

NOTES

LIMITING PREEMPTION IN ENVIRONMENTAL LAW: AN ANALYSIS OF THE COST-EXTERNALIZATION ARGUMENT AND CALIFORNIA ASSEMBLY BILL 1493

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In recent decades, states have exhibited remarkable leadership in environmental policy. This leadership is threatened by federal ceiling preemption, which prevents states from adopting regulations that exceed federal standards. While environmental law scholars have argued that the rise in federal ceiling preemption will undermine environmental policy, these critics have failed to take the arguments in favor of preemption seriously. Specifically, they have not addressed the risk that states may adopt tough environmental regulations because they can externalize costs to other states, or that a single, large, pro-regulatory state like California could effectively dictate excessively stringent national standards. This Note presents a more principled case against federal ceiling preemption in environmental law and contends that the cost-externalization argument's practical application is limited. It illustrates this primarily through an extended case study of California's regulation of greenhouse gas emissions from motor vehicles. The Note argues that state regulations that provide manufacturers with sufficient flexibility to meet standards without disrupting economies of scale can largely avoid externalizing costs to out-of-state consumers. It further contends that states may have to consider the interests of out-of-state producers when issuing regulations because, among other reasons, compliance costs will be partly internalized by in-state consumers and shareholders. The Note concludes that the merits of the cost-externalization argument must be carefully weighed against the benefits of decentralized policymaking in order to yield optimal environmental policy.

INTRODUCTION

In recent decades, states have moved to the forefront of environmental regulation, addressing prominent issues like climate change in

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the face of federal inaction.¹ These efforts have been lauded by academics and the popular press alike.² Yet state regulatory activity has not been praised without qualification. Commentators argue that in some instances, states pass stringent environmental regulations because they can externalize a significant amount of their costs, leading to suboptimally stringent standards.³ This claim provides the foundation for the strongest argument in favor of expanded federal ceiling preemption of state environmental law.

Mirroring broader trends toward regulatory centralization,⁴ federal preemption of state environmental regulations that are more stringent than required by federal law has become increasingly common. While many longstanding federal environmental laws inherently limit state regulatory autonomy by establishing minimum federal standards that preclude less stringent state regulations (“federal floors”), recently the debate has shifted toward consideration of the desirability of uniform federal laws preempting state laws that otherwise would be more protective of the environment (“federal ceilings”).⁵ Often promoted by industry groups,⁶ ceiling preemption is on

¹ Barry Rabe, *Environmental Policy and the Bush Era: The Collision Between the Administrative Presidency and State Experimentation*, 37 *PUBLIUS* 413, 423–25 (2007) (claiming state governments have become prime movers in “[v]irtually every area of environmental protection” whereas federal government has opposed policy proposals for issues such as climate change).

² See, e.g., Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 *WAKE FOREST L. REV.* 719, 720 (2006) (“Perhaps more than at any time in the last thirty-five years, the states and localities have begun to fulfill their potential as ‘laboratories’ of experimentation in achieving environmental protection goals.” (footnote omitted)); Michael Grunwald, *The New Action Heroes*, *TIME*, June 25, 2007, at 33–34 (profiling New York City Mayor Michael Bloomberg and California Governor Arnold Schwarzenegger as leaders “doing big things that Washington has failed to do” and noting that in “a time of federal policy paralysis . . . cities and states are filling the void”).

³ See *infra* notes 96–97, 166–67 and accompanying text.

⁴ See PAUL TESKE, *REGULATION IN THE STATES* 14–15 (2004) (documenting dramatic rise in preemption of state economic regulation); Catherine M. Sharkey, *Preemption by Preamble: Federal Agencies and the Federalization of Tort Law*, 56 *DEPAUL L. REV.* 227, 227–28 (2007) (describing increasing assertion of preemptive power by federal agencies in preambles to new regulations).

⁵ See William W. Buzbee, *Asymmetrical Regulation: Risk, Preemption, and the Floor/Ceiling Distinction*, 82 *N.Y.U. L. REV.* 1547, 1551–52 (2007) (distinguishing federal laws that establish floors from those that establish ceilings). The terms “ceiling” and “floor” are commonly used in environmental federalism scholarship. Ceiling preemption includes unitary federal standards, which are the dominant form of ceiling preemption. *Id.* at 1558–59. Other scholars use different terminology, such as “uniform minimum” and “non-discretionary,” to make the same distinction. E.g., Paul S. Weiland, *Federal and State Preemption of Environmental Law: A Critical Analysis*, 24 *HARV. ENVTL. L. REV.* 237, 256 (2000).

the rise and may well expand.⁷

Expanding ceiling preemption has its critics. They argue that ceiling preemption undermines desirable environmental policy, especially against a backdrop of federal inaction and deregulation.⁸ These critics are right to argue that decentralized environmental regulation produces well-recognized benefits, including policy experimentation and greater accommodation of local preferences and conditions.⁹ Yet as proponents of federal ceiling preemption point out, these common arguments for federalism sometimes fail—specifically, when the experiments of one state come at the expense of other states or the nation as a whole.¹⁰ Those who tout the benefits of decentralized environmental regulation cannot ignore the potential problem of regulatory cost externalization when states pass environmental regulations with localized benefits and nationalized costs.

This Note explores the argument that cost externalization resulting from state environmental regulations justifies federal ceiling preemption. It does so in large part by studying what some commentators consider a paradigmatic example of cost externalization: California's regulations pursuant to California Assembly Bill 1493 (A.B. 1493),¹¹ which restrict greenhouse gas emissions from motor vehicles. A review of these regulations is particularly useful now, as it appears that California will soon be able to implement the regulations, which were previously blocked by the Environmental Protection

⁶ See Eric Lipton & Gardiner Harris, *In Turnaround, Industries Seek U.S. Regulations*, N.Y. TIMES, Sept. 16, 2007, at A1 (describing shift in industry lobbying efforts to seek new federal regulations "to head off liability lawsuits and pre-empt tough state laws").

⁷ See *infra* Part I.B; see also Jonathan R. Nash, *The Illusion of Devolution in Environmental Law*, 38 URB. LAW. 1003, 1014 (2006) ("[P]ressure to enact uniform federal environmental standards will continue to increase as national markets continue to expand. That trend is a troubling one to the extent that disuniformities in state law do not in fact give rise to substantial externalities.").

⁸ See *infra* Part II.A.

⁹ See *infra* notes 73–79 and accompanying text (describing benefits of permitting state environmental regulation); see also Richard L. Revesz, *The Race to the Bottom and Federal Environmental Regulation: A Response to Critics*, 82 MINN. L. REV. 535, 536–37 (1997) (advocating rebuttable presumption in favor of decentralization in environmental policy on basis of these benefits).

¹⁰ See Samuel Issacharoff & Catherine M. Sharkey, *Backdoor Federalization*, 53 UCLA L. REV. 1353, 1355 (2006) (noting that standard arguments for federalism fail when one state's social and economic "experiments" create risks for rest of country); Gary T. Schwartz, *Considering the Proper Federal Role in American Tort Law*, 38 ARIZ. L. REV. 917, 922 (1996) ("The most obvious justifications for federal law that supersedes state law is that state law produces effects that are felt beyond the territorial limits of the states themselves or that there is some significant need for national uniformity in the content of legal rules.").

¹¹ A.B. 1493, 2001–2002 Leg., Reg. Sess., 2002 Cal. Stat. ch. 200 (codified as amended at CAL. HEALTH & SAFETY CODE § 43018.5(a) (West 2006 & Supp. 2009)).

Agency (EPA) during the Bush administration.¹² This Note ultimately maintains that even when such state environmental regulations have the potential to export costs, the cost-externalization effect may often be exaggerated. It concludes that in light of the benefits of decentralized environmental policy, more careful attention to the actual form of specific state regulations is necessary before federal ceiling preemption can be justified.

This Note proceeds in three parts. Part I documents state leadership in environmental policy and describes the threat posed by federal ceiling preemption. Part II considers arguments advanced against federal ceiling preemption in environmental law. It finds that without more careful attention to the potential problem of cost externalization, such arguments are insufficient. It then introduces the cost-externalization argument in favor of federal ceiling preemption, recognizes several categories of cost externalization, and addresses the limitations of the argument. Part III presents the case study of California's proposed regulations, demonstrating that the cost-externalization argument may not justify federal ceiling preemption even in a seemingly paradigmatic case.

I

STATE ENVIRONMENTAL REGULATION AND FEDERAL PREEMPTION

Contrary to longstanding arguments that states have incentives to underregulate and underprotect environmental quality,¹³ states now lead the way in addressing environmental problems. This Part reviews instances in which state environmental protection has outpaced the federal government, focusing primarily on greenhouse gas regulation but also briefly considering toxic waste cleanup and mercury emis-

¹² See *infra* note 55 and accompanying text (describing memorandum issued by President Obama asking Environmental Protection Agency (EPA) to reconsider its denial of waiver from federal preemption).

¹³ See generally Kirsten H. Engel, *State Environmental Standard-Setting: Is There a "Race" and Is It "to the Bottom"?*, 48 HASTINGS L.J. 271 (1997) (arguing that available empirical evidence and application of game-theoretic model of competition between states for mobile industry both suggest that states engage in welfare-reducing race to bottom that would result in suboptimally lax environmental standards in absence of federal regulations); Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570 (1996) (surveying history of environmental federalism debates and suggesting several reasons to believe involvement of federal government is often necessary to achieve desirable environmental policies). These arguments are often traced to an influential article by Richard Stewart. See Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977) (considering arguments for and against centralization in environmental policy).

sions. It then considers how federal ceiling preemption may imperil these efforts.

A. State Environmental Leadership

States have developed innovative environmental policies that address problems of local, national, and even global scope.¹⁴ Most notably, states and their subdivisions have led efforts to reduce greenhouse gas emissions. By 2006, every state had taken some action to address climate change,¹⁵ adopting strategies ranging from targeted measures that would increase energy efficiency, promote alternative energy, and directly regulate power plants, to far broader proposals that would cap greenhouse gas emissions across entire state economies.¹⁶ Most dramatically, California passed the Global Warming Solutions Act of 2006,¹⁷ which mandates a reduction of total greenhouse gas emissions in the state to 1990 levels by 2020.¹⁸

¹⁴ Leadership by the states over the environment is accelerating, but it is not new. See Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210, 1228 (1992) (documenting laws passed by northeastern states in early 1990s to cut nitrous oxide emissions from electric utilities and adopt more stringent vehicle emissions standards).

¹⁵ David Hodas, *State Initiatives*, in GLOBAL CLIMATE CHANGE AND U.S. LAW 343, 343 (Michael B. Gerrard ed., 2007).

¹⁶ See *id.* at 350–65 (describing variety of state climate change efforts); J.R. DeShazo & Jody Freeman, *Timing and Form of Federal Regulation: The Case of Climate Change*, 155 U. PA. L. REV. 1499, 1523–24 (2007) (describing Oregon and Washington laws requiring new or modified plants to reduce greenhouse gas (GHG) emissions or obtain offsets, and New Hampshire and Massachusetts laws setting emission caps with offsets for existing plants). Among the most recent actions, Massachusetts adopted an ambitious economy-wide GHG emissions cap. See Martha Kessler, *State Legislature Passes Measure To Cap Greenhouse Gas Emissions*, 39 Env't Rep. (BNA) 1612 (Aug. 8, 2008) (describing Massachusetts legislature's passage of measure requiring GHG emissions reductions of up to 25% below 1990 levels by 2020 and 80% below such levels by 2050). States have also worked collectively: Seven regional organizations have been formed to address climate change. Eleanor Stein, *Regional Initiatives To Reduce Greenhouse Gas Emissions*, in GLOBAL CLIMATE CHANGE AND U.S. LAW, *supra* note 15, at 315, 315–16. The most prominent of these is the Regional Greenhouse Gas Initiative, formed by ten northeastern and mid-Atlantic states, which creates a regional cap-and-trade market for carbon dioxide emissions. Reg'l Greenhouse Gas Initiative, About RGGI, <http://www.rggi.org/about> (last visited Feb. 25, 2009). Seven western states and four Canadian provinces have formed the Western Climate Initiative, <http://www.westernclimateinitiative.org> (last visited Feb. 25, 2009), while nine midwestern states and two Canadian provinces have formed the Midwestern Greenhouse Gas Reduction Accord, <http://www.midwesternaccord.org> (last visited Feb. 25, 2009).

¹⁷ A.B. 32, 2005–2006 Leg., Reg. Sess., 2006 Cal. Stat. ch. 488 (codified at CAL. HEALTH & SAFETY CODE §§ 38500–38599 (West Supp. 2009)).

¹⁸ *Id.* § 38550. The statute mandates this overall level of GHG emissions reduction for the state and then requires the California Air Resources Board (CARB) to adopt rules and regulations to “achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions from those sources or categories of sources, in furtherance of achieving the statewide greenhouse gas emissions limit.” *Id.* § 38560.5(c).

California has also led an effort to regulate greenhouse gas emissions from motor vehicles.¹⁹ California's legal authority to regulate motor vehicle emissions results from the Federal Clean Air Act's unique statutory scheme. Title II of the Clean Air Act provides for nationally applicable technology-based standards for motor vehicle emissions²⁰ and largely preempts states from adopting or attempting to enforce their own motor vehicle emissions standards.²¹ An exception to preemption is made, however, for any state that had adopted its own vehicle emissions standards prior to March 30, 1966²²—a provision that uniquely identifies California. When Congress amended the Clean Air Act in 1967 to regulate motor vehicle emissions of criteria pollutants²³ at the federal level,²⁴ it chose to accommodate California's preexisting regulatory scheme and unique need to combat serious local pollution problems like smog. California is allowed to petition the Administrator of the EPA for a waiver from preemption in adopting its own standards.²⁵ Under the statute, the

¹⁹ See A.B. 1493, 2001–2002 Leg., Reg. Sess., 2002 Cal. Stat. ch. 200 (codified as amended at CAL. HEALTH & SAFETY CODE § 43018.5(a) (West 2006 & Supp. 2009)) (requiring State Board to “develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles”).

