -0.244 | 0.651*** |
| | (0.171) | (0.161) | (0.205) |
| Carbon dioxide emission rate, divided by 1,000 | -0.085 | 0.175 | -0.192 |
| | (0.131) | (0.141) | (0.132) |
| State has a seacoast | -0.014 | 0.411** | -0.264 |
| | (0.158) | (0.171) | (0.189) |
| Proportion state GDP from farming, multiplied by 10 | 0.542** | 0.185 | 0.432 |
| | (0.244) | (0.302) | (0.333) |
| Average state latitude | 0.016 | -0.007 | 0.013 |
| | (0.011) | (0.011) | (0.011) |
| Proportion self-described environmentalists | -0.062 | -0.760 | -0.797 |
| | (0.799) | (0.925) | (0.972) |
| GDP per capita, divided by 10,000 | 0.077 | -0.092 | 0.159* |
| | (0.091) | (0.071) | (0.078) |
| Constant | -1.070* | 1.388** | -0.756 |
| | (0.552) | (0.645) | (0.553) |
| Observations | 50 | 50 | 37 |
| R-squared | 0.637 | 0.653 | 0.801 |

NOTES. Robust standard errors are in parenthesis. See Table 2 and discussion in this Section for variable definitions. Regional controls for Northeast, South, and West are included, but not reported, with Midwest as the omitted category. The coefficients on the regional controls are not statistically significant, excepting the coefficient on the West in specification (3).

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.