²⁰ See 42 U.S.C. § 7521(a)(1) (2006) (requiring EPA Administrator to prescribe by regulation “standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare”); see also RICHARD L. REVESZ, ENVIRONMENTAL LAW AND POLICY 453 (2008) (describing statutory scheme for mobile source regulation).

²¹ See 42 U.S.C. § 7543(a) (2006) (“No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part.”).

²² *Id.* § 7543(b).

²³ Criteria pollutants are pollutants for which the EPA Administrator has issued air quality criteria. The Administrator issues such criteria for air pollutants whose emissions, in the Administrator's judgment, “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7408(a)(1)(A), (a)(2) (2006). The current list of criteria pollutants—which has not been expanded since 1976—includes sulfur oxides, particulates, carbon monoxide, hydrocarbons, ozone, nitrogen oxides, and lead. REVESZ, *supra* note 20, at 316.

²⁴ National Emissions Standards Act, Pub. L. No. 90-148, tit. II, § 202, 81 Stat. 499, 499 (1967) (codified as amended at 42 U.S.C. § 7521 (2006)). Congress first passed a statute authorizing the federal regulation of automobile emissions in 1965, but that statute contained no express preemption provision. Motor Vehicle Pollution Control Act, Pub. L. No. 89-271, tit. II, § 202, 79 Stat. 992, 992–93 (1965). For a brief overview of this legislative history, see *Motor & Equipment Manufacturers Ass'n v. EPA*, 627 F.2d 1095, 1108–10 (D.C. Cir. 1979).

²⁵ 42 U.S.C. § 7543(b)(1) (2006). Congress chose to provide a waiver mechanism to California both in recognition of the unique environmental problems facing the state and in order to preserve the state's role as a source of policy innovation. See S. REP. NO. 90-403, at 33 (1967) (discussing unique circumstances facing California and enumerating benefits of allowing it to continue to serve as “the testing area for such lower standards” that

Administrator must grant California's waiver request for standards that are at least as protective as federal standards "in the aggregate" unless the Administrator finds that the State's standards are (1) arbitrary and capricious; (2) not justified by "compelling or extraordinary conditions"; or (3) inconsistent with section 202's requirement²⁶ that standards provide adequate lead time for technological development and give appropriate consideration to compliance costs.²⁷ While other states are preempted from adopting their own regulations for motor vehicles,²⁸ a 1977 amendment to the Clean Air Act allows them to opt into California's regulations (provided that California's waiver is granted) rather than to adhere to federal standards.²⁹

California has used its unique authority to enact more stringent standards for several different pollutants.³⁰ Most recently, the state legislature passed A.B. 1493,³¹ the nation's first law to regulate greenhouse gas emissions from motor vehicles. Pursuant to the 2002 law, the California Air Resources Board (CARB) promulgated regulations in 2004 establishing specific greenhouse gas reduction standards.³² Attempting to opt in, sixteen states followed California by adopting or announcing an intention to adopt the State's standards and by joining California's waiver petition to the EPA.³³

Beyond the context of climate change, states have demonstrated leadership on a variety of other important environmental issues. For instance, the majority of states have developed programs—some of which are broader than the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)³⁴—to clean

might then lead to stronger federal standards); *Motor & Equip. Mfrs. Ass'n*, 627 F.2d at 1109–10 (summarizing benefits Senate Committee expected waiver provision to provide, including benefits to nation from California "experiments").

²⁶ 42 U.S.C. § 7521(a)(2) (2006).

²⁷ *Id.* § 7543(b)(1).

²⁸ See *supra* note 21 and accompanying text.

²⁹ See Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 129(b), 91 Stat. 685, 750 (codified as amended at 42 U.S.C. § 7507 (2006)) (allowing other states to adopt emission control measures for mobile sources, provided that such measures are identical to California standards for which EPA has previously granted waiver and that such states have areas in nonattainment for Federal National Ambient Air Quality Standards).

³⁰ See Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 HARV. L. REV. 553, 588 (2001) (describing California's adoption of vehicle emissions standards "considerably more stringent" than federal standards under Clean Air Act's 1990 amendments).

³¹ A.B. 1493, 2001–2002 Leg., Reg. Sess., 2002 Cal. Stat. ch. 200 (codified as amended at CAL. HEALTH & SAFETY CODE § 43018.5(a) (West 2006 & Supp. 2009)).

³² CAL. CODE REGS. tit. 13, § 1961.1 (2008).

³³ See John M. Broder & Felicity Barringer, *E.P.A. Says 17 States Can't Set Greenhouse Gas Rules for Cars*, N.Y. TIMES, Dec. 20, 2007, at A1 (listing states that had adopted or planned to adopt California's standards).

³⁴ 42 U.S.C. §§ 9601–9675 (2006).

up and regulate hazardous wastes.³⁵ States have cleaned up thousands of sites that are not eligible for federal funding because they do not appear on the National Priorities List³⁶ and have provided particular leadership with “brownfield” redevelopment.³⁷

The regulation of mercury emissions is another compelling example of aggressive state environmental policies. In 2005, after Congress failed to pass new standards for mercury as part of President Bush’s Clear Skies Initiative, the EPA issued the Clean Air Mercury Rule (CAMR)³⁸ establishing a cap-and-trade program for mercury under section 111 of the Clean Air Act. EPA officials aggressively promoted CAMR, campaigning against more stringent state programs in the period preceding the deadline for submission of state plans.³⁹ But before the regulation was struck down,⁴⁰ states from across the country moved with “noteworthy” speed to opt out of the federal pro-

³⁵ See Revesz, *supra* note 30, at 596–98 (noting that every state has liability provisions for hazardous waste, many of which extend beyond federal requirements and impose more severe penalties, including punitive damages).

³⁶ See ENVTL. LAW INST., AN ANALYSIS OF STATE SUPERFUND PROGRAMS: 50-STATE STUDY, 2001 UPDATE, at 7 (2002) (“By the end of [fiscal year 2000], the states had completed cleanups at a total of about 29,000 non-[National Priorities List] sites since the start of their respective cleanup programs.”). Under CERCLA, the President—who has delegated the authority to the EPA—must maintain a National Priorities List designating sites where the threatened release of a hazardous substance is greatest. 42 U.S.C. § 9605(a)(8)(B). Only sites on this list are eligible for federal superfund funding for long-term remedial actions. See *id.* § 9611(a)(2).

³⁷ William W. Buzbee, *Brownfields, Environmental Federalism, and Institutional Determinism*, 21 WM. & MARY ENVTL. L. & POL’Y REV. 1, 41 (1997). Brownfields are defined as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.” 42 U.S.C. § 9601(39) (2006). The “complication” refers to the fact that without a legal exemption, a party who buys and seeks to redevelop a brownfield site takes on the risk of potentially significant liability if there is a future release or threat of release of a hazardous substance on the property. See Buzbee, *supra*, at 3–4 (describing risk of liability created by environmental contamination at brownfield sites). State action on brownfields ultimately prompted federal reform. See Small Business Liability Relief and Brownfields Revitalization Act of 2002, Pub. L. No. 107-118, § 222, 115 Stat. 2356, 2370–72 (codified as amended at 42 U.S.C. §§ 9601, 9607 (2006)) (providing protection from CERCLA liability to developers who meet conditions necessary to be categorized as “bona fide prospective purchasers” of contaminated property and providing federal funding for brownfield redevelopment); Kirsten H. Engel, *Harnessing the Benefits of Dynamic Federalism in Environmental Law*, 56 EMORY L.J. 159, 172–73 (2006) (discussing state regulatory actions as prompting amendment to CERCLA).

³⁸ Clean Air Mercury Rule, 70 Fed. Reg. 28,606 (May 18, 2005) (codified in scattered sections of 40 C.F.R. pts. 60, 72, 75).

³⁹ EPA *Fighting State Adoption of Strict Mercury Control Regulations*, CLEAN AIR REP., May 4, 2006, available at 2006 WLNR 7546158.

⁴⁰ *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008), *cert. denied*, No. 08-512, 2009 WL 426395 (U.S. Feb. 23, 2009).

gram.⁴¹ By early 2007, twenty-two states had adopted more stringent mercury standards with earlier effective dates than CAMR required.⁴²

B. *The Rise of Federal Ceiling Preemption*

Increased federal ceiling preemption threatens states' innovative policymaking. Federal ceiling preemption has expanded in environmental law as the result of broad interpretations of existing statutes by courts and agencies as well as the enactment of new legislation by Congress expressly displacing state regulatory authority. For example, the Energy Policy Act of 2005⁴³ takes away states' final authority over siting decisions for liquefied natural gas terminals⁴⁴ and limits their ability to require cleaner-burning gasoline and diesel fuel.⁴⁵ Less prominently, Congress issued a rider to the Consolidated Appropriations Act of 2004, preempting all states other than California from regulating emissions from small engines such as lawnmowers.⁴⁶

Yet most preemption debates in environmental law concern the preemptive scope of existing statutes. Preemption under a statute may be either express or implied.⁴⁷ Express preemption simply requires that a court find that a state's regulation falls within the scope

⁴¹ JAMES E. MCCARTHY, CONG. RESEARCH SERVICE, *MERCURY EMISSIONS FROM ELECTRIC POWER PLANTS: STATES ARE SETTING STRICTER LIMITS 6* (2007), available at <http://www.ncseonline.org/NLE/CRSreports/07March/RL33535.pdf>. Consistent with the structure of the Clean Air Act, states had the option to adopt the Clean Air Mercury Rule (CAMR) or to develop their own mercury emissions controls as part of their State Implementation Plan (SIP). This is because aside from a single specific exception in the Clean Air Act, the EPA may not condition SIP approval on a state's adoption of particular emissions controls. *Virginia v. EPA*, 108 F.3d 1397, 1407–10 (D.C. Cir. 1997).

⁴² See MCCARTHY, *supra* note 41, at 3, 6 (noting that compliance dates for state emissions caps range from 2007 to 2015); Rabe, *supra* note 1, at 426 (noting that Maryland, Michigan, and New York all require at least 90% mercury emissions reduction within decade). States also restricted interstate and intrastate trades of emissions credits for mercury, arguing that a market approach would produce unacceptable "hot spots" for mercury, a pollutant with significant local effects. MCCARTHY, *supra* note 41, at 3.

⁴³ Pub. L. No. 109-58, 119 Stat. 594 (codified predominantly in scattered sections of 42 U.S.C.).

⁴⁴ *Id.* § 311(c)(2), 119 Stat. at 685–86 (codified at 15 U.S.C. § 717b(e)(1) (2006)).

⁴⁵ *Id.* § 1541(b), 119 Stat. at 1107 (codified at 42 U.S.C. § 7545(c)(4)(C)(v)(I) (2006)).

⁴⁶ Pub. L. No. 108-199, § 428, 118 Stat. 3, 418–19. This appropriations bill altered the Clean Air Act's preexisting framework under which states were permitted to opt into California's more stringent emissions standards for small engines as well as for larger motor vehicles. See STAFF OF THE H. COMM. ON GOV'T REFORM, CONGRESSIONAL PRE-EMPTION OF STATE LAWS AND REGULATIONS 30 (2006), available at <http://oversight.house.gov/documents/20060606095331-23055.pdf> (stating that Consolidated Appropriations Act of 2004 took away states' ability under Clean Air Act to adopt California air pollution standards for small engines); *State Officials Fume over Senate Small Engine Emissions Deal*, CLEAN AIR REP., Dec. 4, 2003, available at 2003 WLNR 98072.

⁴⁷ *Gade v. Nat'l Solid Wastes Mgmt. Ass'n*, 505 U.S. 88, 98 (1992).

of a federal statute's expressly articulated preemption provision.⁴⁸ The Clean Air Act's treatment of state regulation of motor vehicles, as described above, is probably the most conspicuous example of express preemption in environmental law.⁴⁹ Absent a waiver, the Clean Air Act prohibits any state or subdivision from "adopt[ing] or attempt[ing] to enforce any standard relating to the control of emissions from new motor vehicles or . . . engines."⁵⁰ The Supreme Court has interpreted "standard" broadly, holding that it encompasses regulations restricting both the purchase and the manufacture of motor vehicles, thus invalidating a major Los Angeles-area program establishing emission requirements for the purchase or lease of vehicles by certain public and private fleet operators.⁵¹ More recently, in December 2007, then-EPA Administrator Stephen Johnson denied California's petition under the Clean Air Act to adopt greenhouse gas regulations for motor vehicle emissions.⁵² This decision left California's regulations preempted by the express terms of section 209 of the Clean Air Act,⁵³ which applies to California as well as other states if the EPA declines to grant a waiver petition.⁵⁴ Until the decision is reversed—as now appears likely under the Obama administration⁵⁵—it prevents California and other states who have adopted California's standards from enforcing these more stringent regulations, effectively imposing a form of federal ceiling preemption.

⁴⁸ See *Shaw v. Delta Air Lines, Inc.*, 463 U.S. 85, 95–96 (1983) (interpreting statutory language to determine scope of express preemption provisions under Employee Retirement Income Security Act).

⁴⁹ See *supra* notes 20–29 and accompanying text.

⁵⁰ 42 U.S.C. § 7543(a).

⁵¹ *Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist.*, 541 U.S. 246, 249–50, 255 (2004). However, the Ninth Circuit subsequently held that the fleet rules were not preempted by the Clean Air Act as applied only to vehicle procurement by state and local government entities, because the rules fell within the market participant doctrine exception to preemption. *Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist.*, 498 F.3d 1031, 1039–48 (9th Cir. 2007).

⁵² Janet Wilson, *EPA Chief Is Said To Have Ignored Staff; The Head of the Agency Rejected Written Findings in Ruling Against a California Emissions Law*, *Sources Say*, L.A. TIMES, Dec. 21, 2007, at A30. This agency decision will be discussed in Part III.B, *infra*.

⁵³ 42 U.S.C. § 7543.

⁵⁴ See *supra* notes 20–29 (describing Clean Air Act preemption, waiver process, and standards).

⁵⁵ With the change in presidential administrations in 2009, California has asked the EPA to reconsider its waiver denial. Letter from Mary D. Nichols, Chairman, Cal. Air Res. Bd., to Lisa P. Jackson, Administrator-Designate, EPA (Jan. 21, 2009), available at <http://www.arb.ca.gov/newsrel/arbwaiverrequest.pdf>. President Obama has issued a presidential memorandum to the EPA supporting reconsideration, and the agency is expected to reverse course and grant the waiver request after completing a formal review process. John M. Broder & Peter Baker, *Obama's Order Is Likely To Tighten Auto Standards*, N.Y. TIMES, Jan. 26, 2009, at A1.

In contrast, preemption of state and local environmental regulations under implied preemption theories does not necessarily depend on express statutory language. Instead, implied preemption is generally based on an assessment that the regulations “conflict” with federal laws.⁵⁶ For example, multiple circuit courts have held that various state and local laws, such as those regulating hazardous-waste control and cleanup, were preempted by federal law because of perceived conflicts with federal schemes.⁵⁷ Likewise, when the Department of Transportation recently proposed rules to increase average fuel economy standards, it persisted in its view that not only are state regulations of greenhouse gas emissions from motor vehicles expressly preempted by the Energy Policy and Conservation Act (EPCA)⁵⁸ because they are “related to” fuel economy standards,⁵⁹ but also that such state regulations conflict with EPCA and the more recently enacted Energy Independence and Security Act.⁶⁰

The threat to local regulations from federal ceiling preemption may continue to increase. Industry groups persistently lobby Congress and federal agencies to extend the preemptive force of federal environmental law.⁶¹ Even presuming that the new Democratic

⁵⁶ See *Crosby v. Nat'l Foreign Trade Council*, 530 U.S. 363, 372–73 (2000) (outlining conflict preemption, also known as “obstacle” preemption). State law may also be subject to implied preemption if the federal government is held to occupy “the field.” See *id.* at 372 (“When Congress intends federal law to ‘occupy the field,’ state law in that area is preempted.”).

⁵⁷ See, e.g., *Fireman's Fund Ins. Co. v. City of Lodi*, 302 F.3d 928, 948–49 (9th Cir. 2002) (holding higher burden of proof imposed by city for apportioning hazardous-waste cleanup liability was in conflict with and preempted by CERCLA); *Boyes v. Shell Oil Prods. Co.*, 199 F.3d 1260, 1269 (11th Cir. 2000) (holding Florida law regulating underground petroleum tanks conflicted with and was preempted by Resource Conservation and Recovery Act (RCRA)); see also *Clean Air Mkts. Group v. Pataki*, 338 F.3d 82, 84, 89 (2d Cir. 2003) (finding New York law restricting trades of sulfur dioxide allowances by in-state sources to upwind sources preempted by Title IV of Clean Air Act).

⁵⁸ Pub. L. No. 94-163, 89 Stat. 871 (1975) (codified as amended at 49 U.S.C. §§ 32901–32919 (2000 & Supp. V 2005)).

⁵⁹ Average Fuel Economy Standards, Passenger Cars and Light Trucks; Model Years 2011–2015, 73 Fed. Reg. 24,352, 24,478 (proposed May 2, 2008) (to be codified at 49 C.F.R. pts. 523, 531, 533–34, 536–37) [hereinafter Fuel Economy Standards]. For additional discussion of express preemption under the Energy Policy and Conservation Act (EPCA) as applied to California's regulations, see *infra* notes 147, 152–56 and accompanying text.

⁶⁰ Pub. L. No. 110-140, § 102, 2007 U.S.C.C.A.N. (121 Stat.) 1492, 1498–1501 (to be codified at 49 U.S.C. § 32902); Fuel Economy Standards, *supra* note 59, at 24,478–79.

⁶¹ For example, in May 2007, an industry group filed a petition with the Department of Transportation to preempt Maine's strict hazardous-waste transport rules for cathode ray tubes—a material not designated as hazardous by federal law. State regulators expressed fear that approval of the petition could undermine other state efforts to set hazardous-waste transport rules that are stricter than the EPA's regulations under RCRA. See *States Seek EPA Help in Opposing Industry Hazardous Waste Petition*, INSIDE THE EPA, Oct. 12, 2007, available at 2007 WLNR 19940034.

Congress and President will be more interested than their predecessors in preserving the states' ability to adopt stringent environmental regulations, there remain many areas where questions about the proper scope of federal ceiling preemption are sure to arise.

Perhaps the greatest battle looms over climate change policy. To date, Congress has failed to take meaningful action to address climate change,⁶² but already a "heated debate over preemption" is being waged.⁶³ Business leaders have argued that inconsistent state standards create the need for a preemptive federal policy addressing climate change.⁶⁴ State leaders, however, have supported federal action but have lobbied against federal ceiling preemption.⁶⁵ If and when Congress does adopt comprehensive legislation, such legislation could place the status of state programs in doubt.⁶⁶ Several previously advanced bills related to climate change—including bills with Democratic sponsors—have included express preemption provisions.⁶⁷ The states' future role in climate change policy and the preemptive scope of federal legislation are thus important questions that Congress, federal agencies, and courts will address in coming years.

⁶² See David M. Herszenhorn, *After Verbal Fire, Senate Effectively Kills Climate Change Bill*, N.Y. TIMES, June 7, 2008, at A12 (describing failure of Lieberman-Warner climate change bill).

⁶³ See David E. Adelman & Kirsten H. Engel, *Adaptive Federalism: The Case Against Reallocating Environmental Regulatory Authority*, 92 MINN. L. REV. 1796, 1796–97 & nn.2–3 (2008) (listing competing and conflicting congressional proposals and noting that review of bills before Congress "reveals a heated debate over preemption").

⁶⁴ Felicity Barringer, *A Coalition for Firm Limit on Emissions*, N.Y. TIMES, Jan. 19, 2007, at C1.

⁶⁵ See Dean Scott, *Governors Urge Congress To Set Carbon Cap but Want To Protect States from Preemption*, 38 Env't Rep. (BNA) 2452 (Nov. 16, 2007) (reporting testimony by then-New York Governor Eliot Spitzer and then-Arizona Governor Janet Napolitano before House Select Committee on Energy Independence and Global Warming "urg[ing] lawmakers to ensure that states will not be preempted from enacting more stringent [climate change] policies"); *States Unite To Oppose Industry Efforts To Preempt GHG Programs*, CLEAN AIR REP., Aug. 23, 2007, available at 2007 WLNR 16316710 (reporting resolutions adopted by National Governors Association and National Council of State Legislatures opposing federal preemption regarding climate change policy).

⁶⁶ See Daniel A. Farber, *Climate Change, Federalism, and the Constitution*, 50 ARIZ. L. REV. 879, 914–20 (2008) (discussing whether certain types of state climate change laws and regulations would likely be preempted by comprehensive federal climate change law); Richard B. Stewart, *States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures*, 50 ARIZ. L. REV. 681, 706 (2008) (arguing that courts should avoid finding implied preemption of city and state efforts to address climate change).

⁶⁷ See, e.g., Dean Scott, *House Energy Chairman Releases Draft Bill That Would Preempt State Climate Actions*, 39 Env't Rep. (BNA) 2018 (Oct. 10, 2008) (describing proposed comprehensive climate change legislation by Democratic Representative John Dingell—then chairman of House Energy and Commerce Committee—that "would block California and other states and regions from enforcing their own rules" relating to greenhouse gas emissions).

II

COST EXTERNALIZATION AND FEDERAL PREEMPTION

Leading environmental law scholars have criticized the rise of federal ceiling preemption. They argue that federal ceiling preemption undermines state creativity, frustrates citizen preferences for enhanced environmental protection, and forgoes the benefits of concurrent regulatory authority.⁶⁸ Yet these paeans to federalism and state regulatory autonomy, by themselves, are often unsatisfactory. Scholars critical of federal ceiling preemption in environmental law generally do not adequately address the concern that a state may adopt regulatory experiments that allow it to externalize costs to the rest of the nation while obtaining the environmental benefits for its own citizens. In neglecting this concern, these scholars fail to engage with the strongest argument in favor of federal ceiling preemption.

The first Section of this Part surveys the existing critiques of expanded ceiling preemption and argues that they fail to consider the problem of regulatory cost externalization adequately. The second Section develops the argument that cost externalization may provide a basis for federal ceiling preemption and explains the normative appeal of the argument. The third Section categorizes the ways in which state regulations may externalize costs to other states, and the fourth introduces the practical limits of the cost-externalization argument for federal ceiling preemption.

A. Existing Critiques of Preemption in Environmental Law

Debates in environmental federalism scholarship historically centered on the propriety of minimum federal standards.⁶⁹ Many commentators argued that the federal government should mandate minimum environmental standards to ensure a basic level of environmental quality throughout the country and thereby prevent interstate competition and public choice pressures from producing insufficient environmental protection.⁷⁰ Now, as the primary locus for environ-

⁶⁸ See *infra* Part II.A.

⁶⁹ See *supra* note 13 and accompanying text (giving prominent examples of such arguments).

⁷⁰ See, e.g., Engel, *supra* note 13, at 278 (arguing that state environmental standards would be suboptimal in absence of federal framework due to game-theoretic competition between states); Joshua D. Sarnoff, *The Continuing Imperative (but Only from a National Perspective) for Federal Environmental Protection*, 7 DUKE ENVTL. L. & POL'Y F. 225, 278-87 (1997) (arguing that environmental interests "attain greater representation at the federal level"); Stewart, *supra* note 13, at 1211-15 (developing classic arguments supporting minimum federal standards including, inter alia, tragedy of commons resulting from competition for mobile industries and disparities of effective organization for environmental groups at state level).

mental regulation has moved from the federal government to the states, many environmental law scholars' attitudes toward federalism and the importance of state autonomy have apparently shifted as well. Scholars who once contended that states could not be trusted to protect the environment adequately without minimum federal environmental standards now criticize the federal government for imposing regulatory ceilings on states via federal preemption.⁷¹

This shift requires a more principled explanation than simply favoring the more stringent regulator. On the surface, after all, the federal government's imposition of regulatory ceilings on states is symmetric to its imposition of regulatory floors. In either case, federal standards prevent at least some states from adopting their preferred levels of environmental protection. Both federal ceilings and federal floors disable states from tailoring their regulations according to state-level preferences and unique local conditions that affect the costs and benefits of environmental protections.⁷² In either case, pathologies affecting state-level regulation may justify federal intervention despite the lost benefits of decentralization.

Commentators do attempt to distinguish between minimum federal floors and federal ceiling preemption, emphasizing the benefits of concurrent regulatory authority that exist under the former model but not the latter.⁷³ William Buzbee, for instance, argues that an asymmetrical preference for federal floors promotes institutional diversity and allows for innovation by enlisting multiple layers of regulators and common law regimes to overcome government failures.⁷⁴ He argues that while uniform federal standards rely on an unrealistic expectation that a single level of government (the federal) will always exhibit sound regulatory judgment, minimum federal standards permit

⁷¹ Compare, e.g., Engel, *supra* note 13, at 375 (arguing that costs of abandoning minimum federal standards would far outweigh benefits because evidence supports existence of social welfare-reducing interstate competition), with Engel, *supra* note 37, at 184 (arguing that federal preemption poses threat to "dynamic federalism" because it "cuts short the lawmaking process and products of an entire level of democratic government").

⁷² See Revesz, *supra* note 9, at 536–38 (outlining benefits of decentralization).

⁷³ See, e.g., Adelman & Engel, *supra* note 63, at 1833 ("[C]eiling preemption . . . feeds the policy preferences of the powerful business interest groups most likely to leverage their abundant political power to undercut diversity and innovation in environmental policymaking."); Buzbee, *supra* note 5, at 1555 ("Principled rationales exist to distinguish and embrace a protective federal one-way ratchet of floor preemption, or at least to see floor preemption as less institutionally problematic than the new breed of ceiling preemption . . .").

⁷⁴ See Buzbee, *supra* note 5, at 1585–89, 1599–1600 (arguing that institutional diversity retained under floor preemption promotes innovation and avoids status quo bias that results from allocating regulatory power to single level of government).

both levels of government to address problems⁷⁵—provided, of course, that states do not opt for less stringent regulations than federal law mandates.

Other commentators agree, arguing that concurrent authority over environmental protection provides citizens and environmental interest groups with access to multiple forums in which to seek environmental protection through regulation, whereas federal ceilings favor organized industry groups who have superior ability to lobby for uniform pro-business regulation at the federal level.⁷⁶ In short, these commentators argue that minimum federal standards provide a desirable “safety net” that prevents any one level of government from sacrificing environmental protection,⁷⁷ whereas federal regulatory ceilings promote undesirable regulatory stasis,⁷⁸ decrease regulatory diversity, and allow dominant interest groups to solidify their advantages by devoting their lobbying resources to a single forum.⁷⁹

An analysis that focuses solely on the benefits of concurrent regulatory authority cannot mount a complete attack against federal ceiling preemption, however. It is true that federal ceiling preemption sacrifices the benefits of concurrent authority. Yet even if this could justify an initial presumption against preemption, the presumption could be overcome by a showing that states are sometimes predisposed to overregulate. Such an argument would mirror the way proponents justified minimum federal standards: by highlighting claimed instances in which states systematically underregulate.⁸⁰

⁷⁵ See *id.* at 1592–99 (discussing risks of regulatory failure that accompany ceiling preemption adopting uniform federal choice).

⁷⁶ See, e.g., Engel, *supra* note 37, at 184–85 (describing federal preemption as “an unpleasant by-product of interest group lobbying” and recognizing that while environmental interests favor federal floors, industry groups favor federal ceilings); Glicksman, *supra* note 2, at 801 (“The existence of overlapping federal and state authority to adopt environmental protection programs allows citizens to have access to multiple forums for seeking government assistance in promoting the protection of health, safety, and the environment.”).

⁷⁷ Adelman & Engel, *supra* note 63, at 1832.

⁷⁸ As a matter of theory, there would be no reason to suppose that federal ceilings are necessarily more likely than federal floors to lead to regulatory stasis. Yet as William Buzbee points out, federal “ceilings” can be a misnomer. Whereas federal environmental laws that establish federal floors permit states to adopt their own standards if they are more stringent, federal ceiling preemption typically establishes a unitary federal standard that prevents states from adopting standards that diverge in any way. Buzbee, *supra* note 5, at 1558–59. In this way, federal ceilings often also operate as federal floors, heightening the regulatory stasis concern.

⁷⁹ See Adelman & Engel, *supra* note 63, at 1836 (arguing that federal ceiling preemption is undesirable in part because it allows business interests to take advantage of “one-stop shopping” and avoid expenses of lobbying in fifty different states).

⁸⁰ See, e.g., Stewart, *supra* note 13, at 1211–19 (providing rationales for centralization in environmental policy).

While commentators often claim that the principal arguments in favor of federal floors do not support federal ceiling preemption,⁸¹ some have recognized that permitting diverse state regulation may impose costs. For instance, commentators accept that uniform federal regulatory standards are often beneficial, particularly regarding standards for products with national markets and large economies of scale in production.⁸² Commentators also acknowledge that federal ceiling preemption may be necessary in some instances to combat the “not in my backyard” (NIMBY) tendency that may emerge in the guise of environmental protection.⁸³ Yet many of these commentators have paid insufficient attention to the more general possibility that states may systematically overregulate when they can externalize the costs of their regulations beyond their borders.⁸⁴

Without greater attention to this cost-externalization argument, the normative case against ceiling preemption in environmental law is incomplete, because such a pathology could justify federal ceiling preemption despite the lost benefits of concurrent regulatory authority. Assumptions that “[f]ederal standards that allow states to set more

⁸¹ See, e.g., Robert L. Glicksman & Richard E. Levy, *A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation: The Case of Global Climate Change*, 102 Nw. U. L. REV. 579, 603–06 (2008) (contending that negative externalities, resource pooling, and race-to-the-bottom arguments for federal floors do not similarly support federal ceilings because they do not suggest tendency to overregulate); Nash, *supra* note 7, at 1004–08 (contending that traditional arguments supporting federal regulatory floors do not also support federal regulatory ceilings because, inter alia, race-to-the-bottom argument lacks race-to-the-top counterpart).

⁸² E.g., Buzbee, *supra* note 5, at 1603; Esty, *supra* note 13, at 618–19; Glicksman & Levy, *supra* note 81, at 598–600, 606–07.

⁸³ E.g., Buzbee, *supra* note 5, at 1571–72, 1614; Glicksman & Levy, *supra* note 81, at 600–02, 608; see also Thomas W. Merrill, *Preemption in Environmental Law: Formalism, Federalism Theory, and Default Rules*, in FEDERAL PREEMPTION: STATES’ POWERS, NATIONAL INTERESTS 166, 175–76, 183–85 (Richard A. Epstein & Michael S. Greve eds., 2007) (advocating default rule in favor of preemption modeled after Dormant Commerce Clause doctrine to prevent cost externalization in “not in my backyard” (NIMBY) context).

⁸⁴ Buzbee, for instance, primarily addresses this argument in a single footnote. See Buzbee, *supra* note 5, at 1608 & n.216 (claiming cost-externalization argument “has intuitive appeal but rests on somewhat shaky foundations” and that some cost externalization is inevitable unless all regulation is nationalized). Likewise, Glicksman and Levy treat the possibility that the regulation of pollution-causing goods that move in interstate commerce may export costs as an exception to the general rule that stricter environmental regulations do not produce externalities. They rightly recognize that “[t]he case for displacing state regulatory authority is strongest with respect to those areas in which each state has incentives to make regulatory decisions that serve the state’s own interests while damaging the interests of the collective.” Glicksman & Levy, *supra* note 81, at 602. Yet they, too, largely relegate the discussion to a footnote. *Id.* at 604 & n.115. *But see* Stewart, *supra* note 66, at 692–93 & n.54 (arguing that one factor explaining continued role of subnational actors in climate initiatives is states’ ability to impose costs on manufacturers and consumers in other jurisdictions and acknowledging this can have “economically vicious” effects).

stringent standards establish an appropriate balance,”⁸⁵ or that there is no reason to deprive states of the freedom to “sacrifice[]” for environmental protection by adopting more stringent standards,⁸⁶ miss the mark. Before the case in favor of ceiling preemption can be rejected, one must show that the sacrifice is largely the states’ own and confirm that the states’ regulations are not on balance detrimental to national welfare.

B. Cost Externalization as an Argument for Ceiling Preemption

While opponents of ceiling preemption celebrate the virtues of state regulatory autonomy, the values of federalism cannot include leaving states free to extract costs from nonresidents to the disadvantage of other states and the nation as a whole. From this premise, some commentators argue that federal ceiling preemption is justified when necessary to limit cost externalization and that courts should interpret federal statutes to preempt state laws to prevent states from adopting regulations that export a disproportionate share of their costs.⁸⁷

Cost externalization is an inevitable byproduct of “dividing the nation into fifty geographic zones,”⁸⁸ because some environmental problems will be generated by out-of-staters. Externalities that are not internalized by the decisionmaker are presumptively undesirable because when they exist, they cause the decisionmaker’s private welfare-maximizing action to diverge from what is socially desirable. As applied to state regulation, cost externalization is undesirable because it leads states to oversupply regulation. State residents obtain the benefits of regulation while exporting the costs.⁸⁹ Therefore, state governments and regulators have incentives to enact stringent environmental regulations for their constituents at the expense of others.⁹⁰ According to this argument, states may serve as laboratories for new regulatory policy precisely because they do not internalize the costs of their creativity.⁹¹

⁸⁵ Alice Kaswan, *The Domestic Response to Global Climate Change: What Role for Federal, State, and Litigation Initiatives?*, 42 U.S.F. L. REV. 39, 82 (2007).

⁸⁶ *Id.* at 81.

⁸⁷ *E.g.*, Issacharoff & Sharkey, *supra* note 10, at 1370–72; Merrill, *supra* note 83, at 175.

⁸⁸ E. Donald Elliott, Bruce A. Ackerman & John C. Millian, *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 329 (1985).

⁸⁹ Michael S. Greve, *Against Cooperative Federalism*, 70 MISS. L.J. 557, 586 (2000).

⁹⁰ Elliott et al., *supra* note 88, at 329.

⁹¹ See Roderick M. Hills, Jr., *Against Preemption: How Federalism Can Improve the National Legislative Process*, 82 N.Y.U. L. REV. 1, 5 (2007) (arguing that state creativity may consist solely of exporting costs to sister states); Richard L. Revesz, *Federalism and*

In addition to jeopardizing national social welfare, cost externalization also undermines democratic accountability. When state legislatures or administrative agencies export costs to neighboring states, neither citizens nor industries of those states can hold the legislators and regulators democratically accountable, whether by voting or by leaving the jurisdiction.⁹² As one commentator colorfully writes, when states can externalize the costs of their laws, “the folks who foot the bill can neither run away nor vote the bums out of office.”⁹³ Federal ceiling preemption is proffered as a solution to this problem, as it ensures that the federal government—which is democratically accountable to the entire nation—considers and balances all the costs and benefits of regulation.

C. *Varieties of Cost Externalization*

This Section advances three categories of cost externalization involving true externalities.⁹⁴ These categories set the stage for an analysis of the limits of the cost-externalization argument for federal ceiling preemption in the next Section and allow for a more nuanced examination of cost externalization in Part III.⁹⁵

Interstate cost externalization is commonly associated with state protectionism, but the problem is more general. Even when environmental regulations do not benefit domestic producers, states may pass stringent regulations because they can “pass off the costs of those standards to producers in foreign jurisdictions while reaping locally

Environmental Regulation: Lessons for the European Union and the International Community, 83 VA. L. REV. 1331, 1335 (1997) (claiming that product standards may fail to maximize overall welfare when jurisdiction lacks incentive to consider negative impact of regulation on out-of-state producers and consumers).

⁹² Issacharoff & Sharkey, *supra* note 10, at 1355, 1370.

⁹³ Michael S. Greve, *Subprime, but Not Half-Bad: Mortgage Regulation as a Case Study in Preemption*, AEI FEDERALIST OUTLOOK, Sept.–Oct. 2003, at 4, available at http://www.aei.org/doclib/20031006_no.19_15853graphics.pdf, quoted in Issacharoff & Sharkey, *supra* note 10, at 1369 n.49.

⁹⁴ True externalities, also known as technological externalities, describe instances in which the existence of an externality produces an inefficient shift in resource allocation, leading to a state of affairs that is not Pareto optimal. WILLIAM J. BAUMOL & WALLACE E. OATES, *THE THEORY OF ENVIRONMENTAL POLICY* 30 (2d ed. 1988). In contrast, pecuniary externalities describe instances in which one party’s (or one state’s) activities affect another’s financial condition without leading to inefficient resource allocation under conditions of pure competition because the externality operates through the price mechanism of supply and demand. *Id.* at 29.

⁹⁵ These categories are not mutually exclusive. For instance, environmental product regulations may sometimes impose costs on out-of-state consumers (perhaps by creating disuniformity and disrupting economies of scale), see *infra* Part III.C.1, as well as on out-of-state producers, see *infra* Part III.C.2.

the benefits”—environmental or otherwise—“of such regulation.”⁹⁶ In fact, states are often accused of cost externalization when they pass regulations targeting an industry that lacks a substantial presence in the state.⁹⁷

The focus here is on interstate externalities that may induce states to adopt suboptimally stringent standards when the state acts rationally from the standpoint of its overall domestic welfare. This approach generally excludes deliberately protectionist laws and regulations that attempt to benefit in-state industries by placing out-of-state producers at a competitive disadvantage.⁹⁸ While protectionist regulations externalize costs and clearly harm national interests (and therefore generally should be candidates either for federal ceiling preemption or judicial invalidation under the Dormant Commerce Clause),⁹⁹ they present a different type of problem than the categories of externalities described below. This is because in the majority of cases,¹⁰⁰ protectionist laws and regulations are suboptimal and irra-

⁹⁶ Raymond B. Ludwizewski & Charles H. Haake, *Cars, Carbon, and Climate Change*, 102 Nw. U. L. REV. 665, 672 (2008).

⁹⁷ See *infra* notes 166–67 and accompanying text (noting that critics fear California’s vehicle emissions regulations externalize costs to other states because California has no significant domestic automobile manufacturing industry).

⁹⁸ Environmental regulations are properly classified as protectionist when they subject out-of-state producers to different legal treatment simply *because* such producers are from another state. See *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 273–74 (1988) (defining economic protectionism as “regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors” and invalidating law to encourage ethanol use with tax credits that denied favorable tax treatment to certain products because they were made in other states); Donald H. Regan, *What Are Trade Agreements For?—Two Conflicting Stories Told by Economists, with a Lesson for Lawyers*, 9 J. INT’L ECON. L. 951, 962 (2006) (defining protectionism as “regulation adopted for the purpose of improving the competitive position of some group of domestic economic actors *vis-à-vis* their foreign competitors”).

⁹⁹ State environmental policies that overtly discriminate against out-of-staters are “virtually *per se* invalid” under the Dormant Commerce Clause. *Or. Waste Sys., Inc. v. Dep’t of Env’tl. Quality*, 511 U.S. 93, 99 (1994). But states also adopt more subtly protectionist regulations. For example, a state might ban the sale of milk in nonreusable plastic containers to promote recycling yet permit continued sale of nonreusable paper cartons, as it just so happens that plastic containers are produced primarily by out-of-state firms and paper cartons are produced by the state’s important pulpwood industry. See *Minnesota v. Clover Leaf Creamery Co.*, 449 U.S. 456 (1981) (presenting this fact pattern). Regulations of this type that do not overtly discriminate against nonresidents are still subject to judicial review under the Dormant Commerce Clause to determine whether their local benefits outweigh their burden on commerce. See *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970) (articulating rule that nondiscriminatory law is upheld unless incidental burden on commerce clearly exceeds local benefit).

¹⁰⁰ In limited circumstances protectionism may be beneficial to a jurisdiction. See Holger Spamann, *The Myth of ‘Rebalancing’ Retaliation in WTO Dispute Settlement Practice*, 9 J. INT’L ECON. L. 31, 41–42 (2006) (noting that country with world market share can improve terms of trade by imposing “optimal tariffs” but only if no other country with

tional for the enacting state itself, as costs are largely absorbed by in-state consumers.¹⁰¹ Protectionist regulations are perhaps best understood as a public choice problem in which concentrated in-state interests extract rents from state legislatures and agencies to the detriment of both the state and the nation.¹⁰² In contrast, the interstate externalities described below exist even when state policymakers act in the best interest of their state (but to the potential detriment of the nation as a whole).

1. *Disuniformity and Positive Externalities*

Uniform standards—which may promote business efficiency by simplifying regulations and promoting economies of scale—produce positive externalities that individual states may not fully take into account absent federal coordination.¹⁰³ This is particularly apparent as applied to the regulation of products (as opposed to processes), for which the value of uniformity is especially high.¹⁰⁴ Variable product regulations disrupt national or regional markets, creating different submarkets and compromising economies of scale in production by

similar market power retaliates). These circumstances are unlikely to apply to states within the United States. See Christopher R. Drahozal, *Preserving the American Common Market: State and Local Governments in the United States Supreme Court*, 7 SUP. CT. ECON. REV. 233, 243 (1999) (suggesting states with market power on either demand or supply sides are rare).

¹⁰¹ See NEIL VOUSDEN, *THE ECONOMICS OF TRADE PROTECTION* 30 (1990) (finding that for small country without market power to affect price of goods, restricted trade is inferior to free trade in terms of overall social welfare but that tariff might be imposed to pursue noneconomic goals like protecting jobs in certain industries); Regan, *supra* note 98, at 963 (“[P]rotectionism is usually or almost always domestically irrational . . .”).

¹⁰² See Drahozal, *supra* note 100, at 243 (“[M]any protectionist state laws can be explained as attempts to transfer wealth within the state rather than to impose costs on other states.”).

¹⁰³ Beyond uniformity, states may underprovide other national goods that involve positive externalities by enacting stringent environmental regulations. The NIMBY phenomenon is a classic example. See Michael B. Gerrard, *The Victims of NIMBY?*, 21 *FORDHAM URB. L.J.* 495, 495–96 (1994) (describing NIMBY phenomenon and focusing on negative externality effects on communities of color); see also *supra* note 83 and accompanying text (describing NIMBY). NIMBY poses a free-rider problem, where each state or local government does best if another jurisdiction hosts the facility that provides the benefit to the larger group. This may result in the underprovision of facilities and projects that are nationally beneficial absent federal intervention. See Merrill, *supra* note 83, at 175–76 (noting that with regard to NIMBY situation, “everyone has an incentive to export the costs of an activity, but if everyone pursues this strategy, the benefits associated with the activity are lost to all”).

¹⁰⁴ See Schwartz, *supra* note 10, at 925 (arguing that “overwhelming economic logic in favor of mass production and mass distribution” creates need for centralized regulation of products). Product regulations regulate the environmental impact of polluting products themselves, while process regulations regulate the environmental impact of the production of goods. See Revesz, *supra* note 9, at 544 (explaining distinction between product and process regulations and arguing that uniformity is more important for product regulations).

forcing firms to adjust the packaging, labeling, or manufacturing of their product to comply with different state standards.¹⁰⁵

States have a collective interest in coordinating their environmental standards for products to avoid this market balkanization. However, the savings that result from uniform national standards (in the form of greater productivity and lower prices for goods) are shared equally by all states: If economies of scale lead to lower prices for nationally distributed goods, then citizens in every state pay those lower prices. Because individual states do not internalize the full benefits of uniform standards, they may be willing to disrupt them when necessary to capture private benefits. Accordingly, states acting severally can be expected to produce less uniformity than is optimal.

States may, for example, disrupt uniform standards in order to enrich their own citizens by adopting strict tort or nuisance standards that allow state residents to bring successful claims against out-of-state companies.¹⁰⁶ Or states may try to capture other private benefits, such as environmental amenities like cleaner air, when the costs of the regulations to national markets are shared by the country as a whole but the benefits of the regulation are not.¹⁰⁷ The resulting “hodgepodge” of different environmental standards undermines business efficiency, to the detriment of the national economy.¹⁰⁸

There are also more generous explanations for state regulations that undermine uniformity. For instance, states may establish different regulations to accommodate different citizen preferences for environmental protection or to respond to different local conditions.¹⁰⁹ In this case, it is possible that disuniformity is actually efficient, even assuming that it causes some market balkanization. Citizens in some states may simply value various environmental protections differently, and the benefit of tailoring products and

¹⁰⁵ See Alan Schwartz, *Statutory Interpretation, Capture, and Tort Law: The Regulatory Compliance Defense*, 2 AM. L. & ECON. REV. 1, 17 (2000) (“Uniformity reduces costs because there commonly are economies of scale to production. . . . [W]hen firms are required to produce different versions of a product to comply with different state . . . standards, each item will be more expensive than it would otherwise have been, and some items may not be produced . . .”).

¹⁰⁶ See Schwartz, *supra* note 10, at 932–33 (describing structural incentives for state juries and judges to hold out-of-state businesses liable).

¹⁰⁷ See Nash, *supra* note 7, at 1013 (noting that one state’s higher environmental standard can impose costs on other jurisdictions by impairing national markets).

¹⁰⁸ Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Environmental Regulatory Authority*, 14 YALE L. & POL’Y REV. (SYMPOSIUM ISSUE) 23, 28 (1996).

¹⁰⁹ Cf. Donald H. Regan, *The Supreme Court and State Protectionism: Making Sense of the Dormant Commerce Clause*, 84 MICH. L. REV. 1091, 1118 (1986) (“Part of the point of federalism is to allow states to make their own decisions about such matters as what sort of an environment they value and want to maintain.”).

processes to these preferences could theoretically justify the associated costs of disuniformity.

Yet even if some level of disuniformity could be efficient due to the desirability of local tailoring, the nature of uniformity suggests that states may nonetheless produce less of it than they should. While the efficiency loss from balkanized regulations is shared by all fifty states, individual state lawmakers and regulators can capture the full amount of the individualized environmental benefits for their constituents. This problem may justify ceiling preemption because transaction costs make it difficult for fifty states to coordinate their rules and regulations.¹¹⁰ Thus the federal government may need to play a coordination role in order to overcome this collective action problem.

2. *Forced Consumption of Environmental Protection*

The last Section discussed one cost associated with allowing states to adopt their own more stringent environmental regulations: foregone economies of scale in production resulting from inefficient levels of disuniformity. As a practical matter, however, disuniform state standards do not always result in balkanized markets. Even if the fifty states were to enact fifty different regulatory standards, those standards would not necessarily be incompatible. Performance standards for products—which require the product to achieve some minimum level of environmental protection without mandating a particular design—allow regulated industries to produce a single national product that complies with all applicable regulations.¹¹¹

This, however, leads to a different cost-externalization problem. When the cost of product tailoring is prohibitive and local markets are not big enough to produce sufficient returns, firms may have to ensure their products comply with the most stringent standards of any state in order to continue to distribute their products nationally and remain profitable.¹¹² This allows large pro-regulatory states like California to “effectively dictate national standards based on the size of its market

¹¹⁰ Cf. Steven G. Calabresi, “A Government of Limited and Enumerated Powers”: *In Defense of United States v. Lopez*, 94 MICH. L. REV. 752, 780–81 (1995) (noting practical costs of states’ negotiating to establish and update uniform legal codes, even when potential savings from uniformity could be great).

¹¹¹ See Jonathan Remy Nash, *Framing Effects and Regulatory Choice*, 82 NOTRE DAME L. REV. 313, 320 (2006) (noting that many command-and-control regulatory regimes establish performance standards that leave polluters free to determine how to comply with standards). The issue of incompatibility generally will not arise with respect to process regulations. Industrial plants, for instance, are not mass produced or distributed throughout a national market, so plants need not simultaneously satisfy the different standards of multiple states.

¹¹² Schwartz, *supra* note 105, at 21.

and the difficulty of adapting a single product to many different markets.”¹¹³

This outcome is inefficient even though economies of scale are not disrupted. When the most stringent state regulation controls national standards, the interests of consumers from all fifty states may not be represented. Consumers in some states are effectively forced to purchase more safety and environmental protection than they would otherwise wish to pay for, both directly through increased product prices and indirectly through displaced employment opportunities in their state if the regulations increase the cost of business and limit the state’s economic development.¹¹⁴ On this account, policymakers in a state like California need not consider the preferences of consumers in other (and potentially less wealthy) states when passing stringent environmental regulations that become de facto national standards.¹¹⁵ This may be troubling both because it might lead to inefficiently stringent environmental standards and because it impairs democracy in states whose citizens prefer less environmental protection.¹¹⁶

3. *Compliance Costs for Producers*

State environmental regulations may also externalize costs to out-of-state producers by imposing compliance costs that are not perfectly reflected in the prices in-state consumers pay. Unless demand within the jurisdiction is perfectly inelastic,¹¹⁷ out-of-state producers either will suffer diminished profit margins from higher marginal costs that decrease net profits from sales within that jurisdiction,¹¹⁸ or will lose profits when higher prices lead to a decrease in sales volume within

¹¹³ TESKE, *supra* note 4, at 20.

¹¹⁴ See Schwartz, *supra* note 105, at 21 (making this argument with respect to product liability standards); see also *infra* note 120 and accompanying text (noting potential impact of environmental regulations on jobs and economic development).

¹¹⁵ See Issacharoff & Sharkey, *supra* note 10, at 1386 (“[M]ost manufacturers design and market uniform products rather than different products for each state and, correspondingly, design their products to the specifications of the largest states or to the jurisdiction with the most stringent liability standards, regardless of whether they represent either an efficient solution or the national consensus.”).

¹¹⁶ See *supra* Part II.B (outlining this problem for regulatory cost externalization generally).

¹¹⁷ Elasticity of demand is the measure of the response in the quantity of demand for a good to a change in price. Demand is inelastic when a percentage increase in price exceeds the decrease in the quantity of the good demanded. ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 29 & n.7 (5th ed. 2008).

¹¹⁸ See Butler & Macey, *supra* note 108, at 47 (arguing that marginal costs of environmental regulations for vehicle emissions are “shared by California consumers, who must pay more for cars, and out-of-state manufacturers, who receive a lower after-regulation price because of the increased marginal costs”).

the jurisdiction.¹¹⁹ If out-of-state industries face significant competition, they will bear even more of the regulation's costs as consumers will shift away more quickly. These costs may extend well beyond the out-of-state firm and its shareholders, as decreased profits can lead to cuts in wages, increased unemployment, and reduced tax revenues for the state in which the producer is located.¹²⁰ Naturally, these costs increase when one state's regulations raise consumer prices in other states as well, affecting sales volume and net profits on a larger scale.

Of course, the fact that some out-of-state industries may suffer from a state's environmental regulations does not establish that overall social welfare has been compromised.¹²¹ Ideally, environmental regulations are designed to force polluting companies and individuals to internalize the costs of their pollution.¹²² Some industries may no longer be profitable once they are forced to pay for the full social costs of their activities. Job losses in the industry are an unfortunate consequence of this. The problem posed by state-based regulation of these polluting products is not simply that out-of-state industries are affected, but rather that the state may not have to concern itself with the full extent of the negative economic consequences on producers outside of its borders.¹²³ The state may then pass regulations more stringent than those it would pass if only domestic industries were affected.

D. Addressing the Cost-Externalization Argument

The theory underlying the cost-externalization argument for federal ceiling preemption of state environmental laws is compelling: When states externalize costs to out-of-state consumers and producers and undermine national goods like uniformity, they cannot be trusted to regulate independently. The problem with this argument lies not in its logic, but rather in its application. State regulations will generally tend to externalize costs only when certain conditions apply.

First, for state environmental regulations to externalize disuniformity costs to out-of-state consumers, the regulations must make it difficult or expensive to comply simultaneously with divergent standards. But this will not always be the case. If manufacturers can meet

¹¹⁹ Revesz, *supra* note 91, at 1334.

¹²⁰ *Id.*

¹²¹ See Regan, *supra* note 109, at 1116 (arguing that regulation that diverts business away from status quo is not necessarily inefficient because law may correct inefficiency resulting from external cost of existing productive process).

¹²² See Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243, 1245 (1968) (discussing pollution as example of tragedy of commons).

¹²³ Revesz, *supra* note 91, at 1334.

state regulations without modifying their production processes, then economies of scale will not be substantially affected, and manufacturers should not have to adapt to the standards of the most stringent regulator nationally. This condition varies depending on the regulatory target and the amount of flexibility the regulation provides.¹²⁴ At one extreme, allowing states to adopt divergent design standards that require manufacturers to comply with particular engineering or labeling requirements will impose substantial external costs for products with national or regional markets and strong economies of scale in production.¹²⁵ In contrast, regulations that provide performance standards may be less likely to lead to cost externalities, depending on the particular form such standards take. For instance, if a state's regulations permit manufacturers to average performance across a line of products or trade for pollution credits,¹²⁶ cost externalization can be minimized. These more flexible approaches to regulation allow manufacturers to alter the mix of products sold in states with more stringent standards and to purchase credits where necessary, rather than re-designing each product and compromising economies of scale.¹²⁷ On this point, the number of possible divergent state regulatory regimes that can exist is significant. A partially preemptive regulatory structure like the Clean Air Act that permits only two different regulatory programs¹²⁸ does not pose nearly the potential disruption costs to

¹²⁴ The framework set out here considers the conditions under which state environmental regulations are more or less likely to externalize costs. William Buzbee develops his own set of "preemption choice" variables to guide decisions concerning the broader question of when ceiling preemption is appropriate generally. Buzbee, *supra* note 5, at 1599–1613. One of Buzbee's variables, "The Regulatory Target," is referenced here, with greater emphasis placed on the importance of flexibility. Buzbee also considers variables that he labels "Issues of Scale," "Information Variables," and "Regulatory Risks," respectively. He includes the general problem of regulatory cost externalization within his category of "Regulatory Risks." *Id.* at 1608 & n.216. However, while Buzbee identifies general factors relevant to ceiling preemption, he does not focus specifically on the applicability of the cost-externalization argument itself.

¹²⁵ See Kaswan, *supra* note 85, at 81–83 (discussing difference between design standards and performance standards and arguing that former are more likely to undermine production efficiency).

¹²⁶ For a general description of how tradeable permits in environmental regulation operate and an argument in favor of their use, see generally Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333 (1985).

¹²⁷ For an argument that California's greenhouse gas emissions standards for automobiles conform to this model, see *infra* Part III.C.1, noting that manufacturers can meet standards on fleet-average basis, and need not adopt specific technology or meet standards on per-vehicle basis.

¹²⁸ See *supra* notes 20–29 and accompanying text (describing statutory scheme for mobile source emissions regulation).

economies of scale as does a structure that allows each state to establish its own submarket.¹²⁹

Second, externalization is substantially minimized if state residents indirectly share (either as consumers or as shareholders) substantial percentages of the costs that regulations impose on out-of-state producers. For instance, suppose that the demand for air conditioners in a state like Florida is relatively inelastic. If Florida adopts regulations mandating that air conditioners sold in the state use energy more efficiently, air conditioner manufacturers could pass almost all of the costs stemming from the regulations to Florida consumers by raising prices. Florida thus would largely internalize the regulatory cost.

Likewise, if policymakers are not truly politically insulated from affected out-of-state actors and their in-state allies, the danger of regulatory cost externalization decreases. This point mirrors an argument that the Supreme Court sometimes has made in the Dormant Commerce Clause context. With respect to state laws that do not facially discriminate against interstate commerce, the Court has suggested that affected out-of-state interests may be represented effectively by proxy, mitigating the concern that they will be systematically disadvantaged by their lack of direct representation in the state's political process.¹³⁰ So even if demand for air conditioners in Florida is elastic and even if air conditioners are not manufactured in Florida, the interests of domestic department stores that sell air conditioners may align with those of the out-of-state manufacturers. This alignment will lead them to lobby against the regulations. Strictly speaking, this will not cause the state to internalize the full costs it imposes on the out-of-state producers, but it does call into question

¹²⁹ See Schwartz, *supra* note 10, at 926 (noting that Clean Air Act limits disruption to mass production of vehicles since California is only state granted right to depart from federal standards).

¹³⁰ See *Minnesota v. Clover Leaf Creamery Co.*, 449 U.S. 456, 472–73 & n.17 (1981) (arguing that law banning plastic milk bottles would negatively impact in-state industries like dairies and milk retailers, and thus their opposition provided “a powerful safeguard against legislative abuse”); *Raymond Motor Transp., Inc. v. Rice*, 434 U.S. 429, 444 n.18 (1978) (“The Court’s special deference to state highway regulations derives in part from the assumption that where such regulations do not [facially discriminate], their burden usually falls on local economic interests, . . . thus insuring that a State’s own political processes will serve as a check against unduly burdensome regulations.”); see also William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-Based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 409 & n.117 (1997) (referencing *Clover Leaf* as example of virtual representation).

how frequently state policymakers can truly enjoy a “free lunch”¹³¹ when passing stringent environmental regulations.

Evaluating whether state regulations will externalize costs and lead to suboptimally stringent standards on the basis of these factors is inevitably a case-by-case inquiry. Part III of this Note applies these factors to California’s regulations of greenhouse gas emissions for motor vehicles—a potentially paradigmatic example of cost externalization, as it involves a national product with a substantial domestic industry concentrated in only a few states. California’s experience demonstrates that the assumption that certain state environmental regulations will necessarily externalize substantial costs may be highly questionable. This analysis counsels caution in relying on the cost-externalization argument as a justification for federal ceiling preemption. Where state environmental regulations do not actually externalize costs to any great extent, the benefits of permitting state regulation—including those benefits described above that other commentators have identified,¹³² as well as the more general benefit of allowing states to satisfy genuine local preferences for greater environmental protection—may now more legitimately provide a basis to reject federal ceiling preemption.

III

CALIFORNIA’S GREENHOUSE GAS REGULATIONS FOR VEHICLE EMISSIONS

This Part explores the problem of regulatory cost externalization discussed above through the example of California’s greenhouse gas motor vehicle emissions regulations. It considers whether the regulations would externalize costs in a way that makes ceiling preemption appropriate. It contends that the cost-externalization argument against the regulations is weak, and it concludes that the cost-externalization argument should be more sensitive to the form such regulations take.

¹³¹ Elliott et al., *supra* note 88, at 329.

¹³² See *supra* Part II.A (highlighting benefits of empowering multiple environmental regulators through decentralized process). It is, of course, also important to consider how well the federal political process is actually designed to internalize interstate externalities that do exist and to ask whether federal ceiling preemption will introduce new costs of its own. Cf. R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 42–43 (1960) (“Analysis in terms of divergencies between private and social products . . . tends to nourish the belief that any measure which will remove the deficiency is necessarily desirable. It diverts attention from those other changes . . . associated with the corrective measure, changes which may well produce more harm than the original deficiency.”).

A. *California's Regulations Under A.B. 1493*

California has regulated motor vehicle emissions since 1960, when the California Motor Vehicle Pollution Control Act¹³³ established the Motor Vehicle Pollution Control Board.¹³⁴ Over time, the Board developed specific emissions standards for various pollutants, beginning with standards for carbon monoxide and hydrocarbons in 1966 and then for nitrous oxide in 1968.¹³⁵ In succeeding years, California regularly increased the stringency of its regulations, obtaining at least fifty-three waivers under section 209(b) of the Clean Air Act to adopt standards for motor vehicle emissions that exceeded federal requirements.¹³⁶

California's new emission regulations of greenhouse gases pursuant to A.B. 1493 grew out of its preexisting Low Emission Vehicle Program (LEV). Created in 1990 by CARB,¹³⁷ the LEV program deviated from prior state practice by allowing auto manufacturers to average emissions standards for several types of pollutants across their fleets (within the same vehicle category) rather than limiting tailpipe emissions for individual vehicles within a given model year.¹³⁸ This approach mirrors that of the Federal Corporate Average Fuel Economy (CAFE) standards established by the Department of Transportation under the EPCA, which itself also measures fuel efficiency

¹³³ 1960 Cal. Stat. ch. 23, § 1, *repealed by* 1967 Cal. Stat. ch. 1545, §§ 4–5.

¹³⁴ JAMES E. KRIER & EDMUND URSIN, *POLLUTION AND POLICY: A CASE ESSAY ON CALIFORNIA AND FEDERAL EXPERIENCE WITH MOTOR VEHICLE AIR POLLUTION 1940–1975*, at 138–39 (1977). For an overview of the evolution of California's vehicle emission laws and how they have interacted with federal law, see Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 Nw. U. L. REV. (forthcoming Summer 2009) (manuscript at 12–29), *available at* <http://ssrn.com/abstract=1115556>.

¹³⁵ Carlson, *supra* note 134, at 15–16.

¹³⁶ JAMES E. MCCARTHY & ROBERT MELTZ, CONG. RESEARCH SERV., *CALIFORNIA'S WAIVER REQUEST TO CONTROL GREENHOUSE GASES UNDER THE CLEAN AIR ACT 2 & n.3* (2007), *available at* <http://www.ncseonline.org/NLE/CRSreports/07Oct/RL34099.pdf> (citing personal communication with EPA Office of Transportation and Air Quality).

¹³⁷ CARB was created in 1967 as a replacement for the Motor Vehicle Pollution Control Board and was vested with greater statutory authority, which included the ability to regulate both stationary and mobile sources of air pollution. KRIER & URSIN, *supra* note 134, at 178–79.

¹³⁸ CAL. CODE REGS. tit. 13, §§ 1960.1(g)(2), 1961(b) (2008). In addition to the fleet-average requirement, the program also mandates that manufacturers meet a sales quota for Zero Emission Vehicles (ZEVs) that produce no tailpipe emissions. *Id.* § 1960.1(g)(2); *Motor Vehicle Mfrs. Ass'n v. N.Y. State Dep't of Env'tl. Conservation*, 17 F.3d 521, 528 (2d Cir. 1994) (citing and summarizing applicable California regulations). The ZEV program has been less successful, undergoing several revisions and delays. Carlson, *supra* note 134, at 25.

on a fleet-average basis.¹³⁹ The LEV program proved enormously successful, prompting CARB to adopt LEV II, which tightened standards for certain pollutants like nitrous oxide and subjected light-duty trucks to the same emissions standards as cars.¹⁴⁰

California then adopted regulations limiting tailpipe emission of greenhouse gases (including carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons¹⁴¹) as amendments to the LEV II program. The regulations utilize the same basic approach and impose restrictions on motor vehicle emissions for new cars sold within the state, establishing average fleet emissions standards for two different vehicle categories (determined by vehicle weight¹⁴²) based on grams of carbon dioxide emitted per mile driven.¹⁴³ The regulations were originally scheduled to take effect in 2009 and become more stringent over time. As promulgated, the regulations require one to two percent reductions in tailpipe emissions for 2009 model-year cars, with reductions increasing each year and ultimately reaching a peak of thirty percent emissions reductions for 2016 model-year cars.¹⁴⁴ California has further indicated a commitment to implement even more stringent greenhouse gas emission limits after 2017.¹⁴⁵

The California regulations do not directly impose fuel economy standards—and indeed legally, they may not. Under the EPCA, when a federal average fuel economy standard is in effect, “a State or a political subdivision . . . may not adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards

¹³⁹ 49 U.S.C.A. § 32902(a), (c) (West 2007 & Supp. 2008). The EPCA gives the Department of Transportation authority to set average fuel economy standards for automobiles in a given model year. *Id.* § 32902(a).

¹⁴⁰ Carlson, *supra* note 134, at 24.

¹⁴¹ CAL. CODE REGS. tit. 13, § 1961.1(e)(4).

¹⁴² As is true for the LEV program as a whole, the regulations identify two different vehicle categories that are subject to different fleet-average emissions requirements. The first category of vehicles—which consists of passenger cars and small light-duty trucks that weigh between 0 and 3750 pounds—are subject to the more stringent regulations. The second category of vehicles includes larger light-duty trucks and medium-duty passenger cars that weigh between 3751 and 8500 pounds. Vehicles in this category are permitted to have higher average emissions levels. Vehicles above 8500 pounds are not covered by the regulations. *Id.* § 1961.1(a). The regulations also initially exempt “intermediate volume” and “small volume” manufacturers that sell less than an average of 60,000 vehicles over a three-year period. Starting with model-year 2016 vehicles, fleets in these sales volume categories are subject to distinct standards. *Id.* § 1961.1(a)(1)(C)–(D).

¹⁴³ *Id.* § 1961.1(a)(1)(A).

¹⁴⁴ DeShazo & Freeman, *supra* note 16, at 1527.

¹⁴⁵ CAL. ENVTL. PROT. AGENCY, CLIMATE ACTION TEAM REPORT TO GOVERNOR SCHWARZENEGGER AND THE LEGISLATURE 42 (2006), available at <http://caclimatechange.net> (select “Reports”; then select link to “Climate Action Team”; then select “2006 California Climate Action Team Report”).

for automobiles” covered by the federal law.¹⁴⁶ While there are strong arguments that the EPCA should not be interpreted to preempt California’s regulations if the State were granted a waiver by the EPA under the Clean Air Act,¹⁴⁷ the majority of emissions reductions are nevertheless improved through enhanced fuel economy, and greenhouse gas emissions standards can be converted to approximate miles-per-gallon requirements.¹⁴⁸

B. Preemption Challenges to the A.B. 1493 Regulations

From the moment A.B. 1493 was passed, it received both substantial praise and criticism. While proponents celebrated it as an important step forward in climate change policy by one of the world’s largest economies,¹⁴⁹ critics—appearing to ignore the structure of the Clean Air Act¹⁵⁰—argued that permitting states to regulate greenhouse gas emissions from motor vehicles was undesirable because it would result in a “patchwork” of fifty different state regulations to address a national problem.¹⁵¹

Opponents also mounted legal challenges.¹⁵² In 2004, the Alliance of Automobile Manufacturers filed suit in federal district court in California, contending that California’s regulations were preempted by federal law and policy.¹⁵³ A group of automobile manufacturers also challenged the regulations in federal district court in Vermont after that state opted into California’s greenhouse gas regulations in

¹⁴⁶ 49 U.S.C. § 32919(a) (2000).

¹⁴⁷ See *infra* notes 152–56 and accompanying text for discussion of the EPCA preemption as applied by two federal district courts, which held that California’s regulations were not preempted by the EPCA.

¹⁴⁸ *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 342 & n.49 (D. Vt. 2007). Defenders of the regulations emphasize that manufacturers can comply with the regulations through means other than reducing fuel consumption. See *id.* at 353 (finding that California and Vermont regulations are not “de facto” fuel economy standards, in part because regulations permit manufacturers to obtain credits for air conditioning modifications, ethanol use, and the use of hybrid plug-ins).

¹⁴⁹ See Editorial, *California Leads on Warming*, N.Y. TIMES, July 8, 2002, at A18 (calling California’s legislation “unquestionably the most important step taken in this country to control greenhouse emissions” since President Clinton initially signed Kyoto Protocol in 1998).

¹⁵⁰ See *infra* note 164 and accompanying text for a discussion of this argument and the structure of the Clean Air Act.

¹⁵¹ See Danny Hakim, *California Weighs Tighter Fuel Economy*, N.Y. TIMES, June 9, 2004, at C1 (quoting argument of William Clay Ford, Jr., Chairman and Chief Executive of Ford Motor Company, that allowing California and other states to regulate GHG tailpipe emissions would lead to undesirable “patchwork” burdening manufacturers).

¹⁵² For an overview of the legal arguments against California’s regulations, see Farber, *supra* note 66, at 886–89.

¹⁵³ *Cent. Valley Chrysler-Jeep, Inc. v. Goldstene*, 529 F. Supp. 2d 1151, 1153–54 (E.D. Cal. 2007).

2005.¹⁵⁴ These preemption challenges have failed so far, as both courts have held that the regulations were neither expressly nor impliedly preempted by the EPCA, nor were they subject to foreign policy preemption.¹⁵⁵ Neither court was called upon to interpret the preemptive scope of section 209 of the Clean Air Act, as California's waiver petition was still pending at the time the decisions were rendered and all parties conceded that section 209 preempted enforcement (though not adoption) of the regulations until such time as the EPA granted the waiver.¹⁵⁶

These rulings, however, were rendered largely irrelevant at the time by the EPA Administrator's decision to deny California's Clean Air Act waiver. Apparently disregarding the written recommendation of the EPA staff,¹⁵⁷ Administrator Johnson chose to deny California's waiver petition fully—a first in the history of the Clean Air Act¹⁵⁸—on the grounds that the State had failed to demonstrate “compelling and extraordinary conditions” for departure from national standards.¹⁵⁹ This agency action effectively established a federal ceiling by

¹⁵⁴ *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 300–02 (D. Vt. 2007). Automobile manufacturers have also filed suit in federal court in Rhode Island, another of the states that have adopted California's regulations. The federal district court granted the state's motion to dismiss as against the plaintiff automobile manufacturers and manufacturers' associations on issue preclusion grounds, but it denied a motion to dismiss with respect to the Rhode Island automobile dealers. *Lincoln-Dodge, Inc. v. Sullivan*, Nos. 06-69T, 06-70T, 2008 WL 5054683, at *9–12 (D.R.I. Nov. 21, 2008).

¹⁵⁵ *Cent. Valley Chrysler-Jeep*, 529 F. Supp. 2d at 1176, 1179, 1181, 1188–89; *Green Mountain Chrysler*, 508 F. Supp. 2d at 351–55, 357, 392, 397. For an overview and critique of foreign policy preemption in the context of state greenhouse gas regulations, see generally Note, *Foreign Affairs Preemption and State Regulation of Greenhouse Gas Emissions*, 119 HARV. L. REV. 1877 (2006).

¹⁵⁶ *Cent. Valley Chrysler-Jeep*, 529 F. Supp. 2d at 1189; *Green Mountain Chrysler*, 508 F. Supp. 2d at 343 n.50. The California federal district court subsequently rejected a motion to reconsider its interpretation of the Clean Air Act and modify the injunction it had issued (which only prevented enforcement of California's regulations until a waiver was granted by the EPA). The court reaffirmed that the Act did not prevent California from adopting regulations before receiving a federal waiver, but rather only prevented the state from enforcing the regulations. *Cent. Valley Chrysler-Jeep, Inc. v. Goldstene*, 563 F. Supp. 2d 1158, 1163–64 (E.D. Cal. 2008).

¹⁵⁷ Wilson, *supra* note 52, at A30.

¹⁵⁸ See MCCARTHY & MELTZ, *supra* note 136, at 14 (quoting EPA Office of Transportation and Air Quality official as reporting that office previously had never “outright denied a request”); John M. Broder & Micheline Maynard, *Denial of California Bid on Emissions Should Have Been Foreseen*, N.Y. TIMES, Dec. 21, 2007, at A37 (discussing hints of impending denial by Bush administration and noting that “since 1970, [motor vehicle] waivers have been routinely granted more than 50 times”).

¹⁵⁹ Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12,156, 12,156 (Mar. 6, 2008) [hereinafter California Notice]. See *supra* note 27 and accompanying text for a description of the statutory standards for approval of a waiver request by California.

preventing California and the other states that had adopted California's regulations from enforcing them.¹⁶⁰

In order to focus on the policy issues, this Note sets aside the question of whether the EPA's original decision to deny California's waiver request was legally defensible¹⁶¹ and assumes that it was within the EPA's legal discretion to grant or deny the waiver.¹⁶² The Bush administration and automobile industry's claim that denying the waiver was desirable because it allows for a national solution rather than a "patchwork" of different state regulations¹⁶³ is a non sequitur. While permitting states to adopt fifty different emissions standards is untenable because automobiles are mass-produced products with substantial economies of scale, granting California's waiver will not lead to this result because the Clean Air Act permits no more than two standards.¹⁶⁴ A more plausible argument for the waiver denial must rest on cost-externalization grounds: Would California's greenhouse gas emissions regulations allow it to impose substantial costs beyond its borders to consumers and producers and effectively dictate national policy?¹⁶⁵ The next Section will address this question.

¹⁶⁰ See *Motor Vehicles Mfrs. Ass'n v. N.Y. State Dep't of Env'tl. Conservation*, 17 F.3d 521, 534 (2d Cir. 1994) (holding that waiver is precondition to enforcement of adopted emissions standards).

¹⁶¹ For an excellent argument preceding the original waiver decision that rejects the interpretation of the Clean Air Act adopted by the EPA Administrator, see Rachel L. Chanin, Note, *California's Authority To Regulate Mobile Source Greenhouse Gas Emissions*, 58 N.Y.U. ANN. SURV. AM. L. 699, 712-28 (2003).

¹⁶² In fact, the EPA did not argue otherwise in its Notice of Decision denying the waiver. Administrator Johnson acknowledged that section 209(b)(1)(B)'s "compelling and extraordinary conditions" requirement was ambiguous, and he relied upon this ambiguity to justify the agency's departure from prior policy. California Notice, *supra* note 159, at 12,161.

¹⁶³ See, e.g., Broder & Baker, *supra* note 55, at A1 ("The Bush Administration denied the waiver in late 2007, saying . . . that allowing California and the 13 other states the right to set their own pollution rules would result in an unenforceable patchwork of environmental law."); Broder & Barringer, *supra* note 33, at A1 (quoting praise for waiver denial by president of Alliance of Automobile Manufacturers who argued that "a patchwork quilt of inconsistent and competing fuel economy programs at the state level would only have created confusion, inefficiency and uncertainty for automakers and consumers").

¹⁶⁴ See 42 U.S.C. § 7543(b) (2006) (granting waiver only to states that adopted motor vehicle standards prior to 1966, uniquely identifying California); see also Ann E. Carlson, *Federalism, Preemption, and Greenhouse Gas Emissions*, 37 U.C. DAVIS L. REV. 281, 311 (2003) ("The fear that a lack of federal preemption will lead to multiple emissions standards among the fifty states is not, of course, possible with respect to greenhouse gas emissions. The [Clean Air Act] preempts forty-nine states from developing their own standards . . .").

¹⁶⁵ For an example of this type of argument, see Editorial, *Arnold's Imperialism*, WALL ST. J., Nov. 12, 2007, at A16 (arguing that if California's waiver were accepted, "automakers would be compelled to adopt the most stringent mandate" and that "[t]he federal government can't cede de facto control of environmental policy . . . and interstate commerce to the latest whim out of Sacramento").

C. Cost Externalization and California's Regulations

While California's greenhouse gas emissions regulations do not raise protectionism concerns (because California has no significant automobile manufacturing industry),¹⁶⁶ commentators have suggested that California political leaders pass more stringent vehicle emissions regulations in part because they can externalize costs to other states.¹⁶⁷ In theory, California's greenhouse gas emissions regulations may externalize costs to both out-of-state consumers and out-of-state producers. Consumers are affected if the regulations increase the cost of motor vehicles within their state. This could happen either if the creation of a parallel California market reduces economies of scale and increases marginal production costs or if manufacturers adapt vehicles nationally to meet more expensive California standards. Furthermore, and regardless of the regulation's effects on out-of-state product markets, producers and their workers may also be affected if California's regulations make automobiles more expensive within the state (and in other states that choose to adopt its regulations), as increased automobile prices could decrease sales, reduce profits, and impact employment rates.¹⁶⁸

However, at least as applied, many of these cost-externalization claims rest on questionable assumptions that underappreciate the flexibility that California's regulations provide and unreasonably presume that states are entirely politically insulated from the extraterritorial impact of their regulations. The rest of this Section explores these assumptions by considering (by reference to the categories of externalities outlined in Part II) the costs that the regulations might inflict upon out-of-state consumers and producers.

¹⁶⁶ See Revesz, *supra* note 30, at 593 (noting that states that have taken lead on automobile emissions, including California, "did not benefit by protecting in-state manufacturers").

¹⁶⁷ See Elliott et al., *supra* note 88, at 329 ("Since midwestern auto workers don't vote on whether California should ban the internal combustion engine to control smog . . . politicians on the state level [enjoy] the equivalent of a free lunch—'tough' legislation [that] allows them to garner public credit for bringing a benefit to *their* constituents at somebody else's expense."); Esty, *supra* note 13, at 594 ("California's adoption of auto emissions standards that exceed national requirements may reflect the fact that Californians stand to benefit greatly from lower emissions and to pay relatively little of the extra pollution control costs that will be borne largely by out-of-state automakers.").

¹⁶⁸ See Ludwizewski & Haake, *supra* note 96, at 680 n.93 ("[T]o the extent that emissions regulations cause an increase in the price of vehicles, that could lead to a decrease in new vehicles sales and a resulting strain on the automobile industry, which is located primarily outside of California.").

1. *Costs to Out-of-State Consumers*

The claim that California's emissions regulations will impose costs on out-of-state consumers—either by balkanizing the market and undermining economies of scale or by effectively forcing consumption of greater environmental protection by making manufacturers build for the most stringent state regulator—assumes that separate regulations will require costly customization for different markets. However, California's vehicle emissions standards are based on fleet-wide averages rather than individual vehicle performance.¹⁶⁹ This may allow manufacturers to meet California standards without having to make modifications across product lines, minimizing the impact on out-of-state consumers. Manufacturers do not have to build new "California cars." Instead, they can comply with the higher average fuel economy standards that result from average greenhouse gas emissions standards by altering the mix of car models "delivered for sale" in a jurisdiction.¹⁷⁰ In model year 2009—the first model year for which California's regulations were originally scheduled to apply¹⁷¹—leading automobile manufacturers had models in their fleet that could comply with California's standards.¹⁷²

Consider two states, *T* and *C*, in the year 2020. Vehicles of a given class sold in state *T* need only comply with the minimum Federal CAFE requirement: a 35 miles-per-gallon (mpg) fleet average. Assume, however, that state *C* has successfully adopted stricter greenhouse gas emissions standards. These standards translate to a fleet-wide average requirement of 43 mpg.¹⁷³ Assume that Company *F*

¹⁶⁹ See *supra* note 142 and accompanying text.

¹⁷⁰ See NAT'L AUTO. DEALERS ASS'N, PATCHWORK PROVEN: WHY A SINGLE NATIONAL FUEL ECONOMY STANDARD IS BETTER FOR AMERICA THAN A PATCHWORK OF STATE REGULATIONS 8 (2009), <http://www.nada.org/patchwork> [hereinafter PATCHWORK PROVEN] (acknowledging this feature of regulations, although finding it problematic).

¹⁷¹ See *supra* note 144 and accompanying text.

¹⁷² For instance, for the class of lighter vehicles, California's emissions standards as enacted translate to approximately a 27.6 miles-per-gallon (mpg) requirement for 2009 model-year fleets. *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 342 n.49 (D. Vt. 2007). Among domestic automobile manufacturers, Ford Motor Company's Ford Focus, General Motors' Chevrolet Aveo, and one model of Chrysler's Dodge Caliber all have combined city/highway mpg averages of at least 27 mpg. This list is nonexhaustive. Miles-per-gallon estimates were obtained from FuelEconomy.gov, a consumer database maintained by the federal government. See FUELECONOMY.GOV, FUEL ECONOMY GUIDE 2009, at 7, 8, 11 (2008), <http://www.fueleconomy.gov/feg/FEG2009.pdf>. For a list of vehicles with the highest mpg estimates, see FuelEconomy.gov, Most and Least Fuel Efficient Cars, <http://www.fueleconomy.gov/feg/bestworst.shtml> (last visited Feb. 25, 2009).

¹⁷³ These figures approximate the actual requirements anticipated as of 2020 under the Federal Energy Independence and Security Act and the California CARB standards respectively for the class of passenger cars and small light-duty trucks. Steven D. Cook,

sells three different cars within this vehicle class: Car *G* averages 25 mpg, Car *H* averages 36 mpg, and Car *I* averages 50 mpg.

In state *T*, if the company sells equal numbers of all three cars each year, the average for the fleet will exceed 36 mpg and satisfy the minimum federal standard. However, this average will fall short of state *C*'s 43 mpg standard. To meet state *C*'s standard, the company will have to alter the mix of cars it sells in state *C*. This might involve discontinuing the sale of car *G* in state *C*, or at least reducing sales of car *G* in state *C* relative to sales of cars *H* and *I*. For example, if the company discontinues sales of car *G* in state *C*, but instead sells equal numbers of cars *H* and *I* in that state, its fleet average will meet state *C*'s 43 mpg standard.

Company *F* can thus comply with both the federal standard in state *T* and state *C*'s more stringent regime simply by deploying its existing product line differently in each state. The company need not increase fuel efficiency across its entire vehicle line. Practically, this would involve manufacturers selling more fuel-efficient motor vehicles in California and other states that adopt its greenhouse gas emissions standards.¹⁷⁴ Because this compliance strategy does not require costly per-vehicle customization, it reduces the costs of disuniformity. Furthermore, it could minimize the extent to which the regulations adopted by pro-regulatory states become national standards, permitting consumers in states that prefer the less stringent national standard to purchase no more environmental protection than they desire.

The car industry has actually recognized the possibility that California's regulations could be satisfied by such an adjustment in sales.¹⁷⁵ For instance, a report released in January 2009 by the National Automobile Dealers Association devotes considerable attention to this compliance strategy, which it labels "mix shifting," though the report criticizes such a strategy as a way of "gaming the system" that distorts the market and produces a "bias in favor of small vehicles."¹⁷⁶ Likewise, in *Green Mountain Chrysler Plymouth Dodge Jeep*

Auto Industry Seeks To Head Off Limits on California Greenhouse Gas Emissions, 39 *Env't Rep.* (BNA) 798 (Apr. 25, 2008).

¹⁷⁴ There are other strategies for meeting greenhouse gas emission requirements as well, with potential technological adaptations that could reduce emissions. See AIR RES. BD., CAL. ENVTL. PROT. AGENCY, FACT SHEET: CLIMATE CHANGE EMISSION CONTROL REGULATIONS 2 (2004), http://www.arb.ca.gov/cc/factsheets/cc_newfs.pdf [hereinafter CARB FACT SHEET] (outlining potential cost-effective emission reduction technologies).

¹⁷⁵ See Cook, *supra* note 173, at 798 (quoting President of Association of International Automobile Manufacturers' claim that implementation of California standards would cause automakers to sell "different mixes of vehicles in each state with customers in some states buying more fuel-efficient vehicles than in others").

¹⁷⁶ PATCHWORK PROVEN, *supra* note 170, at 13.

v. Crombie,¹⁷⁷ a General Motors Executive Director testified that the company might have to gradually restrict products offered in jurisdictions like Vermont that adopted the more stringent emissions regulations.¹⁷⁸ An expert commissioned by the plaintiff made similar predictions in even starker terms.¹⁷⁹ These predictions were offered as arguments against the state regulations, with the car companies contending that this possibility contravened federal policy under the EPCA to preserve consumer choice and prevent economic hardship for the automobile industry.¹⁸⁰ This is a plausible legal argument, as courts may hold that state regulations adopting means that conflict with federal policy are preempted even when state and federal law share similar goals.¹⁸¹ Yet from a federalism perspective, the case for preemption is thin when states primarily restrict the consumption options of their own constituents. If state residents become dissatisfied with the options available to them after the regulations, or if they come to believe the regulations are ineffective because manufacturers respond by selling more fuel-intensive vehicles in other states,¹⁸² they can pressure their own state officials to change them.

Problems exist with this account. For example, the smaller size of state markets makes a manufacturer's fleet-wide average more vulnerable to yearly fluctuations in vehicle sales than occurs when manufacturers balance sales in vehicle types across the country.¹⁸³ However,

¹⁷⁷ 508 F. Supp. 2d 295.

¹⁷⁸ *Id.* at 361 & n.69, 363.

¹⁷⁹ *See id.* at 361 (discussing expert's argument that it was "infeasible for some manufacturers to implement the necessary technology changes across their entire product lines" which would prevent companies from sustaining themselves "in the full market in states enforcing the regulation"). In the course of ruling against the plaintiffs, the court rejected these arguments as unduly pessimistic. *Id.* at 367-68.

¹⁸⁰ *Id.* at 356. These considerations do not appear in the text of the statute itself, which directs the Secretary of Transportation to decide the maximum feasible average fuel economy based on technological feasibility, economic practicability, the effect of government standards for motor vehicles on fuel economy, and the value of energy conservation. 49 U.S.C. § 32902(f) (2000). However, NHTSA has interpreted economic practicability to include consumer choice and industry hardship, and this interpretation has been upheld as reasonable. *See* *Ctr. for Auto Safety v. NHTSA*, 793 F.2d 1322, 1338-40 (D.C. Cir. 1986).

¹⁸¹ *See Int'l Paper Co. v. Ouellette*, 479 U.S. 481, 494 (1987) (holding that state law may conflict with federal objective by adopting different means even where federal and state laws share common ultimate purpose). The *Green Mountain Chrysler* court itself suggested that if Vermont's regulations substantially limited consumer choice and harmed the automobile industry, this would support a conflict preemption finding. *See Green Mountain Chrysler*, 508 F. Supp. 2d at 355-92.

¹⁸² *See* Ludwiszewski & Haake, *supra* note 96, at 682-83 (arguing that state-by-state approach to fuel efficiency is undesirable because manufacturers may meet national standards on fleet-wide average basis, allowing manufacturers to offset sales of low-fuel-efficiency vehicles with sales from those states with more stringent standards).

¹⁸³ *Id.* at 682. The problem is of course exacerbated in smaller states like Vermont with smaller vehicle markets.

this problem can be mitigated through less extreme means than pre-emption: California's regulations, for instance, essentially allow manufacturers to average vehicle emissions over a five-year period through a system of credits and debits.¹⁸⁴ The regulations also allow manufacturers to acquire credits from other manufacturers,¹⁸⁵ offering a flexible mechanism for addressing unpredictable sales volumes. Even more flexible options are also available: For example, California and states that prefer its regulations to national standards could agree to measure fleet averages on a regional basis, further smoothing out the fluctuations in vehicle sales from individual states.¹⁸⁶

Additionally, the regulations of a large state like California (especially in conjunction with other states) may shift production priorities for manufacturers, resulting in fewer larger and lower fuel economy vehicles being built. At the margin, this may make these low fuel economy cars more expensive to build and thus more expensive outside of the jurisdiction. This point, however, cuts both ways: By creating incentives for manufacturers to produce more high-efficiency, low-emissions automobiles, production of these vehicles will benefit from their own economies of scale. Production will increase to meet the needs of the California-led market, making vehicles less expensive to produce over time and potentially reducing prices. This will also benefit non-California consumers who prefer such vehicles. Moreover, by providing manufacturers with a guaranteed market for fuel-efficient vehicles, the regulations will give manufacturers greater incentives to invest in such cars, inducing innovation in areas that could potentially further diminish costs and increase fuel efficiency.¹⁸⁷ This, perhaps, is part of the explanation of the oft-noted "California effect"¹⁸⁸—even if manufacturers initially have the ability to comply

¹⁸⁴ CAL. CODE REGS. tit. 13, § 1961.1(b) (2008).

¹⁸⁵ *Id.* § 1961.1(b)(3)(A).

¹⁸⁶ See David Shepardson, *California May Alter Emission Controls*, DETROIT NEWS, May 13, 2008, at 1C (reporting that head of CARB indicated willingness to discuss regional approach to tailpipe emissions regulation at SAE Government/Industry meetings). Measuring fleet averages on a regional basis is, of course, still more vulnerable to sales fluctuations than are national standards, but the regional approach could preserve the substantial benefits of state-based environmental policy experimentation while minimizing cost externalization.

¹⁸⁷ See David E. Adelman & Kirsten H. Engel, *Reorienting State Climate Change Policies To Induce Technological Change*, 50 ARIZ. L. REV. 835, 871–72 & n.231 (2008) (discussing power of California's regulations to promote research and technological change); Stewart, *supra* note 66, at 684 (suggesting California emissions standards may "stimulate innovation in the development of alternative fuels or alternatives to the internal combustion engine").

¹⁸⁸ See DAVID VOGEL, TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN A GLOBAL ECONOMY 6, 259–60, 268 (1995) (introducing phrase and describing process

with the California and federal standards respectively in different jurisdictions, once manufacturers invest in technology to meet California's standards, the costs of meeting the more stringent standards go down to the point that they also become attractive to other jurisdictions and to the federal government. In this way, the nation may move toward adopting more stringent emissions standards, but without states necessarily being forced to consume more environmental protection than they prefer.

On this issue, the effect of California's regulations on out-of-state consumers is at worst mixed. If the regulations cause a shift in production priorities, they may burden some out-of-state consumers who prefer to buy heavier, less fuel-efficient vehicles. Yet they will benefit other out-of-state consumers who prefer smaller, more fuel-efficient vehicles. It is worth noting that democratic support for California's regulatory program extends well beyond its borders,¹⁸⁹ mitigating the concern that California alone is forcing its preferences on other states. At the time the EPA denied California's waiver request, a Congressional Research Service report estimated that states who had already adopted California's regulations accounted for 44% of the total United States population.¹⁹⁰ Moreover, with the state of the economy and the dramatic fluctuations in the price of gasoline, the market is currently moving on its own in the direction of a preference for more fuel-efficient vehicles,¹⁹¹ suggesting that California's regulations could play a positive role for many consumers across the country.

by which California has "helped make American mobile emissions standards steadily stronger").

¹⁸⁹ David A. Dana, *Democratizing the Law of Federal Preemption*, 102 NW. U. L. REV. 507, 507-08 (2008).

¹⁹⁰ See McCarthy & Meltz, *supra* note 136, at 5-6 (making this estimate based on 2006 population figures). This number probably does not represent the full scope of support, as other states not included in the 44% figure have considered adopting California's standards as well. See, e.g., Dana, *supra* note 189, at 507 n.3 (identifying Illinois, Colorado, and Utah as states considering adoption); Tripp Baltz, *Governor Directs Agency To Develop Vehicle Emissions Limits, Reporting Rules*, 39 Env't Rep. (BNA) 823 (Apr. 25, 2008) (describing Executive Order by Colorado Governor requiring Department of Public Health and Environment to propose regulations within two years to reduce greenhouse gas emissions from vehicles). These states cannot, of course, actually implement such standards until the California waiver is eventually granted. See *supra* note 160 and accompanying text.

¹⁹¹ See Bill Vlasic, *As Gas Costs Soar, Buyers Are Flocking to Small Cars*, N.Y. TIMES, May 2, 2008, at A1 (documenting acceleration of sales of fuel-efficient vehicles and dramatic decline in sales of pickup trucks and large sports utility vehicles in response to surge in gasoline prices).

2. *Costs to Out-of-State Producers*

Commentators have also suggested that California's greenhouse gas regulations will have deleterious effects on out-of-state industries whose interests Californians have not considered.¹⁹² Estimates of the compliance costs differ,¹⁹³ but it is reasonable to presume that the regulations initially will impose at least some additional costs on the already struggling domestic car industry. This will be true even if the costs of the regulations are generally limited to the product markets of states adopting California's regulations.

Yet the fact that California's regulations may affect Michigan's economy does not establish that the regulations are suboptimally stringent¹⁹⁴ and is not sufficient to justify federal ceiling preemption. If states are allowed to regulate at all to protect the welfare of their citizens and the health of their environment, some effect on out-of-state producers is inevitable in a national economy. The key issue is whether stringent regulations result from cost externalization, or whether state regulators and politicians consider the interests of other states. To this end, the argument that California voters have little incentive to protect Michigan's interests, though perhaps appealing in the abstract, is overstated.

First, California voters *do* bear some of the costs of their more stringent vehicle emissions regulations, in the form of increased prices and possibly reduced consumer options.¹⁹⁵ If producers can pass on their increased production costs to consumers within the jurisdiction, then the cost of the regulation will be at least partly internalized.¹⁹⁶

¹⁹² See sources cited *supra* note 167.

¹⁹³ See N.C. CLIMATE ACTION PLAN ADVISORY GROUP, BRIEFING: STATE CLEAN CAR ("PAVLEY") COMPLIANCE COSTS (2007), <http://www.nccimatechange.us/ewebeditpro/items/O120F11585.pdf> (summarizing estimates for compliance costs for new vehicles commissioned by CARB and Alliance of Automobile Manufacturers, which estimated marginal cost per 2016 model year car as approximately \$1000 and \$3000 respectively).

¹⁹⁴ See *supra* notes 121–23 and accompanying text (recognizing that even welfare-enhancing regulations may have negative effects on out-of-state industry).

¹⁹⁵ See Butler & Macey, *supra* note 108, at 47 (arguing that problem of "political cost externalization" does not necessarily imply existence of market failure because marginal cost of environmental regulations for vehicle emissions are shared by California consumers paying more for cars). Daniel Esty acknowledges that "Californians may pay part of the bill for their more stringent pollution controls through higher prices for cars," but he argues that "consumers elsewhere may also be forced to pay increased prices, essentially subsidizing California's reduced-pollution benefits." Esty, *supra* note 13, at 594. As argued above, the expectation that out-of-state consumers will pay increased prices depends on assumptions that may not follow for the California regulations because of the flexible form the regulations take. See *supra* notes 169–72 and accompanying text.

¹⁹⁶ See CARB FACT SHEET, *supra* note 174, at 3 (predicting that "steps that manufacturers will take to comply with the regulatory standards are expected to lead to price increases for new vehicles," though also suggesting that savings from reduced operating

Second, even if California consumers do not bear the full costs of their emissions regulations, the notion of a complete “free lunch” for legislators is rather idealized. Out-of-state interests have an incentive to lobby state governments¹⁹⁷ and may often have the support of in-state groups with whom their interests align, such as car dealerships supporting automobile manufacturers.¹⁹⁸ Additionally, the line between in-state and out-of-state interests is blurred due to the dispersed ownership of large public companies like General Motors.¹⁹⁹ California may not depend on the automobile industry for employment, but the state has institutional shareholders like CalPERS—the largest public pension fund in the United States²⁰⁰—that have historically owned substantial stakes in major American car companies like General Motors.²⁰¹ These factors significantly complicate the traditional cost-externalization story, as they may force California policymakers to consider the compliance costs that their regulations impose on firms in other states.

D. Summary

It would be an overstatement to suggest that California’s regulations impose no costs on out-of-state consumers, or that its political process fully accounts for the costs its greenhouse gas regulations impose on out-of-state producers. Yet, this Part has demonstrated that there are good reasons to think these fears are exaggerated. The structure of California’s regulations provides manufacturers flexibility, and there is no reason to suppose that the regulations are more likely to burden than to benefit out-of-state consumers. Out-of-state producers may be adversely affected by the regulations, but this by itself

costs of vehicles will be redirected into state economy). Assuming demand is elastic, manufacturers will still bear the cost of reduced sales volume. See *supra* note 119 and accompanying text.

¹⁹⁷ See Barry G. Rabe, *North American Federalism and Climate Change Policy: American State and Canadian Provincial Policy Development*, 14 WIDENER L.J. 121, 140 (2004) (describing lobbying efforts by automobile manufactures against A.B. 1493).

¹⁹⁸ Butler & Macey, *supra* note 108, at 47.

¹⁹⁹ See Buzbee, *supra* note 5, at 1608 n.216 (citing Issacharoff & Sharkey, *supra* note 10, at 1385–89) (making this point in critiquing cost-externalization argument advanced by Professors Issacharoff and Sharkey, among others).

²⁰⁰ CalPERS, CalPERS Investments, <http://www.calpers.ca.gov/index.jsp?bc=/investments/home.xml> (last visited Feb. 25, 2009).

²⁰¹ In its Annual Investment Report from June 2007 (the most recent annual report released), CalPERS reported that it owned almost four million shares of the General Motors Corporation. At the time, this position translated into a market value of almost \$150 million. CALPERS ANNUAL INVESTMENT REPORT, DOMESTIC EQUITY REPORT, available at <http://www.calpers.ca.gov> (select “CalPERS Investments”; then select “Annual Investments & Financial Reports”; then select “June 30, 2007 Annual Investment Report”; within report, select “Equities” and then “Domestic Equity”).

is not necessarily problematic from a policymaking standpoint absent good reason to believe the state is politically insulated from costs it externalizes. This assumption of political insulation is less certain than it initially appears.

As the magnitude of any regulatory cost externalization decreases, it becomes increasingly doubtful that federal ceiling preemption is a desirable remedy. Though this Note has argued that simply highlighting the benefits of state environmental regulation is not an adequate way to challenge the propriety of federal ceiling preemption without attention to the cost-externalization problem,²⁰² the benefits that other commentators have identified are significant. In light of these potential benefits of state-based environmental regulation—which include the value of tailoring standards to local preferences and conditions,²⁰³ the importance of state-level experimentation for technology development,²⁰⁴ and the value of decentralized democratic decisionmaking that may make it more difficult to achieve interest group capture²⁰⁵—the magnitude of the actual costs imposed by state-based regulation matters. Policymakers should therefore look closely at the realities of externalization in a given regulatory scheme before determining whether federal ceiling preemption is appropriate.

CONCLUSION

Federal ceiling preemption imperils state leadership and experimentation in environmental law. But before one can fairly criticize federal ceiling preemption, one must consider whether it is necessary to prevent states from imposing suboptimally stringent environmental regulations upon their neighbors. As analysis of California's regulations of greenhouse gas motor vehicle emissions suggests, however, the application of this cost-externalization argument for federal ceiling preemption may be more limited than proponents imagine. Even state-based product regulations like California's can minimize extraterritorial costs by providing flexibility to the targets of the regulation. In light of the substantial benefits of state-based environmental regulation, more careful attention to the actual externalities

²⁰² See *supra* Part II.A.

²⁰³ See *supra* note 9 and accompanying text (noting these important benefits of decentralized environmental policymaking).

²⁰⁴ See *supra* note 187 and accompanying text (highlighting role California emissions regulations may play in technology development).

²⁰⁵ See *supra* note 79 and accompanying text (discussing concern that federal ceiling preemption allows dominant interests like business groups to concentrate lobbying interests in single federal forum).

state regulations impose—and to whether those externalities can be minimized—is necessary before federal ceiling preemption is reflexively invoked as an appropriate solution to the problem of regulatory cost externalization.